Narrator:

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Biochemist Bruce Alberts is one of three U.S. scientists traveling overseas to seek new international partnerships in science, medicine, engineering and technology. As a participant in the U.S. Science Envoy Program, Alberts will travel to Indonesia. The program is a core element of the Obama administration's commitment to global partnerships in science and technology. President Obama first announced the program in Cairo last June.

Alberts is widely recognized for his work in the fields of biochemistry and molecular biology. He serves on the advisory boards of more than 30 nonprofit institutions, and served two six-year terms as president of the National Academy of Sciences from 1993 to 2005.

Today he tells us what the science envoy program means for him, about the importance of science for international relations, and the special role of science education.

Bruce Alberts:

The Science Envoy Program is a new program, and the excitement about being one of the first three science envoys is we get to help define what it means to be a science envoy. Obviously, as an American scientist with lots of contacts, I have some advantages in this job because I know lots of people in the United States — at both high levels and students — and I'm deeply embedded into the U.S. scientific culture. And so I can make connections in the United States that would be very hard for a person who's a full-time government employee to make. The second thing is I've spent a lot of time traveling abroad, and I know the leadership of many scientific academies around the world. And I can therefore try to build collaborations not only with, say, a country — like Indonesia, where I'm going next — but where it's appropriate to bring in some other countries to help with specific issues that the U.S. and Indonesia might want to collaborate on.

The real answer to the question to "what is a science envoy" will be determined in the next year or so as the first three envoys do experiments. I view this as —I'm a scientist, so I like to do experiments, and I like the challenge of trying to create something new. As with all experiments, not everything will work, and we hope that we can learn by doing.

Every nation needs science for many reasons. They need science so that they can build strong economies. Because in this very competitive world, you need the kind of scientific expertise that the world has developed. You need to bring that into your country and adapt that for your uses otherwise you can't compete. You also need that kind of science for health and agriculture and all the local issues that a nation has to deal with. You need your own scientists to solve your own

problems, and so you need to build strong institutions for science in every nation. And finally, I talk a lot about the fact that you need science to create a rational world — a more rational world.

In the past, the way we've thought about international help to developing countries has been too much based on "We're going to go help them fix the problem." But we don't fix the problem unless we give them the capacity to fix the problem themselves.

And all scientists everywhere share a set of common values. I think we all are critical of our governments for making short-term decisions rather than long-term ones that will benefit our countries.

And so one of the real values of raising the stature of science in every nation is to enable that nation, and eventually of course the world, to make better long-term decisions.

In one sense, the fact that the world has become overcrowded, that we have to do something about climate change, we have to do something about energy sources — that's a way of improving the motivation and attitude of young people about their responsibilities in the world. They're not just there to sit there and receive the wisdom of their elders. They're there to try to solve the problems of their communities. And this is the kind of education we want in the United States, and it's the kind of education I'd like to help other countries develop as well.

Science education should be learning to discover the world yourself and think like a scientist. Most people will never be a scientist, but those skills of problem solving, looking at evidence, trying to change one variable at a time instead of changing everything at once when you're trying to fix your refrigerator — whatever you're trying to fix. Those skills are skills that everyone needs, both for being effective citizens in a democracy and for being effective in the world of work. There are too many things — the world's too complicated. We can't solve other peoples' problems; they must solve their problems themselves. This goes all the way down to the individual — certainly it applies to every village, to every nation.

So, the dream I have is of a very different kind of science education spreading around the world, which would directly challenge kids to take some responsibility for their own nations. For example, young children thinking about environment to worry about the environment in their schoolyard, in their neighborhood, to actually participate in doing something for their country. I think this is a great way to motivate young people to be productive citizens and to get excited about education.

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