A photograph of a modern university campus. In the foreground, several large, red, abstract, pod-like seating structures are arranged on a gravel area. A group of young people are sitting on these structures, some looking at their phones. In the background, there is a large, multi-story building with a grey facade and many windows. To the left, a smaller building with a curved facade and the word 'COLLEGE' is visible. There are trees with autumn-colored leaves and several flagpoles with colorful flags. The sky is clear and blue.

SCIENCE, TECHNOLOGY & POLICY STUDIES STEPS WORKING PAPER SERIES

Meta-Governance for Science Diplomacy – towards a European framework

Ewert Aukes
Gonzalo Ordóñez-Matamoros
Stefan Kuhlmann

NO. 2019/01, JULY 2019

STePS Working Paper Series „Science, Technology & Policy Studies“

Meta-Governance for Science Diplomacy – towards a European framework

Ewert Aukes, Gonzalo Ordóñez-Matamoros, Stefan Kuhlmann

Science Technology & Policy Studies (STePS), University of Twente, the Netherlands

Editor: Stefan Kuhlmann

Department of Science, Technology, and Policy Studies (STePS)

Faculty Behavioural, Management and Social Sciences

University of Twente

P.O. Box 217

7500 AE Enschede, NL

www.utwente.nl/en/bms/steps/

ISSN: 2589-2150 (print)

ISSN: 2589-2169 (online)

Contact

Ewert Aukes

STePS, University of Twente

e.j.aukes@utwente.nl

TABLE OF CONTENTS

Abstract.....	4
1. Introduction	5
2. Theoretical framework	6
Science Diplomacy governance frameworks	6
Meta-governance as a procedural lens	7
3. Methods.....	8
Empirical data	8
Meta-governance framework development process	10
4. Results: patterns of science diplomacy.....	10
Case studies	10
Project reports	11
5. Discussion: towards building bricks for a science diplomacy meta-governance framework	12
6. Conclusions	13
7. Bibliography	14

ABSTRACT

More and more foreign policy organisations become imbued with the promises Science Diplomacy might hold. It may transform or at least reframe the mobilization of knowledge in and for international scientific as well as political relations, not least to address Grand Societal Challenges. Such popularization in the foreign policy field has caught the attention of science policy with the intention to substantiate the hitherto opaque *de facto* patterns of interaction and exchange that shape Science Diplomacy as a practice aimed at bridging science and policy in the international arena. As one objective of the EU H2020-funded S4D4C project, the empirical substantiation of Science Diplomacy in nine case studies co-evolves with the development of a meta-governance framework aimed at enabling EU science-diplomatic processes to thrive.

Hence, this paper focuses on the process and emerging substance of the meta-governance framework in the making. In order to discover the patterns and structural mechanisms guiding Science Diplomacy, its inner workings and appearances in different fields need to be described. Science Diplomacy, is here understood as a constellation of governance arrangements, stakeholders and *de facto* governance practices. Governance arrangements include the formal organization of the case topic, a.o. legal frameworks, rules, policy instruments, governmental strategies, official guidelines and prescribed actors. This includes how and through which channels/interfaces actors relate to each other in terms of substance and procedures, and the challenges of interactions between different stakeholders. *De facto* governance practices involve the actual mix of all formal processes and procedures and those where actors deviate from the formal governance arrangement and perform with bureaucratic discretion. Here, it is also interesting how synergetic links are made to other social or political problem fields to further actors' interests.

With these inner workings in nine Science Diplomacy cases, the building bricks for the meta-governance framework can be derived. Preliminary findings point to the fact that facilitating interaction and exchange between actors in the foreign policy community and the science community as well as the provision of strategic intelligence is a hiatus that such a meta-governance framework can use to develop principles of interaction.

Acknowledgements

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 770342.

1. INTRODUCTION

The attention for science diplomacy has recently reinvigorated (Flink et al. 2018). More and more foreign policy actors become imbued with the promises science might hold for transforming or at least reframing the mobilization of knowledge in and for international relations, not least to address Grand Societal Challenges. Such popularization in the foreign policy field has caught the attention of science policy with the intention to substantiate the hitherto opaque *de facto* patterns of interaction and exchange that shape Science Diplomacy as a practice aimed at bridging science and policy in the international arena.

