



1. Abstract

As the concept of science diplomacy has evolved and is becoming consolidated in the wider epistemic community, a taxonomy of this concept has been developed. This concept has also more recently come into the purview and parlance of the political and multilateral diplomatic community, including international organizations, such as the CTBTO. Despite the broad use of the science diplomacy concept as an overarching theme and approach, a gap exists in effectively translating and providing more concrete examples of the various dimensions of science diplomacy. Our poster will apply and operationalize the concept of science diplomacy to a key specific element, On-site Inspection (OSI). The aim is to provide a more tangible and practical overview of the interactions and interface between science and diplomacy that are required in this one specific element of the CTBT's verification mandate.

2. Science Diplomacy Taxonomy

- I. **Science for diplomacy:** 'using science cooperation to improve international relations between countries';
- II. **Science in diplomacy:** 'informing foreign policy objectives with scientific advice';
- III. **Diplomacy for science:** 'facilitating international science cooperation'.

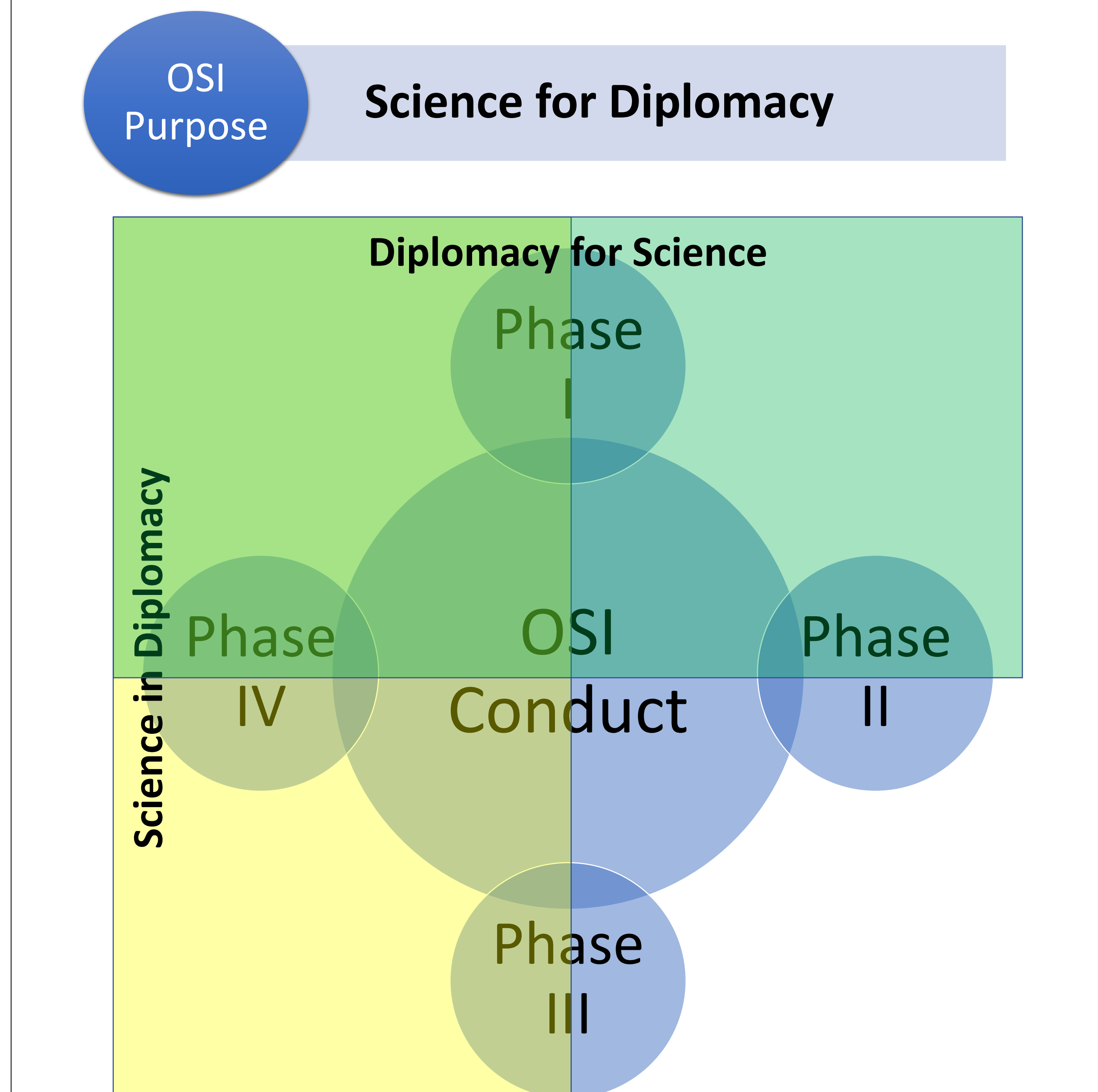
3. Examples of the three dimensions of Science Diplomacy

