



The Art of Science Diplomacy

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Richard Holbrooke once said '*Diplomacy is like jazz: endless variations on a theme*'. A fine-art as it seemingly is, diplomacy has recently had an added embellishment on its canvas: science. For the diplomats of the day, this new addition to the vanguard of diplomacy has come with a lot of additional resources and opportunities, over and above the traditional elements of 'soft power', which is an approach to international relations that involves persuasion using economic and/ or cultural influences.

Historically, science and technology were often used in diplomatic circles. Sometimes they were used to strike a sense of awe into emissaries from foreign lands. For example, the Byzantine Emperor had a special hydraulic system that elevated his throne to the ceiling of the Magnaura Palace, thereby making a lasting impression on visitors. At other times, science was an integral part of building international bonds. Jesuit missionaries played a major role in medieval international diplomatic circles, from helping in the signing of the Treaty of Nerchinsk to the Kangxi Emperor's favourite mapmaker-cum-diplomat Father Gerbillon. What they did do in the process of facilitating stronger international ties was to establish centres of learning and research that looked into scientific pursuits. This may well have been the first instance of science diplomacy

between nations. Closer to Cambridge, Philip Zollman was made Foreign Secretary of the Royal Society in London in 1723 and his role was to maintain regular correspondence with scientists overseas to ensure that the Royal Society's fellows remained up-to-date with the latest ideas and research findings. Before World War II, news and information about scientific developments abroad were conveyed to London by commercial, military and even agricultural consignments.

However, it was only after the war that due to Joseph Needham, whose work in the area of promoting an 'International Science Co-operation Service' was widely-recognized, the natural sciences were recognised as subjects that could do with a bit of international cooperation in a regulated way. They were incorporated within the mandate of the United Nations Educational, Scientific and Cultural Organisation (UNESCO). This was done notwithstanding the international movement to address issues of global concern such as the threat posed by the introduction of nuclear weapons, which was written about in a manifesto by Bertrand Russell and Albert Einstein in 1955, that called on scientists of all political persuasions to address the issue. The famous *Pugwash Movement* on science and world affairs, which was recognized with a Nobel Prize in 1995, was also founded at around this time, in 1957, as what proved to be a major

player in the world of science diplomacy: the science program by the North Atlantic Treaty Organisation (NATO).

After the Cold War, science diplomacy entered a stage of dormancy, which has only recently been broken through. Indeed science and diplomacy have recently entered into a new phase of symbiosis. As per the *Royal Society* and *American Association for the Advancement of Science (AAAS)*, the concept of “science diplomacy” refers to a number of parallel ideas under one conceptual umbrella. Not only can science inform and support foreign policy objectives (such as on climate change) and improve international relations (such as in international collaborations for scientific pursuits like the Large Hadron Collider), diplomacy can also facilitate international scientific cooperation. Famous American molecular biologist Dr Nina Federoff, while being the Science and Technology Adviser to US Secretary of State, once said ‘*Science diplomacy is the use of scientific interactions among nations to address the common problems facing humanity and to build constructive, knowledge based international partnerships.*’

Over the next century, foreign policy is poised to be increasingly shaped by certain linked challenges of sustainability on the global stage. This includes insufficient energy resources, climate change, food shortages and scarcity of water. Science and technology will be critical in addressing these hurdles and hence, the use of good scientific advice by policymakers should be prioritised. The global diplomatic world has increasingly moved towards a disaggregated model that not only involves governments, but also various non-state entities including nongovernmental organisations (NGOs), lawyers, the media and scientific bodies, amongst others. For instance, at the

United Nations Climate Change Conference in 2013 (COP19), there were more than 800 delegates from non-governmental organisations alone. However, after all is said and done, efforts to define and demarcate the role of scientists within this complex world order are still in a nascent stage. The United Nations Conference on Trade Development (UNCTAD) set up a science diplomacy initiative in 2001 to enhance ‘the provision of science and technology advice to multilateral negotiations and the implementation of the results of such negotiations at the national level’ [1]. The American Association for the Advancement of Science (AAAS) established its Centre for Science Diplomacy in 2008 to bring together people from the spheres of foreign policy, science and public policy to recognise areas where science cooperation can help build trust, leading to better intercultural understanding.

