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Global Science Diplomacy for Multilateralism 2.0

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The world today faces a growing set of so-called global problems and challenges that require global actions. Such actions must be grounded in (1) a deep understanding of the problems that can engender ideas for possible solutions; and (2) participation in policy actions by different governance actors at both the local and global levels. This article argues that the science and technology (S&T) community not only has the potential to play a significant role in addressing global problems but that it can help establish a multilateral governance structure fit for this purpose. In other words, the S&T community can be a change agent. Nevertheless, such an endeavor will demand the development of new forms of science diplomacy to strengthen the policy-science nexus at the global level of governance.

In the term's common iteration, what we might call "multilateralism 1.0," multilateralism refers to institutionalized cooperation among states as an alternative to anarchy. Here, states are the principal actors, engaging in international relations. In their role as the building blocks of multilateralism, national governments therefore serve as the "key players" and intergovernmental organizations, such as the United Nations or World Bank, are subsidiary agents whose influence is subject to the states' will.

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In the twenty-first century, multilateralism 1.0 is clearly under threat. This is because "the policy authority for tackling global problems still belongs to the states, while the sources of the problems and potential solutions are situated at [the] transnational, regional or global level."[1] Amid such shifts, signs of a transition in multilateralism are emerging: from the old mode 1.0 to a new 2.0. Generally speaking, multilateralism 2.0 can be seen as more open than closed, more networked than hierarchical, and less state-centric.[2]

Illustrating the transformation from multilateralism 1.0 to 2.0 in recent decades has been the increasing involvement by the S&T community in several multilateral environmental agreements, as well as in other global problems. This evolution has been facilitated by two interlinked developments: on the one hand, the gradual opening of the multilateral system to S&T community participation, and on the other, organizational efforts by the S&T community to maximize its participatory power in the global governance system.

Deploying the Language of Diplomacy

A couple of the interviewees were cognizant of personnel at consulates and embassies who were involved with promoting trade and cultural exchange. Interviewees recommended these embassy personnel to the interviewers as sources of information to assist with scientific exchanges and collaborations. In other cases, in the course of their interviews, interviewees deployed terminology typically associated with diplomacy. When asked about possible disparate treatment due to their own ethnic background or gender, three interviewees with extensive international experience referenced a need to be a "citizen of the world." This phrase has come to be used to indicate adoption of a global rather than national identity, to signify a sense of being comfortable in any country. On a related note, another scientist indicated that her university had established a database of faculty who had international experience and referred to these faculty members as "ambassadors" who could provide guidance to other faculty traveling to the same countries.

The use of diplomatic language in a conceptualization of science for diplomacy was reflected in the comments of another interviewee, who had experience in China and several other Asian countries. This respondent was asked whether the NSF should provide support for international collaborations. She emphasized the importance of strategic reasons in saying, "I'm not sure they [researchers] should have funding just for international because it's international unless there's some strategic reason for the U.S. to want to make closer scientific ties with a particular country." The interviewee's emphasis on strategic reasons as justifying public expenditures explicitly acknowledges the diplomatic goals of international collaborations from a U.S. perspective, while complementing the diplomatic language of viewing scientists as "ambassadors" and "citizens of the

world." This suggests institutions may want to deploy the language of diplomacy to prepare researchers with international collaborations to be mindful of science for diplomacy. Furthermore, institutions need to recognize the conceptualization of identity in terms of researchers' attachment to the United States in order for researchers to be conscious of their role as representatives of the United States versus the global identity implied by the term "citizen of the world."

Turning Points

Seven A milestone occurred in 1988, when the World Meteorological Organization (WMO) and other UN agencies set up the Intergovernmental Panel on Climate Change (IPCC) as a multilateral tool to both generate scientific consensus and translate this consensus into suitable policy recommendations. Among the innovative attributes of the IPCC are its shared characteristics of a scientific and an intergovernmental organization. Such hybridity is by design, aimed at facilitating the preparation, based on available scientific information, of reports on all aspects of climate change and its impacts, with a view toward formulating realistic response strategies. Although the IPCC does not conduct its own research, but instead only collects and reviews existing scientific knowledge, it can still be considered a scientific entity, given its inclusion of thousands of scientists in a quite comprehensive process of data analysis. Likewise, the IPCC can be regarded as an intergovernmental body because of the crucial role played by government representatives in decision making.

