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Global Policy Perspective Report
Science Diplomacy

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Executive Summary

- Science diplomacy has become fashionable, but the concept needs greater intellectual rigour.
- Science interacts with diplomacy along three vectors: agency, process and subject matter.
- Science and diplomacy are very different activities. Science is concerned with certainty and aims at perfect knowledge. Diplomacy acts in conditions of uncertainty and imperfect knowledge. Scientists can inform and support the work of diplomats. But scientists as scientists are not a good substitute for diplomats.
- Science, scientists and scientific networks can and should form part of wider diplomatic and public diplomacy strategies. But diplomats should be open about what they are doing, and not seek to manipulate science or scientists to their own ends.
- Science both reveals and generates (especially through its application through technology) problems that need to be managed at a global level. A distinction should be drawn between scientific and technical problems, and the associated political and geopolitical problems. The latter are the domain of the diplomat.
- Diplomatic techniques and skills (multi-stakeholder networking, identifying common preferred outcomes, generating coalitions of the willing, constructivist approach to international norms) should be applied to the geopolitical problems revealed and generated by science. These issues are too important to leave to scientists and technicians.
- Governments and foreign ministries should create fora and other encounters between scientists and diplomats where scientists can brief diplomats on the subject matter of science diplomacy, diplomats can explain to scientists the geopolitical realities and constraints, and both can explore future evolutions in science and technology and their implications for the theory and practice of diplomacy and international relations.

Introduction

Science Diplomacy has become suddenly fashionable. The S4D4C consortium seeks to promote Science Diplomacy at a European level. A Madrid Declaration on Science Diplomacy, signed in February 2019, “aims to foster agreement and raise awareness about the need to strengthen science diplomacy strategies and practices worldwide for the support of universal scientific and democratic values”. And yet for all the new enthusiasm for Science Diplomacy, the concept lacks both clarity and intellectual rigour. Science interacts with diplomacy along three vertices: agency, process and subject matter. In other words, “Science Diplomacy” can refer to scientists acting as diplomats (agency), science as a tool of diplomacy (process) and the application of diplomacy to problems arising in, or being caused by, science. Many of the pronouncements on Science Diplomacy seem to combine these three vectors without distinguishing clearly between them.

Agency

Scientists acting as diplomats is problematic. The Madrid Declaration affirms that Science Diplomacy “goes beyond international science collaboration, as it tackles interests that go beyond the scientific ones and may directly or indirectly serve to advance diplomatic goals”. But it is not clear what this does, or could, mean. Science and diplomacy are very different activities, and scientists and diplomats very different kinds of creatures. Science is based on the idea that there is a single and knowable reality, which scientists can come to know through a combination of theory and experiment. With the exception of quantum physicists, scientists deal in certainties, or at least the belief that certainty and truth is theoretically possible. Diplomats, on the other hand deal with uncertainty and imperfect knowledge. It is not just that diplomats are unable to reveal the perfect knowledge on which their certain decisions could be built. The very nature of the issues that diplomats must deal with preclude perfect knowledge and certainty at the time of taking decisions. It is only with the advantage of historical hindsight that certainty and perfect knowledge is available to the diplomat, and not always then.

To put it another way, scientific discourse and diplomatic discourse are radically different. Scientific discourse is based on the verifiable exchange of facts and evidence from which it is intended to derive truth. Diplomatic discourse seeks to manage complex problems where key information is unavailable, the intentions of other actors known at best partially and there is no single good outcome. The point is illustrated in the debate on climate change. The scientific questions are whether climate change exists and whether it is the product of human activity. The diplomatic questions are what can be done about it at an international level and how to convince other countries (and non-state actors) to pursue the policies we favour. The former are scientific questions in which there are, theoretically at least, correct answers. The latter are policy questions, to which there are no necessarily correct answers. Science can, and should inform, policy debates, but cannot decide them. We can all agree that climate change is real and

urgent, and largely generated by human activity, but there are a large number of possible policy responses, which will not be decided by the science alone.

This to some extent clarifies the role of scientists as agents in diplomacy. Scientists can act as diplomats. Some eminent diplomats have had a scientific background. But when scientists engage in diplomacy they do so as diplomats, not scientists. The qualities which define good scientists, hamper their activities as diplomats. This should not be surprising. Those scientists most effective in university faculty politics are successful because they stop being scientists and act as politicians. This does not mean that scientists acting as scientists do not have a role in diplomacy or foreign policy. Better understanding of the science of climate change is essential to diplomacy seeking to negotiate an international agreement on climate change policy. Better understanding of the technology of the internet is essential to negotiating international norms constraining behaviour in cyberspace. But that is not the same as saying that scientists would be better at the diplomacy. Diplomats find foreign policy difficult not because they have insufficiently scientific brains, but because foreign policy must be formulated and implemented under conditions of uncertainty and imperfect knowledge (and considerable complexity). Imposing certainty on such conditions under the illusion of perfect knowledge is a recipe for disaster.

