

Science and Technology Diplomacy and International Collaboration
Eric Mazur @ STS Forum 2011

When I first saw the invitation to speak at this session, I thought there were commas missing. Science and Technology Diplomacy and International Collaboration. Shouldn't the title really be "Science and Technology — comma — Diplomacy — comma — and International Collaboration?" Since 2008, when the American Association for the Advancement of Science created its Center for Science Diplomacy, I have been wondering what "Science Diplomacy" really means. To me, those two words embody a contradiction. Science knows no borders — research collaborations tend to arise spontaneously, regardless of the political climate between host countries. Diplomacy, on the other hand, is all about borders. Science is aimed at understanding the world around us; diplomacy aims to solve problems that shouldn't be there. Science is long term; diplomacy typically is focused on the short term.

I grew up in several countries in Europe and have lived on three different continents. As a consequence, I grew up without the sense of nationality most people appear to develop. I am at home everywhere, even if I'm an outsider everywhere. In some sense, the concept of nationality is foreign to me, and for that reason many of the current conflicts in the world make little sense to me. I consider myself fortunate to have grown up this way.

I'm telling you this because the first issue I'd like to raise is that almost every conflict can be traced back to friction between groups that are differentiated by race, religion, language, class, or culture. That suggests that bridging the gap between such groups is the best way to avoid conflict. In a sense that is what my upbringing did to me. The perfect diplomacy. Indeed, many US universities are currently pushing their students to spend a semester abroad as a way to break down cultural barriers.

Perhaps one of the most successful programs of international exchange of both students and scholars is the Fulbright program, started in 1945 with the goal of promoting peace and understanding through educational exchange. The Fulbright Program is one of the most prestigious award programs worldwide, operating in over 155 countries. Seventy-eight Fulbright awardees have won Pulitzer Prizes. Forty-three Fulbright alumni have won Nobel Prizes. More Nobel laureates are former Fulbright recipients than any other award program. Approximately 300,000 people have participated in this program, 180,000 from outside the US and 120,000 from the US.

I have met numerous former Fulbright awardees, many of whom are now in leadership positions in business, academia, and governments around the world. Most, if not all, of them are perfect ambassadors of goodwill. In that sense, the Fulbright exchange program is a fabulously successful diplomacy program. It is certainly a model to be emulated as we think of promoting international collaboration. Unfortunately the program is under increased financial pressure, just as we need it most.

So far I have mostly spoken about resolving conflicts. As many speakers in this forum have already alluded to, however, the world in the 21st century faces a number of global problems — diminishing resources such as fresh water and energy, the impact of society on the environment and the climate, issues of health care and a population that is both aging and exploding. These global problems cut across national divides and need to be solved jointly. They will require unprecedented innovations in science and technology. So the second issue I would like to raise is this: to tackle these problems we need policy makers who are knowledgeable in science. And that brings me to a topic close to my heart: education.

Traditionally, science education has been focused on generating future scientists, not on fostering scientific literacy. It is important to realize, however, that the need for science is not determined by the scientific community itself, but by the population at large. Unfortunately, instead of educating, introductory science courses often serve to weed out those who are not good enough to become scientists from the “gems” that will eventually emerge as the future scientists. A filter, rather than a pump. Consequently the public at large remains mostly ignorant about science and there are precious few science-trained politicians in the world.

With these two issues as premise, I would like to close with two recommendations. First, we should increase, not reduce, exchange programs such as the Fulbright program. At an absolute minimum, we should push students world wide to spend time abroad and experience cultures other than their own. Second, we should encourage science-trained professionals to seek leadership positions outside science. The US used to place scientific attachés at Embassies to facilitate international collaboration. Unfortunately the program was abolished ten years ago.

Let me now return to the missing commas. There is no question that science transcends national borders. And come to think of it, science has been used to defuse political tension long before the term “science diplomacy” was coined. During the cold war there was an active exchange of US and Soviet scientists. When Nixon visited China in 1972, the US and China identified science as an area of cooperation. So we can leave the commas out — science diplomacy has been common practice for a while already. However, I think it is important that science diplomacy be more than governments involving scientists in international collaborations. Scientists themselves must take the lead in rethinking their approach to science education and help educate the future decision and policy makers about science. Only then will the world be better positioned to tackle the much larger problems that face the global community as a whole.