In the European multi-level governance setting, science diplomacy is still a relatively new topic. A science diplomacy discourse developed only recently at EU organizations such as the European External Action Service (EEAS) (López de San Román and Schunz 2018; Flink and Rüffin 2019). Given the activities, mechanisms and networks of science diplomacy which EU member states already have in place – partly for many years –, the surge in activity of different actors within the European Union is eyed critically by member states and in some instances the EU's role is contested. Member states fear that the role-finding activities of EU science diplomacy actors may destabilize existing delicate international relations in the domain of science, technology and innovation (STI). However, EU institutions have the potential to act as normative powers embodying an approach to Foreign Policy that pushes responsible scientific practice as a fundamental value contributing to the common understanding among and between people from different backgrounds in order to achieve collective goals. EU science diplomacy actors may offer value unification, optimization of resource allocation, e.g. the EEAS or a future collaboration between commissioners working on Foreign Policy and Science, may offer value unification, optimization of resource allocation and empowerment of member states' specialized science diplomacy expertise and capabilities. Consequently, this paper argues that the integration of science diplomacy into EU foreign policy activity actually presents an opportunity for member states to strengthen and improve their science diplomacy efforts and achieve collective foreign policy goals that would not be achievable bilaterally.

The approach suggested here does not present the issue of science diplomacy as a matter of scope competition between the EU and member states (Börzel 2005). On the contrary, it argues that shifting the focus of interaction away from science diplomacy *content* and towards the *conditions* that enable science diplomacy represents a third way to come to a mutually beneficial science diplomacy infrastructure (cf. Wagner 2002). This approach deviates from other efforts to conceptualize European integration focusing on processes of actual decision making and take an explicitly EU-level perspective (e.g. M. Smith 2004). Rather, we build on the notion that national interest is not always the ultimate judge of cooperation, but that there is a so far underexposed role for “social interaction and discursive practices” that also lead to mutually beneficial, cooperative structures (M.E. Smith 2016).

A major step in the process of making European-level capabilities productive towards a synergetic, mutually reinforcing relation between EU and member states is taking a meta-governance perspective (Jessop 2002; cf. Jessop 2003). Such a perspective does not put the content of policy or the implementation of policy front and center. Instead, it focuses on preparing the groundwork for policy actors in the arena to be able to come to mutually acceptable policy outcomes. In other words, a meta-governance perspective defines the ‘conditioning conditions’ for a policy arena to function. It sets the rules of engagement between actors and interaction processes in the policy arena and can, thus, be characterized as a relational approach. Taking into account the contested role of EU science diplomacy actors, the organization of European science diplomacy as a meta-governance arena may normalize

the strained relation between European-level science diplomacy actors and their counterparts at the member states to the benefit of all. The EC's Foreign Policy activities could form a platform for member states to carry out their bilateral relations with non-EU countries. EU science diplomacy actors would then transform into meta-actors organizing and defining the normative rules of the game. They would empower member states to improve their bilateral science diplomacy efforts where possible.

At the core of this paper is the engagement with the question: how could a meta-governance framework for science diplomacy look that brings out the potential of European science diplomacy institutions and member states' specialized science diplomacy expertise and capabilities at the same time and that enables productive, mutually beneficial cooperation? In order to discover the patterns and structural mechanisms guiding Science Diplomacy that are indispensable to develop the meta-governance level concept, we need to describe its inner workings and appearances in different fields as *de facto* governance arrangements. All of these fields discuss contemporary *de facto* governance arrangements on the intersection of foreign policy and science policy. Their contemporary nature as well as their transcendence of the traditional, restricted delimitation of what science diplomacy is makes them a valuable corpus to assess the potential breadth and depth of an overarching meta-governance framework for science diplomacy at the EU level.

The following section highlights currently available conceptualizations of science diplomacy and treats them as content-oriented governance frameworks. It discusses their limited use for the specific multi-level situation in which the EU and the member states find themselves. After this theoretical outline, we describe how the building bricks of the meta-governance framework are derived from the empirical data. Following the presentation of the observed patterns, building bricks for a meta-governance framework for science diplomacy are discussed.