Process

Science Diplomacy as process is less problematic. Diplomats have long used science, and scientists, to pursue broader diplomatic strategies. The nature of science, as an international undertaking dedicated to advancing human knowledge, in itself breaks down national barriers. During the Cold War, both Soviet and Western diplomats took advantage of meetings of scientists to gather information, reduce tensions and spread propaganda. Scientific achievements form an important part of national reputation, and as such are an important soft power resource to be deployed in public diplomacy strategies. Scientific exchanges can also serve to create environments in which diplomatic negotiations can flourish. In the post-modern world of fake news and echo chambers reinforced by social media, science and its reputation for veracity and rigour offers at least the potential for helping to tackle disinformation campaigns.

The international network, or community, of scientists is in itself a global forum for the exchange of views and ideas in a way that can reduce or contain national competition (in that sense at least, there is a parallel with the international community of diplomats). Again climate change offers an interesting example. The international networks of scientific exchange promoted by organisations like the British Council later served as channels for communicating data and concerns about climate change. The fact that they were networks of scientists, created for other purposes, enhanced their credibility with both governments and publics. Diplomats were able to take advantage of this when negotiating international political responses.

However, the interaction of science with diplomacy as process is not entirely without problems. Science and scientists become instruments for diplomats in the pursuit of

broader diplomatic strategies and national interests. While scientific achievement as a soft power asset which public diplomats use to enhance the national reputation is relatively innocent, the calculated use of scientists and their activities to promote broader foreign policy objectives, of which the scientists may not be aware, is more controversial. Although diplomats on both sides of the Cold War divide sought to take advantage of scientific exchanges to promote their broader geopolitical agendas, it is clear that some scientists resented being used in this way, while others were manipulated in ways they were not aware of. Unsurprisingly this caused problems in the relations between diplomats and scientists, particularly when the extent of manipulation, by both sides, emerged at the end of the Cold War.

It is likely that many scientists will still resent being manipulated if diplomats and diplomacy take them for granted, using them to promote foreign policy interests alien to their scientific objectives. This is not just true of scientists. One of the main tenets of modern Public Diplomacy is that surrogates are more effective than diplomats in influencing foreign public opinion (the key objective of Public Diplomacy). Thus public diplomats are converted into diplomatic entrepreneurs, match-making between key figures in academia, business, the media and NGOs and civil society, bringing them together in important policy discussions, whether through conferences, workshops or, more recently, online platforms. But Public Diplomats using civil society surrogates in this way must beware the temptation to manipulate them for their own diplomatic purposes. One of the challenges of modern Public Diplomacy is to accept that the people a diplomat brings together to influence foreign public opinion have their own views and agendas which must be respected. The same is true of the use of science and scientists to promote broader diplomatic objectives. The diplomats must be open with the scientists and respect their agendas if they do not want to provoke a reaction in which scientists decline to collaborate with diplomats, to mutual disadvantage.

Subject Matter

Science as subject matter involves the application of diplomacy to science. This does not mean that diplomacy seeks to resolve scientific problems. Diplomacy is no more relevant to the content of science than science is to the content of diplomacy. Rather diplomacy is applied to the international political and geopolitical problems generated by science and its application through technology. Such problems are not themselves scientific or technological and cannot be left to scientists and technicians to resolve.

This raises a question of whether diplomats (and politicians) have any role in discussing international norms or constraints in pure scientific research, rather than its technological applications. The problem can be illustrated by atomic physics. Diplomats were not involved in the development of the theory of atomic physics in the 1920s and 1930s, or even in the development of nuclear weapons in the 1940s. However, the development of nuclear weapons radically changed the context in which diplomats had to operate, and diplomats were then deployed to negotiate international norms on the use (or, ideally, non-use) of nuclear weapons. The question is whether diplomats should have been negotiating constraints on the development of the pure science of atomic

physics in the first place. This question exceeds the scope of this policy briefing, and most scientists would argue against restraints on pure scientific research. But it is conceivable that an area of pure scientific research would imply sufficient dangers for mankind that governments would want to negotiate international norms guiding how it would be carried forward (as indeed exist in certain areas of nuclear and biological research). If so, governments would turn to diplomats, informed by scientists, to negotiate what those constraints would be.

