

Daryl Copeland, "Bridging the Chasm," *Science & Diplomacy*, Vol. 4, No. 3 (September 2015*). <http://www.sciencediplomacy.org/perspective/2015/bridging-chasm>.

This copy is for non-commercial use only. More articles, perspectives, editorials, and letters can be found at www.sciencediplomacy.org. SCIENCE & DIPLOMACY is published by the Center for Science Diplomacy of the American Association for the Advancement of Science (AAAS), the world's largest general scientific society.

*The complete issue will be posted in September 2015.

Bridging the Chasm: Why Science and Technology Must Become Priorities for Diplomacy and International Policy

Daryl Copeland

TODAY, headlines in the mainstream media are filled with lurid tales of suicide bombings, violence in Ukraine, mass shootings, natural disasters such as earthquakes and tornadoes, the campaign against the Islamic State, and all manner of sensational reportage. In the face of such a barrage, it is very easy to become distracted and to allow the shocking or the urgent to trump the essential or the important.

Policy and decision makers most everywhere have become preoccupied with apparent threats at the expense of responding to more profound challenges, including those that—unlike terrorism, religious extremism, or political violence—actually imperil the future of the planet.

In the twenty-first century, our collective security and prosperity—the globe's shared prospects for peace and development—depend increasingly on diplomacy rather than defense. In that regard, science diplomacy has never mattered more. But science diplomacy has become something of an orphan in international relations, sidelined by, among other things, the militarization of international policy.

Science diplomacy is relevant, effective, and potentially transformative. It can play a key role in responding to some of the most elemental challenges facing the international community. Yet, relative to other international policy instruments, it receives little notice and is being starved of resources.

*Daryl Copeland is an educator, analyst, and consultant; the author of *Guerrilla Diplomacy: Rethinking International Relations*; and a research fellow at the Canadian Defence and Foreign Affairs Institute specializing in the role of S&T in diplomacy, international policy, global issues, and public management.*

To remedy these problems, science and technology (S&T) must be brought from the margins into the mainstream of diplomatic institutions, in training and in practice, worldwide. In foreign ministries and international organizations everywhere, S&T capacity and performance must be radically improved. No less than human survival is at stake.

S&T Matters in International Relations

There are five primary reasons favoring a wholesale course correction and significant reordering of international policy priorities and resources. For purposes of brevity, they will be set out at a high level of analysis:

1. Science, technology, and innovation drive the volatile, uncertain, complex, and ambiguous age of globalization and are now central to all aspects of our lives. Still, despite widespread preoccupation with the latest gadgetry, and particularly with hand-held digital devices, S&T per se is accorded relatively little attention. Yet the planet is imperiled by a host of vexing, “wicked” issues for which there are no military solutions. From climate change to diminishing biodiversity, nanotechnology to ecosystem collapse, genomics to cyberspace, these issues share one feature: they are rooted in science, driven by technology, and immune to the application of armed force. This has been evident for some time. Simply put, you can’t garrison against pandemic disease, call in an air strike on a warming globe, or send out an expeditionary force to occupy the alternatives to a carbon economy. But make no mistake—a “wicked” issue is one that CUTS all ways (C for cross-sectoral; U for unresolved; T for transnational; S for science-based). These defining attributes render such issues notoriously difficult to manage.
2. Development—equitable, sustainable, human-centered, and long-term—has become the basis of security in an increasingly heteropolar world order. This relationship has become particularly clear with the transition from the Cold War era to the globalization age. Human progress in large part turns on the ability to successfully harness S&T in service of achieving development objectives related to agriculture, food, and water; urbanization, public health, and environmental protection and remediation; population and demographics; resource scarcity; energy; and so forth. The capability to generate, absorb, and use S&T can play a crucial role in advancing development prospects, resolving differences, and reducing inequality. Improved security would be the inevitable result.
3. Evidence-based decision making and public policy development are the hallmarks of good governance and responsible public administration. As is often remarked, policy without science is gambling. Moreover, certain aspects of scientific endeavor—not unlike the case of democracy or human rights—are of universal value and applicability. Scientific culture and

methods encourage openness and transparency (through the publication of research findings), merit (through peer review), and civic values and citizen empowerment (through the expression of critical and diverse perspectives). Science offers a methodology and approach that produces the closest thing we have to proof and truth. These attributes are desirable and there are no substitutes.

4. S&T offers a chance to turn adversity into opportunity by fostering solidarity, cooperation, and action in concert among all peoples and nations. Science is inherently collaborative; its focus on mutuality and common cause is a prerequisite to managing the global commons (e.g., polar regions, high seas, outer space) and bridging digital divides. Science diplomacy serves as a critical medium of international political communication when regular diplomatic channels are strained, blocked, or nonexistent—as was the case between the United States and the Soviet Union during the Cold War, or between the United States and Russia or Iran today. Although I would not rank political extremism or religious violence as top security challenges, I would add that S&T can also provide a tonic to such dangers by addressing the root causes of anger, alienation, and resentment. Military responses to these threats—invasion, occupation, special operations, bombing, and drone warfare—serve mainly to make matters worse. They also generate blowback, as Libya, Afghanistan, and Iraq have so painfully and indelibly demonstrated. S&T engagement represents a vastly preferable alternative.
5. Science diplomacy combines S&T content with the strategy, tools, and tactics of public diplomacy. As a result, science diplomacy, when properly designed and delivered, can be a highly supple, versatile, and adaptable instrument in the management of international relations. S&T also functions admirably as a vector of soft power—the power of attraction. But not all science diplomacy is undertaken in support of peace and development. For instance, a widely condemned use of science diplomacy was the secret collaboration between Pakistan and North Korea in pursuit of nuclear explosive and missile propulsion technology. S&T, therefore, is a double-edged sword: it supports and underpins development and security and can be the key to peace and prosperity, yet it can also exacerbate underdevelopment and insecurity, courting war and devastation. In that regard, S&T is best understood as not good or bad but as good and bad. It cannot be viewed in simplistic, binary, Manichean, or black and white terms. It can only be apprehended as consisting of multiple—and often very subtle—shades of gray.