2. THEORETICAL FRAMEWORK

Science Diplomacy governance frameworks

Science diplomacy represents a new policy context which includes partially existing, partially new actors on different levels in the multi-level spectrum. Both at the member state level and the EU level, actors dealing with diplomatic relations turn to science as a new topic in the diplomatic arena. In some cases, variants are developed which focus more broadly on economic diplomacy or on innovation diplomacy which can be located on the intersection of economic and science diplomacy. At foreign mission posts these 'types' of diplomacy lead to a mix of diplomats from traditional international relations, economic and innovation diplomacy and other departmental niche diplomacies (Van Genderen and Rood 2011). While niche diplomacies, such as science diplomacy, innovation diplomacy or economic diplomacy are by no means clearly demarcated diplomatic domains, science diplomacy may function as an overarching diplomacy integrating many if not all niche diplomacies. Also, new actors emerge that deal explicitly and sometimes exclusively with science diplomacy.

While many of the processes commonly grouped under science diplomacy have a much longer history, their naming as 'science diplomacy' represents a performative act of agenda-setting for the foreign policy arena. It summarizes formerly more disparate activities under one heading and foregrounds them as potentially valuable diplomatic activities in a globalizing, networked world, in which knowledge and knowledge creation become more and more important for economic success. Until now, the concept has not yet received an ultimately stable definition. On the one hand, this leads to confusion and unclarity as to what it may mean and may make some actors question the use and necessity of the concept. On the other hand, an unstable container concept may cater to the needs

and interests of many actors who claim to be involved in science diplomacy. Depending on the issue and context at hand, actors can opt in or out of science diplomacy.

Nevertheless, the literature has suggested a few conceptualizations for science diplomacy over the years. Two important views will be presented here briefly due to their relevance for the field and their diverging nature. First, and frequently heard from practitioners, is a definition proposed in 2010 by the Royal Society (The Royal Society 2010). It takes a *procedural orientation* and defines science diplomacy as three processes: science in diplomacy, diplomacy for science and science for diplomacy. As such, activities can be called ‘science diplomacy’, if they somehow improve the workings of diplomacy based on scientific evidence (i.e. “evidence-based diplomacy”); facilitate the collaboration or exchange of scientists across borders by supporting researcher mobility or by providing simple things such as meeting facilities; or influence the relations between countries through indirect processes of exchange or collaboration between scientists internationally, with relevant scientific outcomes as a result. These three categories resonate with practitioners’ understanding of the concept to varying degrees. Second, a recent contribution defined “a more utilitarian framing of science diplomacy” as three *motivation orientations* (Gluckman et al. 2017). It differentiates between actions motivated by furthering (a) a single country’s interests, (b) bilateral interests, and (c) global interests.

For the purpose of the development of the meta-governance framework, we do not fix specific processes or motivations as generic for science diplomacy. Rather, we uncover patterns of actors, processes and mechanisms and use these to identify loci for the organization of science diplomacy. Hence, our understanding of science diplomacy is conceptually neutral and entails a constellation of governance arrangements, stakeholders and de facto governance practices present among EU, member state and non-governmental actors who are working on the intersection between foreign policy and science policy. In our understanding, governance arrangements include the formal organization of a Science Diplomacy case, a.o. legal frameworks, rules, policy instruments, governmental strategies, official guidelines and prescribed actors. Governance arrangements may follow the logics of one or a mixture of modes of coordination including

- (a) *Hierarchies* marked by a clear mandate from an authority;
- (b) *Networks* in which processes take place in the framework of a sort of ‘epistemic community’;
- and
- (c) *Markets* with supply and demand of information and action originating from different and sporadic actors and emergent needs/opportunities) (Jessop 2003, 102; cf. Jessop 2011, 114).

In either case, the stakeholder landscape is composed of all actors involved in the case topic and their attributes (i.e. interests, roles, power to influence/facilitate/block, etc.). This includes how and through which channels/interfaces actors relate to each other in terms of substance and procedures, and the challenges of interactions between different stakeholders. De facto governance practices involve the actual mix of all formal processes and procedures and those where actors deviate from the formal governance arrangement and perform with bureaucratic discretion. Here, it is also interesting how synergetic links are made to other social or political problem fields to further actors’ interests.