Science also reveals dangers and problems at a global level which require the action of diplomats and diplomacy. We have mentioned climate change. Other issues include pandemic disease. While science is required to understand the issues and suggest policy measures to mitigate their impact, the responses are not purely technical or scientific. In responding to the threat of pandemic diseases governments (and major corporations) have to take into account, and balance, a broad range of different factors. The balance will vary from country to country and region to region. The task of negotiating global agreements requires flexibility, the ability to network effectively with state and non-state actors globally, see the problems through the eyes of the different actors and to build coalitions of the willing around shared preferred outcomes. In short, diplomacy. But a diplomacy which limits itself not just to state actors, but which is capable of engaging effectively with a broad range of non-state actors. This is increasingly referred to as multi-stakeholder diplomacy.

Diplomats came late to the day to nuclear weapon research. The same could be argued about digital technologies and artificial intelligence. To a large extent these areas have been seen as technical, and thus left to technicians (and intelligence services). But as Clemenceau said, war is too important to leave to soldiers. Cyberspace and artificial intelligence are too important to leave to technicians. The essential problems relating to internet governance and cybersecurity are political and geopolitical. They relate to the state and non-state actors which seek to regulate the behaviour of other actors in cyberspace. They relate to the intentions and motivations of state and non-state actors using internet tools to coerce, damage or steal. The key challenges of cybersecurity are not building technical defences (although these are important), but understanding what certain actors are seeking to achieve, determining whether these actions are acceptable, and if not persuading them to change their behaviour. Building norms in cyberspace, for example limiting the range of acceptable targets, requires identifying the intentions and perceived interests of other state and non-state actors, developing strategies to win round reluctant actors and identifying shared preferred outcomes on which coalitions can be built: all essentially diplomatic tasks. The same applies to other areas where the development of pure science into technology can threaten international peace and stability and/or economic welfare, like artificial intelligence, biogenetics, quantum computing or nanotechnologies. For example, artificial intelligence research will undoubtedly result in the development of Lethal Autonomous Weapons Systems (LAWS), whatever the arguments against them among the general public or even the scientific community. The role of diplomats will be to negotiate, on the base of empathetic identification of intentions and shared preferred outcomes, limitations on their use in conflict.

It is worth spelling out in what the diplomatic approach to managing the political and geopolitical problems generated by science and technology consists. Several elements can be identified, including:

- A willingness to accept “good-enough” outcomes rather than insist on optimal solutions;
- A tendency to manage problems rather than necessarily solve them;
- An analytical approach built around identifying the intentions of “the other”, seeking to understand not only what the other intends, and why, but also how he interprets our intentions;
- The development of global networks of information and influence among both state and non-state actors;
- The constructions of “coalitions of the willing” built on shared preferred outcomes rather than necessarily shared values and ideologies;
- The socialisation of state and non-state actors into an international community;
- A constructivist approach to international law, which recognises that the motivation for state and non-state actors to obey international laws lies in a combination of self-interest, self-perception (and how they want to be perceived by others) and a desire to remain a part of the international community.

As noted above, so far diplomats have tended to arrive late at the implications of scientific developments and new technologies for international relations, whether nuclear weapons, digital technologies and the internet or artificial intelligence. They must therefore struggle with scientific or technological facts accomplished, where new threats to international security and stability are already well developed. This amounts often to the diplomatic equivalent of getting the toothpaste back into the foreign policy tube. As scientific and technological developments accelerate in both speed and complexity this approach will no longer be adequate. Diplomats risk getting so far behind the curve that international anarchy develops in key technological domains (as some believe has already happened in cyberspace). This does not mean that scientists should take on more of the diplomatic role, at least not in as much as they are scientists. As we have argued, the key problems are not scientific. Rather it suggests that Science Diplomacy should also include an intensified conversation between diplomats (and other foreign policy makers) and scientists and technologists to identify the trends in scientific and technological development and what the geopolitical implications might be (this of course applies to the implications for domestic politics as well, although that is not the domain of the diplomat).

Conclusion

Einstein once wrote that “God doesn’t play dice with the world.” Kissinger wrote, slightly more long-windedly, that “The superpowers often behave like two heavily armed blind men feeling their way around a room, each believing himself in mortal peril from the other, whom he assumes to have perfect vision. Each side should know that frequently uncertainty, compromise, and incoherence are the essence of policymaking. Yet each tends to ascribe to the other a consistency, foresight, and coherence that its own

experience belies.” The two quotations bring out the fundamental differences between the worlds in which diplomats and scientists operate. The essence of science diplomacy is not that scientists should act as diplomats or replace diplomats. Rather it is that science is becoming increasingly central to international relations and foreign policy, either through revealing international threats requiring global responses, or through technological applications which pose challenges to international stability and security. Though driven by science, these problems in themselves are geopolitical and require diplomatic responses. Thus, in its fundament we can see science diplomacy operating in two related ways. Scientists providing the expert information that diplomats need to enable them to engage effectively with scientific agendas at an international level, and diplomats applying the skills and mindsets of diplomacy to the international problems either revealed or generated by science.

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