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What new dimensions are needed for science diplomacy?

Joy Y.Zhang, Bhaskar Balakrishnan, Ravi Srinivas and Trude Sundberg

'Can diplomacy be saved? Can diplomacy save us?' Thus was the opening of international relations (IR) scholars Costa M. Constantinou and James Der Derian's 2010 co-edited book, *Sustainable Diplomacies*. The two questions were rooted in shared concerns as well as a shared hope among IR and diplomacy experts. That is, while at the onset of the twenty-first century, the prestige and impact of conventional statecraft of diplomacy seemed to have 'sunken lower than probably any time in recent history', there was an emerging recognition that diplomacy has become ever more important in negotiating alterity and risks, so that 'rival entities and ways of living can co-exist and flourish' (Constantinou and Der Derian, 2010, 2-3). It was also around the same time that the *Madrid Declaration on Science Diplomacy* was launched, and that the Royal Society in London and the American Association for the Advancement of Science published, *Science in Diplomacy*, which expanded the roles of science diplomacy and reoriented its relations with the state and the society (S4D4C, 2019, Royal Society and AAAS, 2010).

The two questions Constantinou and Der Derian put forward may have gained more resonance a decade later, when a global pandemic urged coordination and collaboration in an ideologically divided world, and when incidents like Hurricane Ian in North America, extreme heatwaves in Europe, and deadly flooding in Pakistan underlined the critical role of climate diplomacy.

This global re-awakening to the need for 'effective' science diplomacy also highlights many of the limits in its current conception and practices. While diplomacy remains one of the most ancient forms of statecraft, the delivery of diplomacy, including science diplomacy, no longer hinges on state or institutional actors, but can be shaped and conducted by assemblages of private and public interests. The rise of actors from the Global South and new conflicts of ambition underline the importance of science diplomacy and complicates its delivery. More importantly, how science is organised and who manages its framing and delivery are also changing. We need to unpack the idea of 'science diplomacy' through examinations on past and emerging experiences: What does it mean to different communities? What are its real-life impacts, both in relation to the wellbeing of communities and to the development of science and innovation? Who are the emerging actors and leaders? What are the new norms and expectations of science diplomacy in global politics? And finally, what is 'good' science diplomacy and how can we promote it?

In short, what are the old and new lessons, and what new dimensions of science diplomacy should we explore in the future?

This special issue originated in a panel discussion on science diplomacy organised by the newly founded Centre for Global Science and Epistemic Justice (GSEJ) at the University of Kent for the European Association for the Study of Science and Technology's 2022 annual conference, quite befittingly in Madrid. With the help and support from RIS colleagues, the discussion soon moved beyond the seminar room. The result, as presented in this special issue, is an empirically rich and conceptually provocative collection of reflections on the on-going experimentations and innovations in science diplomacy in Asia, Europe and North America. The scope of this volume covers all three types of science diplomacy (Royal Society and AAAS, 2010). While Whitesides, Zhang, Xie and Sundberg respectively bring in new insights on 'science for diplomacy', contributions from Balakrishnan, Tewari and colleagues shed new light on 'diplomacy for science'. Arguably 'science in diplomacy' is an underlying theme for all papers, but Robinson, Rofe and Höne's piece presents a fresh take on how science diplomacy can be better incorporated in higher education.

Conceptually, this special issue presents a progressive exploration on the dimensions of science diplomacy. To comprehend what is needed for future science diplomacy, the special issue starts with diagnostic examinations of how its conventional practice has become constraining in the contemporary world. Science diplomacy as a modern concept has predominately been a Western discourse since the beginning of the 20th century. The global diffusion of science and technology, along with its governing structures were once seen as a fast-track to modernisation (Drori et al, 2003). But since the late 1960s and early 1970s, the emphasis on science and technology in global politics has shifted from lifting poor nations to building national competitiveness (National Research Council of the National Academies, 2002).

This facilitated the creation of what science historian Whitesides calls the 'empires of mind', in which advanced countries shape the access to knowledge through proprietary rights and classification. Through his 'access-based' historical review of the US's global outreach, Whitesides demonstrates the delicate balancing act science diplomacy has to play in the triad relations between promoting public knowledge, enforcing rights in commercial research and protecting national security.

Zhang shares Whitesides' view that a new science diplomacy is needed to promote democratic access and production of knowledge globally. Zhang warns of a 'hegemonic paradox' in science diplomacy by state actors, both in the Global North and in the Global South. That is, 'while it purports to have levelling effects and to cultivate mutual appreciation between advantaged and less advantaged societies, in practice it often re-affirms and perpetuates power imbalances.' How science authorities get trapped in this

hegemonic paradox is demonstrated through her analysis of the COVID vaccine diplomacies deployed by US and China. She argues for a decolonial approach which necessitates a bigger role for Track II diplomacy where technical options can be 'nested' in partner countries through multi-level social and scientific engagement.