The IPCC thus constitutes a clear example of the way in which the transition from multilateralism 1.0 to 2.0 is encompassing states, classical multilateral organizations, and the S&T community. The established structure of the IPCC is, indeed, incredibly complex—a reality traceable to the complexity of climate change as an issue, but also to the gamut of positions held by member states and their efforts to maintain control and protect their interests. The IPCC case also illustrates the ways in which bringing S&T knowledge to the global policy-making level is hardly a straightforward proposition.

A second milestone for multilateralism 2.0 came with the establishment of the UN agenda on sustainable development in 1992, with the first UN Conference on Environment and Development, the so-called Earth Summit. Here, participants recognized that achieving sustainable development could not be left to states alone but rather required the active participation of all sectors of society, a principle enshrined in the summit's Agenda 21, which identified nine key sectors, including the S&T community.[3] This deliberation led eventually to the creation of a Major Groups system, which the UN has used since 2002 to organize stakeholders in its processes.

With the inauguration of the Major Groups model, the S&T community could now participate directly in UN work alongside governments. In practice, this

meant taking part in meetings and having time allotted for making statements as well as registering written input at key points. In some cases, such participation also includes a co-organizing mandate. For the S&T community, this work is mainly done by the International Council for Sciences (ICSU),[4] in close partnership with the International Social Science Council (ISSC) and the World Federation of Engineering Organizations. Moreover, since the inception of the UN Commission on Sustainable Development, the ICSU has acted as one of the commission's co-organizers, testifying once again to the emergence of multilateralism 2.0, based on the opening up of international organizations to nonstate actors. Through this process, enlisting S&T input on the global policy agenda has moved toward the mainstream.

Alongside the institutionalized participation of the S&T community and other civil society groups in creating science policy, a particular trend has emerged: that of establishing measurable and "monitorable" targets. In 2000, the UN set nine international development goals, known as the Millennium Development Goals (MDGs), to be achieved by 2015. This marked the first time UN member states had agreed upon an ambitious global governance project—and it paved the way for direct S&T community involvement. In 2013, a UN General Assembly resolution on science, technology, and innovation for development identified S&T and innovation as essential drivers for achieving the MDGs.

Another venue for S&T involvement in global policy making has been the 2030 Agenda for Sustainable Development, adopted in 2015, which formalizes the crucial S&T role through initiatives such as the Technology Facilitation Mechanism. Relatedly, on June 6–7, 2016, the first annual multi-stakeholder Forum on Science, Technology, and Innovation for the SDGs (STI Forum) was held in New York.[5] As a Major Group, the S&T community has been granted comprehensive participatory opportunities through a UN General Assembly resolution adopted July 9, 2013.[6] Since then, the S&T Major Group has been working to inform governments, policy makers, and broader society on what is scientifically and technologically achievable based on existing knowledge, as well as what S&T tools are available or in development.

Reflecting the high expectations for the worldwide scientific community in achieving the 2030 Agenda, William Colglazier, in an editorial published in Science, rightly notes that Agenda 2030 provides a unique opportunity for interaction between scientists and policy makers at the global level.[7] Indeed, scientists can play a major role by providing data and evidence that identifies challenges, advising on needed policy actions, and probing for innovative solutions. Science can additionally help monitor attempts to remediate global problems. The 2030 Agenda thus allows researchers to not only deliver input but also increase the impact of such input.

We are thus on the brink of a new era in multilateralism: one in which states have rolled out a global agenda with measurable goals, and in which states have

agreed on involving the S&T community in both achieving and monitoring global goals. This is not to say that scientists will rule the world—nor would such an outcome be desirable! Even as multilateralism 2.0 emerges, the 1.0 mode remains operative to the extent that states still very much control the decision-making processes and still assess proposed actions in terms of their national self-interest.

Given its new role, the S&T community faces several challenges, among them the delicate issue of how to translate research results into (global) policy. This is a matter not only of impact but also of power politics within the S&T community. Indeed, scientific results are seldom straightforward, and the whole process of scientific progress is driven by debates and competing paradigms, complicating the task of influencing the policy-making realm. Here, conducting the necessary research is not sufficient in itself. Thereafter, results need to be disseminated and translated based on consensus through interactions with policy makers, a time-consuming endeavor for which scientists generally lack the training. Finally worth remembering is that states not only collectively control the multilateral system, they also largely control national S&T systems through their funding policies for research.