That said, taken together these five clusters strike me as powerful testament in favor of mobilizing support for international S&T in general, and for science diplomacy in particular. There is, however, a crucial disconnect. Despite the fact that S&T can contribute to development, which is a precondition to security, S&T

is rarely a prominent or overt player in global governance. Issues that science could help address are left—at least partially—unsolved as most multilateral organizations lack scientific expertise.

What Is to Be Done?

The problems the world faces can be remedied, but not easily, and certainly not quickly. As long as international policy makers remain so heavily reliant on the use of force, any gains will be modest at best.

1. Security is not just a martial art, yet militaries around the world continue to receive the lion's share of international policy resources. This misallocation has resulted in serious domestic costs and distortions, and it has wrought untold damage abroad. If that is to change, publics must insist on breaking the influential stranglehold of what President Dwight D. Eisenhower, in his famous 1961 farewell address, referred to as the military-industrial complex. Yet absent a shift in emphasis in international relations from defense to diplomacy and development, and a decisive move away from defense research in favor of public and civic applications (e.g., health, agriculture, alternative energy, conservation, urbanization), progress will remain largely out of reach. Of this there can be no doubt.
2. Diplomacy and international policy, on one hand, and S&T, on the other, represent two solitudes, floating worlds that rarely intersect. How many diplomats are scientists? How many scientists are diplomats? Why is there no Venn diagram showing shared space and functional overlap? Insularity on the part of the scientific community and anxiety over the unknown on the part of the diplomats must give way to a pattern of cross-fertilization and regular interaction and exchange. The two solitudes must be eliminated. This can be achieved in part through the creation of networks, connections, and collaborative commons. Rigid hierarchy and authoritarian social relations must give way to the lateral and the unorthodox. Think Silicon Valley-style skunkworks. During the Cold War, science was more deeply embedded in diplomacy; that characteristic requires reinstatement today but on a larger scale, because the current challenges are more diverse and the needs enormous.
3. S&T capacity in diplomatic and multilateral institutions must be broadened, deepened, and, where it does not exist, constructed from scratch. This outcome could be encouraged through promotion and recruitment processes and career specialization. But a faster way to build capability would involve turning the inside out and bringing the outside in through training and professional development, reassignments and personnel exchanges, and the provision of incentives. In some cases unnecessary obstacles and

constraints would have to be removed and replaced by a commitment to information sharing and critical thinking. Perhaps more easily achieved would be the injection of high-level S&T advice into policy formulation and decision making throughout government and the international governance process. High-quality science advice and more easily intelligible science communications are desperately needed.

4. Public-private partnerships and institutional linkages—between governments, corporations, nongovernmental organizations, universities, and think tanks—need to be encouraged in order to leverage international S&T cooperation. To this end, it would be useful to embrace dynamic new forces, facilities, and actors. Here I am thinking of small and medium-sized enterprises, private philanthropists and foundations, venture capital firms, and the like. Creative use could also be made of collaborative intelligence, global value chains, open source problem solving, and web-based policy development. A little out-of-the-box thinking about how best to engineer S&T teamwork could pay high dividends.
5. Finally, any measures intended to improve performance in science diplomacy and international S&T must be rigorously benchmarked, monitored, and evaluated. Reinvestment cannot be justified in the absence of a convincing demonstration of value for money and results achieved. If you don't know where you are, you can never be sure where you are going.

The Wrap

Science and diplomacy do have one thing in common—problems with image and reputation in popular culture. Science is often recalled as a bewilderingly difficult subject that most high school students were keen to drop as soon as they could. And although the WikiLeaks “Cablegate” episode¹ helped to dispel some of the myths, diplomacy is still frequently associated with ineffectiveness, weakness, and appeasement, and with caving in to power, complete with pinstripes and pearls, receptions, and exotic travel.

Putting the two together—science diplomacy—and raising the topic at a dinner party is usually sufficient to stop any conversation dead in its tracks.

The best way to counter popular misconceptions about science and diplomacy is through better advocacy and what former Secretary of State Hillary Clinton has referred to as “diplomacy of the deed.”

Notwithstanding the present spike in the incidence of armed conflict, there are no military solutions to the world's most pressing problems. The path to peace and prosperity, security and development lies elsewhere. To that end, and as a response to the negative attributes of globalization—including polarization at all levels and the tendency to socialize costs while privatizing benefits—science diplomacy will be indispensable.

The very idea of science, as an evidence-based form of knowledge acquisition, underscores that all events are caused, that misery is not fated, and that poverty and suffering are not intrinsic to the human condition. Threat conjuring, issuing terror alerts, and fomenting the politics of fear—be afraid, very afraid—are part of the problem, not the solution. A more lasting and effective approach would be to genuinely address the needs of the poor by sustaining broadly based development.

For these reasons and more, S&T must become a preoccupation of both diplomacy and international policy. The case is clear, and it is long past time that governments and international organizations reconsidered their priorities and reallocated resources accordingly. **SD**

Endnotes

1. Daryl Copeland, “Taking Stock of WikiLeaks and Cablegate: A ‘Napster Moment’ for Government?” *University of Southern California Center on Public Diplomacy Monitor* 2, no. 1 (December/January 2011).

This perspective is based on remarks given during the second AAAS-TWAS (American Association for the Advancement of Science, publisher of Science & Diplomacy, and The World Academy of Sciences) Course on Science Diplomacy in Trieste, Italy, on June 8, 2015.