Sneha Pal, Sweta Bawari and Devesh Tewari's discussion on how the Golden Triangle Partnership in reinvigorating Ayurveda, the ancient Indian system of medicine offers a hopeful story. The authors believe the founding of a WHO Global Center of Traditional and Complementary Medicine in India signals a potential 'breakthrough for the advancement and global acceptance of Traditional and Complementary medicine systems'. But to what extent can this impact be realised and sustained internationally will hinge on the quality of multi-stakeholder involvement. This is a point by underlined by both Xie's and Sundberg's empirical studies on water diplomacy.

Xie's long-term engagement with hydro-diplomacy in the Ganges-Brahmaputra-Meghna (GBM) basin reminds us of sociologist Ulrich Beck's thesis that contemporary (environmental and climate) risk will forge new norms in global politics, and nurture a new generation of 'Homo cosmopolitanus' (Beck 2016, 189). She deftly explains a layered entanglement in which a diversity of epistemic communities from the public and scientific sphere, can significantly expand conventional 'unidirectional' diplomatic effort in mitigating cross-border natural and anthropogenic disasters. In other words while *raison d'état* may dictate national authorities' short-term exploitative foreign policy strategies, *modus vivendi*, the societal drive for co-existence may enable new outlook on the whys and hows in negotiating conflicting understanding of natural risks with international counterparts.

Sundberg's report on the water security project with stakeholders in Bangladesh, India (Kolkata), Sri Lanka and Nepal further substantiates this point. They drew on Spanish science diplomat, Marga Gual Soler's (2020) characterisation of global challenges, 'they all have scientific dimensions, transcend national borders, and no country or sector will be able to solve them alone', but offers an empirically-tested remedy to one of Soler's key concerns that scientific and diplomatic communities 'remain largely siloed educationally and professionally'. Sundberg, along with their collaborators in Germany, US and India took on the endeavour in 2018 to develop a community-based multi-disciplinary approach in South Asian communities. This includes creating conflict resolution platforms between experts, authorities, civil societies actors and marginalised communities, and translating codified scientific knowledge into socially-embedded solutions. To some extent, Sundberg's project highlighted the much undervalued role of *social* research in *science* diplomacy. It brings social research from the background of Track II diplomacy to the foreground.

But for science diplomacy to acquire new dimensions and to fulfil its new socio-political roles, spontaneous and sporadic initiatives are not enough. We need to systematically re-think how the idea and practice of science diplomacy can be better instilled in future

generations for whom both science and diplomacy will only become more critical to ensure sustainable peace and prosperity. Balakrishnan's and Robinson and colleagues' contributions to this volume elucidates the necessity, feasibility and perspicacity of a proactive approach to these issues.

Balakrishnan's discussion on the Ukraine war draws our attention to the inseparable interconnections between scientific commons and global stability. The paper outlines the war's damage to all three pillars of science diplomacy through a succinct review of new challenges in strategic areas, such as the international space programme, nuclear technology, climate change and the cyberspace. Science and politics are not easy bedfellows but they are also inseparable: while science is a core enabler of political agendas, politics is ingrained in scientists' research vision. Balakrishnan's paper demonstrates that the active political dismantling of scientific cooperations underlines their power and values. Science diplomacy is most needed where it is most threatened.

But the practice of avant-garde science itself is no longer a privilege of professional scientists with formal support from established institutions. The science diplomacy module developed by Mark Robinson, Simon Rofe and Katharine Höne at the Centre of International Studies and Diplomacy at SOAS in London embodies an ambition of forging an 'ethics of solidarity' among students for better design, development and delivery of science diplomacy in the future. This pedagogical experiment points to possible avenues in overcoming the 'empires of mind' and the 'hegemonic paradox' embedded in conventional science diplomacy.

It's impossible to fully accommodate the plethora of debates and experiments in science diplomacy around the world in one special issue. We hope our diverse yet limited discussions serve as a provocation. The importance of effective science diplomacy in a 'post-truth' world plagued by rising populism and global challenges cannot be overstated. When editing the special issue, we also had an acute awareness that while science diplomacy could be transformed and expanded in its scope, we must also be cautious of not over-applying this concept in a ubiquitous manner. For this would render both the roles of science and diplomacy in resolving real-world concerns into a vacuous tokenism. The limits of conventional state-led science diplomacy and the emerging bottom-up initiatives do not indicate a de-professionalisation of science diplomacy. Rather, it points to an ongoing metamorphosis in which contemporary science diplomacy ups its game in its complexity and sophistication.

Diplomacy, as the Duc de Broglie has been attributed of saying, is 'the best means devised by civilization for preventing international relations from being governed by force alone' (Roberts, 2009). Science diplomacy has always been an evolving practice, because of our developing understanding of what constitutes a 'force'. It was once limited to the military power of sovereign states, then expanded to financial leverages of commercial empires, then the force of epistemic hegemonies. Science diplomacy has always had

problem solving and relation building as its key elements. But whose problem and what relations are themselves open to contestation. As the papers in this special issue demonstrate, new dimensions of science diplomacy emerge out of a renewed understandings of these contestations.

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