Meta-governance as a procedural lens

The concept of meta-governance emerged as a reaction to the observation of governance failure as a normal state in the complex, modern societies we live in. Meta-governance scholars noticed that the traditional governance modes – e.g. state, market, network – did not suffice anymore on their own

and neither could their failures be solved absolutely (Dunsire 1996; Jessop 2002). Thus, meta-governance was proposed as the primary process of coordination in modern societies. It implies the rearticulation and ‘collibration’ of the failing modes of governance (Dunsire 1993). For example, existing modes of governance in a certain policy domain need to be reflected by policy-relevant actors and collibrated – i.e. re-balanced – frequently, if not constantly. In other words, meta-governance entails the “organisation of the *conditions* for governance and involves the judicious mixing of market, hierarchy, and networks to achieve the best possible outcomes from the viewpoint of those engaged in metagovernance” (Jessop 2003, 108; cf. Jessop 2015, emphasis added). These conditions shall be called “conditioning conditions”. As such, conditioning conditions relate to the mechanisms and aspects of governance that make content-oriented policy-making possible.

A meta-governance framework needs to cultivate a different attitude towards policy-making. The continuous process of collibrating the prevailing modes of governance requires an iterative and reflective approach (Rein and Schön 1996) and benefits from a tentative attitude (Kuhlmann, Stegmaier, and Konrad 2019). In practice, meta-governance needs to deal with uncertainty and complexity by (a) involving all policy-relevant stakeholders, (b) defining governance mechanisms that lead to outcomes that are acceptable to many, (c) developing a variety of possible responses, and, foremost, (d) accepting the possibility of (partial) failure (Jessop 2003, 110).

Besides a more flexible attitude towards governance, a meta-governance framework must enable two kinds of interactions. It must strive for *constructivity* and *productivity* of the interactions between policy-relevant actors. We follow Lindner et al. (2016, 51) in defining interactions as constructive when they treat the issues at hand adequately. ‘Adequacy’, then, is not an externally defined, objective measure, but depends on the problem context and actors’ perceptions of it. In turn, interactions are productive when they result in the transformation of actors’ behavior or at least of their attitude. The aim of productive interactions is “a higher level of shared understanding of [science diplomacy] or in responsive/reflexive improvement in the governance arrangement itself” (Lindner et al. 2016, 51).

3. METHODS

Empirical data

Nine qualitative case studies constitute the corpus from which the typical patterns, mechanisms and actors are derived that lead to the building bricks of a science diplomacy meta-governance framework.¹ All of these case studies revolve around contemporary topics on the intersection of foreign policy and science policy that are perceived as or bear the potential of being characterized as science diplomatic fields of action. The contemporary nature of the case studies, as well as their transcendence of the traditional, restricted delimitation of what science diplomacy is makes them a valuable corpus to assess its potential breadth and depth. The case selection in the overarching project consortium followed a theoretical sampling logic. Cases were selected from potentially relevant, ongoing governance processes in the fields of foreign policy, science and science instruments (Table 1). The diversity and contextual difference of the cases was chosen deliberately to ensure a widespread representation of *de facto* science diplomacy governance processes where the interface of science and foreign policy was found. As such, this is a case selection design that roughly follows the most-different-systems logic and allows conclusions as to the general patterns across these cases.

¹ The empirical data for the nine case studies was generated in the context of an EU H2020 project called “S4D4C - Using science for/in diplomacy for addressing global challenges”.

Table 1 Case studies

Foreign policy	Science	Science instruments
Infectious Diseases and epidemic management	Societal Challenges in H2020 – Food	ERA Infrastructures
Export and transfer of water management expertise ^a	FET Flagships – Graphene	ERA Funding and Support – Europeanization and beyond
Cybersecurity	Open Science ^a	Support and advice instruments at the EU and MS

^a At the beginning of the project, these case studies were called “climate change including water” and “Responsible Research and Innovation (RRI)” respectively.

As the case studies were carried out by researchers from the whole project consortium and their topics differed considerably, it was necessary to coordinate data generation. This was done by sharing a case study guideline containing all questions that would be relevant to discuss to be able to compare across cases. Hence, the guideline consisted of three sections dealing with (a) the governance arrangement, (b) the stakeholder landscape and (c) de facto governance practices in the respective case. By governance arrangement the formal organization of the case topic is meant. This includes legal frameworks, rules, policy instruments, governmental strategies, official guidelines and prescribed actors. Furthermore, governance arrangements deal with the direction of implementation – i.e. top-down or bottom-up – and the structure of the arrangement, i.e. whether it resembles a hierarchical structure (where there is a clear mandate from an authority), a network structure (where processes take place in the framework of a sort of ‘epistemic community’) or rather a market structure (where supply/demand of information/action comes from different and sporadic actors and emergent needs/opportunities). The stakeholder landscape describes the actors involved in the case topic and their attributes (i.e. interests, roles, power to influence/facilitate/block, etc.). De facto governance practices are the actual workings of the case in practice. This involves the actual mix of all formal processes and procedures and those where actors deviate from the formal governance arrangement. In addition, under this section the problems actors are dealing with in practice were to be described, as well as possible rules and procedures in the case study and interfaces through which resources pertaining to the case topic are exchanged. Interfaces can be thought of as loci of exchange or absorption, such as personal meetings or conferences, but also material/non-human elements like websites, portals, physical infrastructure, etc. They can also be institutionalized in the form of programmes, positions, etc. They can be (a) permanent, (b) temporary, (c) formal, or (d) informal occasions, on which actors meet and interact (both nationally and internationally).