- I. **Science for diplomacy:**
 - *Science Cooperation Agreements* -- have long been used to symbolize improving political relations, for example between the US, USSR and China in the 1970s and 1980s
 - *New Institutions* -- the European Organization for Nuclear Research (CERN) which was founded after World War II to help rebuild bridges between nations.
 - *Educational Scholarships* -- well established mechanism for network-building and encouraging partnerships.
- II. **Science in diplomacy:**
 - The Intergovernmental Panel on Climate Change (IPCC)--established by WMO and UNEP to provide the world with a clear scientific view on the current state of climate change and its potential environmental and socio-economic consequences.
- III. **Diplomacy for science:**
 - Science can bridge communities where political ties are weaker, but in order to develop relationships in these areas, scientists may require diplomatic assistance, whether in contract negotiations, intellectual property agreements or dealing with visa regulations.
 - Many countries conduct bilateral summits specifically on science issues, in order to establish government-level agreements on joint funding and facilitation of research.

4. OSI Phases

Phase I: **Launch** | Phase II: **Pre-Inspection** | Phase III: **Inspection** | Phase IV: **Post-Inspection**

5. Science Diplomacy Elements Operationalized: OSI Phases



6. Elaboration

Science for diplomacy can be used to describe the rationale for and purpose of an OSI. The *raison d'être* of an OSI can be encapsulated by the science for diplomacy dimension.

- According to Paragraph 35 of Article IV of CTBT, **"the sole purpose of an on-site inspection shall be to clarify whether a nuclear weapon test explosion or any other nuclear explosion has been carried out in violation of Article I, and to the extent possible, gather any facts which might assist in identifying any possible violators."**
- The Treaty and the second part of its Protocol prescribe how an inspection is triggered; how it is prepared and conducted; what techniques and procedures can be applied; which information an inspection report should contain; and what possible steps could follow the report's examination by the organization's main executive organ, the Executive Council.
- Hence, in a nutshell **the "soft power of science" is applied to ameliorate tensions in international relations between states parties of the CTBT. Science interacts with international relations as mandated by the CTBT OSI procedures.**

- The **launch phase and the post-inspection phase of an OSI include elements of both science in diplomacy and diplomacy for science:**
 - the scientific work of preparing the Initial Inspection Plan (IIP) within a legal and diplomatic framework and reporting, respectively;
 - as well as the diplomatic endeavour enabling deployment and recovery of inspectors and the scientific equipment.
- The **pre-inspection phase of an OSI includes elements of diplomacy for science:**
 - mainly includes negotiations with the Inspected State Party (ISP) on crucial elements for an inspection such as health and safety issues, standing arrangements regarding providing water and fuel for the inspection team, etc.
- The **inspection phase of an OSI includes elements of science in diplomacy:**
 - the scientific and technical work of an inspection to inform foreign policy with scientific advice is taken place during this phase.

7. Conclusion

Further elaboration of the interplay of the facets of science diplomacy with the four phases of an OSI can **contribute to this emerging literature and epistemic community engaged in science diplomacy.**

Operationalizing the three dimensions of science diplomacy in a specific case study provides a tangible example to aid in grasping this fluid—and sometimes confusing—concept.

Dissecting the OSI verification element to illustrate the three dimensions can aid the understanding of science diplomacy in just one of the verification elements of the CTBT. In doing so, hopefully further studies and applications of specific examples of science diplomacy are triggered.

As noted, 'science diplomacy seeks to strengthen the symbiosis between the interests and motivations of the scientific and foreign policy communities'.

- In the complex and political nuclear non-proliferation regime, scientific advice and the value of impartial scientific data and facts serves to build trust and confidence in the established measures and compliance with agreed norms of behaviour.
- In verification of compliance with commitments to arms control treaties, such as the CTBT, the value of science is indispensable.
- In times of political tension between states, science diplomacy can aid in rebuilding trust.

8. What is next?

- Identifying and operationalizing the CTBT's OSI as science diplomacy could foment interest in increasing spaces for dialogue between practitioners and scientists, as well as academics and analysts in the complex nuclear non-proliferation regime.
- The nuclear non-proliferation regime is facing challenges with compliance and commitment to key treaties and agreements. Efforts to address these challenges—and foster dialogue and trust-building—can focus on verification of pathways to key commitments, including nuclear disarmament.
 - Such valuable and tangible efforts include the United Kingdom-Norway Initiative (UKNi) and the activities of the International Partnership for Nuclear Disarmament Verification (IPNDV). Both of these initiatives aim at fostering dialogue and collaborative understanding of technical measures and challenges involved in nuclear weapon arms control and disarmament verification.

References

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