The Evolving Field of Science Diplomacy

When Reflected in the institutionalized role of S&T input in global policy is a broader evolving relationship between science and diplomacy. At a glance, the realms of science and diplomacy can be regarded as two distinct spheres of human activity with little in common. As one scholar put it, "Science and diplomacy are not obvious bedfellows."[8] But the recent developments discussed here have yielded a growing awareness of the S&T-diplomacy nexus—and a new willingness by the S&T community and its funders to take part in the shared venture. As such, networks of national and global S&T communities working with policy makers to solve problems are expanding dramatically. These groups include the InterAcademy Council, the Group on Earth Observations, the Global Green Growth Institute, the Green Growth Knowledge Platform, the Sustainable Development Solutions Network, Future Earth, and the Belmont Forum, the last of which, created in 2009, represents the world's major funders of global environmental change research.

As discussed earlier, mobilizing the S&T community to address global problems is a highly complicated task, requiring not only comprehensive research but also the translation of that research into useable knowledge and the organization of dialogue in policy-making contexts. Here, science diplomacy can serve as a tool for streamlining and professionalizing relations between the S&T community and the multilateral system.

As evidenced by the UN initiatives discussed in this paper, the international body and the S&T community have already embarked on a growing endeavor to affect global policy making. This movement has not only boosted hopes for better

global policy making to tackle global problems; it is also reshaping the multilateral system itself.

This evolution of the global governance structure, like any complex change, is not without its challenges, including the need to reconcile the differing interests of states and their scientific communities, as well as the different languages they speak. Given the often steep challenges in bringing S&T to the global policy realm, the practice must be further professionalized and developed in order to be effective. Such a process will require transposing the practice of science diplomacy from the soft-power and self-interest rhetoric of nations to a problem-solving approach in the international realm, where it can be used as a tool to achieve better global governance. Such a transposition, meanwhile, can draw on the three-pronged approach states have taken to science diplomacy, as follows:

1. Science in global diplomacy. Given that the bulk of the S&T community is, for obvious reasons, interested primarily in doing research, and not necessarily in diplomatic engagement, this challenge involves how to direct all relevant issues to the right places. While not all scientists need to engage in science diplomacy directly, all should at least understand and agree on the mechanisms for disseminating science advice at the global level. For those scientists who do act as science diplomats, a need exists for awareness and competence in how to interact with professional diplomats and policy makers.

2. Diplomacy for global science. This tier refers to diplomatic actions by multilateral groups aimed at facilitating S&T collaboration to deal with global problems. For the multilateral sphere, such actions mainly involve opening up policy realms to S&T advice. Such an opening-up could also be applied at the state level; separately, states must avail national funding schemes of financing for needed research. Furthermore, as noted in item 1, diplomats and policy makers at both the state and multilateral levels need more awareness and expertise on how to engage with the S&T community.

3. Global science for global diplomacy. The S&T community is organized not only in disciplinary and epistemic communities but also in advocacy networks. These organizations lie at the nexus of global science-policy interactions and require funding to maintain the support structures for delivering S&T advice internationally. States thus hold the major responsibility of supporting not only relevant research but also the international organizations that facilitate essential partnership within the multilateral system.

Together, these three components can be regarded as the building blocks of a global science diplomacy agenda. Further development of such an agenda could be undertaken jointly by S&T groups such as the ICSU or ISSC, S&T funding agencies,

and other global organizations. The stakes are high, with issues such as climate change constituting a major challenge for humanity.

Among the developments identified in this paper that could better facilitate global governance is the opening of a multilateral system for S&T input beyond the relatively passive practice of offering science advice. Such an expansion would include continuing to involve scientists in establishing measurable, monitorable global governance goals. By no means, however, should sovereign leaders be handing over their powers to scientists, and no one should expect scientists to save the world. But multilateral policy makers very much require S&T input to understand challenges, draft effective policies, monitor developments, and craft innovative solutions. Developing a Global Science Diplomacy agenda should therefore be a priority for all those concerned about the sustainability of the planet and its present and future inhabitants. A first step toward such a Global Science Diplomacy initiative could be the drafting of a strategic document that outlines a vision on how S&T could best be integrated to tackle global challenges. Such a vision could then be operationalized in tools that deal with both the complexities of formulating often disputed scientific advice and the complexities of global policy making. The big question then is, who would be willing and able to take the lead in such an initiative? A plausible answer: a coalition of S&T organizations, major funding agencies, and multilateral groups. After all, global challenges deserve global solutions. SD

Endnotes

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