In an introductory text to the researchers it was explicitly stated that each case study’s situatedness and idiosyncracies may require a different selection of those questions to be answered. The guideline was not supposed to serve as an interview topic list. Rather, the questions served as analytical guidance for the cases study teams to sketch the governance situation in their case and to extract information for the transversal case analysis. This had two consequences. First, it may not have been necessary, nor applicable, to answer all questions for every case study. Second, generating all necessary knowledge from interviews was not imperative, especially, if some/many questions could already be answered by the case study teams themselves without reaching out to other experts (via internal dialogues or desk research, for example).

Data for the case studies came from qualitative, semi-structured interviewing and were generated between November 2018 and May 2019. Interviews were recorded where possible and permitted. Only those passages which were judged relevant for analysis were transcribed. The analysis of the cases followed the conceptual framework underlying the case study guideline. In some of the nine

science diplomacy cases this entailed comparative country analyses, in others it meant a transversal analysis of international mechanisms or institutions.

Through this method of ‘coordinated freedom’ we were able to capture the empirical richness of the case studies. It would enable us to distinguish positive and negative examples of governance structures, actors and practices that pertain to science diplomacy.

Meta-governance framework development process

The afore-mentioned empirical work was one of five sources feeding into the development of the meta-governance framework for science diplomacy. The others are the relevant literature on science diplomacy and in the field of STI studies, a needs assessment and state of the art report on science diplomacy (Rungius, Flink, and Degelsegger-Márquez 2018; Degelsegger-Márquez, Flink, and Rungius 2019) as well as experience with a previous meta-governance framework (Lindner et al. 2016). Figure 1 illustrates the ensuing process of deriving building bricks from the material. Transversal analysis of the three sources provides us with structures and patterns of science diplomacy governance in practice and reveals similarities and differences. From this, the productive and constructive conditioning conditions were made explicit. Finally, by defining the requirements through which the conditioning conditions can be influenced and shaped, the building bricks of the meta-governance framework emerge.

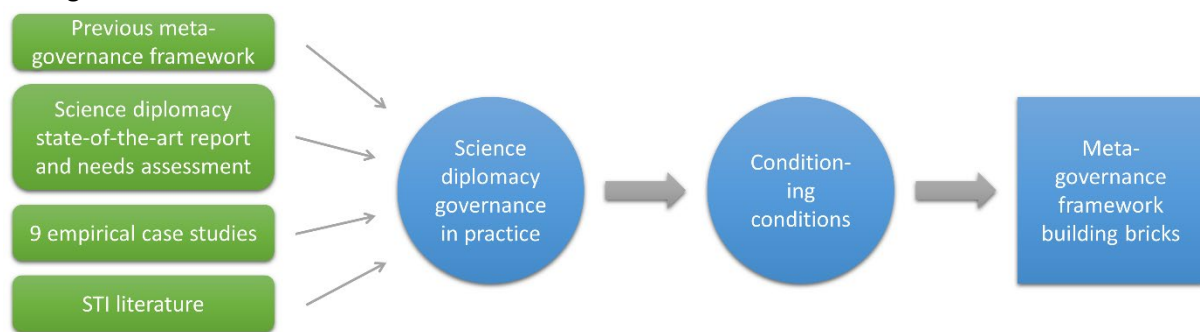


Figure 1 Development process of science diplomacy meta-governance framework.

4. RESULTS: PATTERNS OF SCIENCE DIPLOMACY

As matters stand just before the final delivery of the empirical case studies, the scaffolding of the meta-governance framework is constituted by the two in-depth reports on science diplomacy, previous knowledge and cursory, partial evidence from two of the nine case studies. For now, the empirical evidence is restricted to the country situation in the Netherlands with respect to the cases “Export and transfer of water management expertise” and “Open Science”.

