



# Science Diplomacy: What's It All About?

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Science diplomacy is an international policy instrument well suited to addressing the central challenges of the globalization age. For many policy- and decision-makers, however, it remains a mystery. That disconnect is becoming increasingly costly.

Traditional diplomacy involves the representatives of states transacting the business of government among and between themselves. By way of contrast, public diplomacy (PD) involves the use of dialogue, advocacy and public relations by envoys to engage directly with foreign populations in order to influence their governments. PD has become a critical component of statecraft, especially in most OECD countries, and it looms large in the current literature on diplomatic studies.

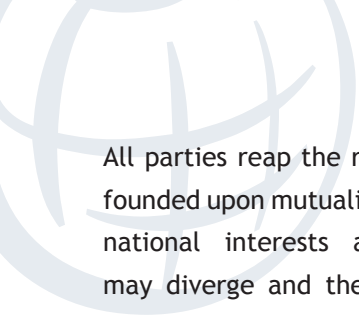
Science diplomacy (SD) is a subset of PD, and should not be seen as a distant outlier. It is a crucial, if under-utilized component within the PD constellation, and represents a significant source of soft power, that potent form of influence that is based on attraction or appeal and harnesses national influence, reputation, and brand. Science diplomacy is significant not only in its capacity to resolve many of the planet's most pressing

## At a glance...

- *Science diplomacy can play a critical role in addressing the complex transnational issues which feed underdevelopment and insecurity.*
- *Foreign ministries, multilateral organizations and science-based institutions are unprepared and ill-equipped to deliver.*
- *As long as defence continues to dominate the international policy agenda and to command the lion's share of available resources, the prognosis is likely to remain grim.*

problems, but also because it is an effective conduit for the transmission of essential human values such as evidence-based learning, cooperation, openness and sharing.

By virtue of its direct relationship to government interests and objectives, science diplomacy differs from international scientific co-operation, which is sometimes commercially oriented and often without direct state participation. International scientific co-operation is typically a win-win proposition, with civil society partners collaborating to produce, for example, better medications, cleaner water, improved hygiene, or more disease-resistant crops.



All parties reap the rewards. Science diplomacy is also founded upon mutuality and common cause, but because national interests are always implicated, motives may diverge and the outcomes may be asymmetrical (particularly if there are negotiations involved). Additionally, not all science diplomacy is devoted to the achievement of pacific ends. Covert collaboration involving, variously, Pakistan, Iran, China, North Korea, and Libya on nuclear-explosive and missile-propulsion technologies is a poignant case in point.

Although the headlines suggest otherwise, today the most profound threats to human survival—climate change, diminishing bio-diversity, public health and pandemic disease, environmental collapse, management and governance of the global commons, food insecurity and resource scarcity, to name but a few—are rooted in science and driven by technology. Moreover, underdevelopment and insecurity, far more than religious extremism or political violence, represent fundamental threats to world order. In that context, the capacity to generate, absorb and use science and technology (S&T) could play a crucial role in improving security and development prospects.

Here we confront a central irony: while S&T can provide the remedies which contribute materially to the achievement of security and development, it can also contribute to the opposite—insecurity and underdevelopment. In contemporary international relations, therefore, S&T is a two-edged sword, bringing to the world miracle cures and distance learning on one hand, the carbon economy and weapons of mass destruction on the other. Be that as it may, the main point is that long-term, equitable, sustainable and human-centred development—addressing the needs of the poor and bridging the digital divide—should become a preoccupation of diplomacy in general, and of science diplomacy in particular.

Today, that imperative is not much in evidence. Paradoxically, both PD and SD boomed during Cold War. In those days, diplomacy was more than anything else about

winning hearts and minds in a competitive ideological and territorial context. While much of the PD in those days was highly propagandized, SD offered an alternative form of engagement, and was central in advancing the arms control and non-proliferation agendas. This was possible mainly because science was seen as a widely understood, non-ideological language that could be used to overcome, or at least mitigate international political differences. Scientific partnerships could serve as a stand-in when regular diplomatic channels were strained or blocked. This characteristic helps to explain the current focus within U.S. foreign policy on expanding science diplomacy with the Arab and Islamic worlds, and is precisely what the head of the SD program at the American Academy for the Advancement of Science, Dr. Vaughan Turekian, has referred to as science for diplomacy. Alternatively, diplomacy for science involves the use of international political activity to advance scientific ends. This undertaking is often more fraught (as has been illustrated serially during the climate change negotiations) because national interests tend to trump broader objectives.

