

● Science diplomacy: state of play and perspectives

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Background

In response to the global challenges of the 21st century, science and technology have become stakeholders in the 2030 Agenda. As stated in SDG 17 (“Revitalise the global partnership for sustainable development”), finding lasting solutions to the wicked problems of living sustainably on the planet requires coordinated efforts from researchers, diplomats and policymakers. These urgent needs have revitalised the field of science diplomacy in recent years.

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Further reading

<http://www.paloc.fr/fr/actualites/la-diplomatie-scientifique-au-21e-siecle-etat-des-lieux-international-et-perspectives>

Science diplomacy: a recent concept at the heart of the international agenda

The relationship between science and diplomacy dates back many centuries, but it is only in the last ten years or so that science diplomacy has attracted new attention. One of the first instrumental contributions is that of the American Academy for the Advancement of Science (AAAS), which in 2008 created the Center for Science Diplomacy and since 2012 has published the online journal *Science & Diplomacy*. In early 2009, the British Academy of Sciences joined forces with the AAAS to organise an international seminar on “New Frontiers in Science Diplomacy”. In 2015, the European Union (EU), initially through its Parliament and then through its Commission, set out a strategy for Europe to be a key player in global science diplomacy. It then launched the Horizon 2020 programme with three projects focused on science diplomacy. The major multilateral institutions, including the United Nations (UN), the World Bank and the World Health Organisation (WHO), have since the early 2010s expressed their willingness to give science a more prominent place in international relations. The UN has also taken the unprecedented step of entrusting the task of assessing the Sustainable Development Goals (SDGs) to a group of independent scientific experts. In France, the Ministry for Europe and Foreign Affairs (MEAE), without input from the Ministry of Higher Education, Research and Innovation (MESRI) or scientific institutions,

published a report in 2013 entitled *Une diplomatie scientifique pour la France* (Science Diplomacy for France). In stark contrast to the momentum gained in many countries, France has not yet held any major meetings, seminars or forums on science diplomacy.

The main role and growing recognition of science diplomacy is based on three main pillars: globalised science, world science and universal science.

Globalised science

In 2000, fewer than 20% of the approximately 600,000 articles published worldwide involved international collaboration; by 2018, this rate had increased to around 50% of 1,800,000 articles (Web of Science data). This growth has been driven by the planetary dimension of major scientific issues and the digital revolution. However, although international co-publications are now the majority, with a strong contribution from Asia and significant growth in other countries of the Global South, the production of scientific knowledge remains very unbalanced. G20 countries published 95% of global scientific papers in 2018 (Africa published under 3%), and for too many countries in the Global South, the proportion of local researchers involved in scientific publications on a topic in their country is still generally less than 40%. An important and pioneering factor

in the globalisation of research has been the development of major international scientific facilities. There are now more than 100 such facilities worldwide, 77 of them in Europe. The European Centre for Nuclear Research, founded in 1954, and the European Southern Observatory, established in Chile in 1962, are emblematic of this global science.

Proactive global science combined with diplomacy, to understand the challenges of global issues

Global challenges require worldwide collaboration, knowledge, diagnosis and shared analysis, as well as coordinated proposals and decisions. Science has a duty to launch this response. The scientific community has rallied first to produce new knowledge to address these issues and then, in synergy with diplomacy, to build international scientific networks and intergovernmental platforms. This commitment has been accompanied by a shift in the relationship between science and policy: we are moving from a linear system of knowledge transfer from science to its applications to a global system of interactions between all communities concerned. Two prime examples are:

- on climate: the Intergovernmental Panel on Climate Change (IPCC), founded in 1988, produces reports involving thousands of scientists and political representatives. They have a major influence on government plans on climate change and on agreements reached at the Conferences of the Parties (COPs);
- on biodiversity: the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), founded in 2012, is a multidisciplinary and international scientific organisation under the aegis of the UN.

Universal science as a vehicle for peace and solidarity

Science, with its universal common language, its demand for sharing and dialogue, and its values of neutrality, is a powerful vehicle of diplomacy for peace and solidarity. Following the Second World War, the scientific community, working in synergy with diplomats, undertook determined efforts to promote dialogue between peoples and peace. There are many examples, from declarations, forums and meetings to networks and the formation of real research centres. These include the historic Russell-Einstein Manifesto of 1955 against the use of nuclear weapons and the quest for peaceful solutions, and the Pugwash meetings held in 1957 on science and world affairs, which received the Nobel Peace Prize in 1995. More recently, the Malta Conferences over the past 15 years have brought together scientists, including several Nobel Prize winners, to help broker peace in the Middle East. The creation of international research centres is another great example. UNESCO has been instrumental in creating several of them, including CERN, IIASA and SESAME. The demand for international solidarity with researchers in cases of human rights abuses and repression of freedom of research should be central to science diplomacy.

Building a common strategy and agenda

Major advances have been made over the last ten years on the concept, tool, functioning, objectives and challenges of science diplomacy. These contributions are the product of multidisciplinary and international approaches, which all agree on the fact that this tool is underused. Science diplomacy would benefit from better coordination and organisation by building a common strategy and agenda, developing synergies and joint tools between MEAE and MESRI, and

involving the main research institutes (in the first instance IRD and CIRAD) and universities, the French Academy of Sciences, the French National Research Agency (ANR) and the French Development Agency (AFD). Given the rich scientific partnerships built by IRD with countries in the South, the importance of our diplomatic network and our development agencies, France, together with our research partners in the South, can play a leading role in developing strategies for scientific diplomacy and influence to tackle the global challenges of the region and the SDGs, while strengthening the ethical and fair aspects of these partnerships.

KEY POINTS

Over the past fifteen years, the international scientific and diplomatic community has taken a keen interest in science diplomacy and has begun to rethink how it might be used more effectively. Across its three main fields (globalised science, proactive science and science as a vehicle for peace), French science diplomacy has some noteworthy and highly regarded assets. However, it suffers from a lack of coordination and synergy between its main stakeholders and is relatively absent from the major global debates in this field.

SUSTAINABILITY SCIENCE

UNDERSTAND, CO-CONSTRUCT, TRANSFORM

Collective thinking coordinated
by Olivier Dangles and Claire Fréour

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