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In the UK, the Royal Society has considered bridging science and diplomacy as one of its key objectives of its new Science Policy Centre. The UK government, too, has taken a number of measures to link science more directly to its foreign policy priorities. It set up a Science and Innovation Network (SIN) in 2001, which over the years has expanded to have bases (usually in High Commissions or Consulates and UK embassies) in 25 countries. The network does not provide any research funding itself, but rather facilitates collaboration between the United Kingdom and international research partners

on a number of scientific and policy matters, such as climate change, energy and innovation.



Sir Peter Gluckman is widely recognized in the world of science diplomacy. He is currently the inaugural Chief Science Advisor to the New Zealand Prime Minister. He is a fellow of the Royal Society of London and has received the AAAS Award for Science Diplomacy, in 2016.

For effective science diplomacy, the scientific community must not only be up-to-date with information on the state of our planet's natural and socio-economic systems, but be capable and empowered to inform policymakers at the right time. It is also in the best interests of evidence-based policymaking and diplomacy for the scientists to know where uncertainties exist in these resources and where the evidence-base is inadequate for an informed decision or policy. Even on certain sensitive issues that may be of importance to national security, scientific collaboration can help to facilitate political cooperation and negotiations. In the 2009, the Geological Survey of Canada recently initiated a collaborative project that involved researchers from Norway, the United States of America, Sweden and Russia. They

published the very first comprehensive survey of Arctic geology in a step that could have beneficial implications for contentious sovereignty claims between these countries. [2]

Establishing links between scientists and diplomats helps both: for the former by informing them about the realities of foreign policy and policymaking, and for the latter by highlighting the role and limitations of science in policy. Improving the scientific knowledge and understanding of delegations working on key world issues like climate change and health is crucial. In the United Kingdom, the Royal Society founded an interesting scheme in 2001 to pair an MP with a scientist to facilitate this in the domestic environment [3]. Diplomacy, in turn, can help to set up scientific collaborations that are the need of the hour for contemporary research that involve large upfront investments in infrastructure, which is beyond the budget of any one country.

Scientists may require diplomatic assistance on a number of fronts, particularly in intellectual property agreements, contract negotiations, or even with visa regulations. Post-Brexit, this has been a major cause of concern for EU-UK scientific collaborations, since around 30,000 EU nationals occupy nearly 17% of University research and teaching posts in the United Kingdom. In a scenario where a “hard Brexit” could potentially impact more than 90,000 STEM (Science, Technology, Engineering and Mathematics) jobs as per a new analysis commissioned and published by London mayor Sadiq Khan [4], a pressing need at this time is to make Diplomacy for Science a priority. As for Science for Diplomacy, the much-needed positive feedback that is sought by diplomats from

scientists and the world of science in the diplomatic processes can be established using science cooperation agreements to improve bilateral ties between nations, creation of new scientific institutions (such as CERN) and scholarships for network-building and partnerships. With new challenges such as environmental degradation, scarcity of resources and the danger of nuclear warfare, highlighting the scientific and environmental nuances of foreign-policy agreements has led to increased discussion and debate on science diplomacy.

Today, science diplomacy needs support from individuals and organisations placed at all levels of the science community. Young scientists should be made aware of opportunities and incentives to engage with policy and diplomacy very early on in their careers. Points, such as the consideration of how cooperation on scientific aspects of nuclear disarmament could support the wider diplomatic process, need to be addressed. Measures must be initiated with, and in, countries that have been struck by violence and war to see how science diplomacy can help, in all three ways: science for diplomacy, diplomacy for science and science in diplomacy. Last but not the least, international spaces that are beyond national jurisdictions such as Antarctica, the deep seas and outer space, need to be governed using an approach to international cooperation that is informed by scientific evidence and supported by scientific partnerships.

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