In the 1990's, as the Cold War gave way to the globalization age, many international programs that promoted science (and education, and culture) as part of broader PD strategy in Western countries were wound down or reduced to a shadow of their former selves. In the U.S. and the U.K. there has been some build-back, especially post-9/11, but there is still a very long way to go. Moreover, much of the science diplomacy which has been conducted over the past two decades has been in service of weapons programs—or their location and dismantling. With respect to the former, the full nature and extent of collaboration between China, North Korea, Iran and Pakistan remains unclear to NATO member intelligence agencies. Much more is known, however, of the latter: Western and local scientists have been pursuing the dismantling of weapons programs, in Russia and in many other countries of the former Soviet Union, under the largely unheralded auspices of the Global Partnership Program (which is led by Canada). The internationally-certified cessation of WMD programs

in Libya, South Africa, Argentina and Iraq also comes to mind as an SD milestone.

Today, without ruling out legitimate defence applications, I believe that PD and SD could most usefully be focussed upon the achievement of equitable, sustainable, long term and human-centred development, particularly in the context of enhancing global security. This is exactly where SD, and an emphasis on S&T within international policy more generally, could make a real contribution (perhaps especially in fragile or failing states, where the needs and the practical impediments are greatest). That said, the dominant themes and the concentration of funding within science diplomacy remain focussed on defence rather than development—an unresolved problem.

However, there exists an even more fundamental difficulty: S&T issues are largely alien to, and almost invisible within, most international policy (IP) institutions. S&T and IP are effectively two solitudes, existing in separate floating worlds that rarely intersect. When diplomats or politicians talk about IP, you rarely hear anything about S&T. Similarly, when scientists get together to discuss their work, it is rarely in the context of diplomacy or international policy. Indeed, scientists, besides being notoriously poor communicators, tend to cherish their independence from politics and government. The skill sets, activity time frames and orientations of the two groups differ markedly. It must be asked: How many diplomats are scientists? How many scientists are diplomats? How often do scientists and diplomats mix? Foreign ministries, development agencies, and indeed most multilateral organizations are without the scientific expertise, technological savvy, cultural pre-disposition or R&D network access and cross-cutting linkages required to understand and manage S&T issues effectively.

Add up all of this, and a rather disturbing picture emerges. It is something akin to a “triple whammy”. In mainstream popular culture, (a) diplomacy is seen


as irrelevant and ineffective; (b) international policy is viewed as esoteric and exotic; and (c) science is perceived as complex and impenetrable. Raise any one of these subjects on its own and most people’s eyes glaze over. Put all three together, and you have a combination capable of stopping just about any dinner party conversation in its tracks.

Even if the public environment were more solicitous, and scientists, diplomats and foreign ministries more favorably disposed and better equipped, major hurdles would remain. Public and private sector, NGO, and university perspectives and interests are not always complimentary with respect to S&T, R&D and innovation. Often they are contradictory or competitive. Consider, for instance:

- the preponderance of private sector control over essential S&T intellectual property (i.e. patents and copyrights limit the spread of innovation and transfer of technology)
- the influence of what President Eisenhower described as the Military Industrial Complex over funding priorities and research agendas (i.e. most governments are still spending more on defence research than on health research); and
- the militarization of international policy more generally (i.e. defence departments have been accorded the lion’s share of IP resources while diplomacy and development assistance have been sidelined and marginalized, resulting in serious misallocations and distortions, especially at a time of scarcity).

These observations provide some idea of the scope and dimensions of the challenge. If matters are to change (and in order even to conceive of remedial possibilities), political leaders and senior officials must be critically aware of the dynamic inter-relationships among principal actors, and the key questions and issues at play.

Unfortunately, most are not. It is not just that the dots aren’t joined up; in most cases, there are no

dots. In too many countries, including Canada, these matters are not on the political or bureaucratic map. At the highest levels, Ottawa is without adequate science advice. There is no international science policy. No one is thinking about the role of S&T within grand strategy. The Department of Foreign Affairs and International Trade is under-resourced and manifestly unprepared to deliver. Until that situation changes, the potential for science diplomacy to address the drivers of underdevelopment and insecurity, many of which are inherent in globalization, will remain largely unrealized. 

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