Case studies

The governance arrangements in the two cases are rather different in both cases in the Netherlands. Water management is a historically important and stably institutionalized policy domain. It is legally enshrined in Dutch regulations and tasks and responsibilities across the policy levels are clearly demarcated. This relates to subtopics in water management, e.g. water quality, water quantity, sanitation, as well as geographical task divisions, e.g. coastal areas, rural areas, urban areas. While there is a strong hierarchical component rooted in the existential importance of water management, more and more market elements are included in, e.g., tendering processes for projects. In addition, the devolution of tasks and responsibilities results in a centrally controlled, but decentrally executed wa-

ter management system with many different governmental organizations and sometimes non-governmental or market parties involved. Open Science is a much newer topic in the Netherlands. Its recent emergence as a relevant topic in academia has triggered much activity, but has not yet led to governmental legal institutionalization. Except for a mention as a government ambition in the most recent Dutch coalition agreement, elements of Open Science are more and more becoming included in funding requirements for scientists as well as codes of conduct.

In terms of actors, both cases show a diversity of actors on all levels, from local to transnational. However, in the Open Science policy arena, most actors are from institutions in the knowledge sector. Nevertheless, these actors are strongly interconnected on many policy levels and – at least in the case of the Netherlands – interact regularly and try to produce synergies in their policy activity. For water management, there are many actors in the non-governmental and commercial sector influencing the topic, either through their involvement in projects, lobbying or research activities. In both case study areas, there are strong interactions with actors outside the Netherlands on many policy levels. For example, universities interact either directly through research collaboration or educational exchange, or through their representative bodies on the supra-national and international level. The same goes for governmental actors in the water domain. They interact heavily with European actors, such as EU and member states, but also through bilateral relations with priority countries where diplomats are posted based at the Ministry of Foreign Affairs, the Ministry of Economic Affairs and the Ministry of Infrastructure and Water Management.

In term of issues and interfaces, the two case studies differ, too. As an already quite institutionalized policy area, water management and the export or transfer of knowledge about it is a routinized process. Policy ambitions are defined and redefined frequently and a network of governmental and commercial ties is maintained in large parts of the world. Both the governmental and commercial networks tend to overlap due to its mutual reinforcement: good political ties guarantee an economic environment with higher certainty and act as back-up support when problems arise. Open Science is still stabilizing as a field and tasks and responsibilities are still being negotiated, especially on the supra- and international level, which is considerably important for Open Science to be able to fulfil its promise. Interfaces of international exchange consist of personal encounters or governmental and trade missions on different kinds of occasions in both case studies.

Project reports

The needs assessment and state-of-the-art-report about science diplomacy have put forward several points that are crucial for the construction of a meta-governance framework. It is necessary to take into account the differences or organizational structure and knowledges depending on the EU directorate-general, EU service, or member state. The heterogeneity in terms of interests, values, knowledge and capabilities of specific actors interested in international relations concerning scientific topics requires appropriate consideration. Several fundamental aspects to achieve this were mentioned. Both diplomats and scientists request opportunities for face-to-face encounters with other science diplomacy actors. This includes the constitution of new interactions, but also better access to existing and known stakeholders and networks. Similarly, in terms of knowledge resources there seems to be a need for information about the stakeholder landscape, STI agreements and which activities have been prioritized by the various actors. Finally, science diplomacy actors would benefit from more specific and tailored training about the topic and related skills, such as negotiations, communication and networking or understanding the various intersections of science and foreign affairs.

These patterns and requirements offer starting points for building bricks of a meta-governance framework for science diplomacy.

5. DISCUSSION: TOWARDS BUILDING BRICKS FOR A SCIENCE DIPLOMACY META-GOVERNANCE FRAMEWORK

Previous attempts of defining science diplomacy have focused on characterizing its typical elements, while taking different perspectives to do so. What both afore-mentioned science diplomacy conceptualizations have in common is their attempt to capture what science diplomacy *is*. Both describe certain aspects of science diplomacy from a content-oriented perspective. However, what science diplomacy *is* may differ depending on the problem context and the countries involved. This reduces the flexibility of such content-oriented approaches when it comes to dealing with moving targets, changing actor landscapes and complex mixtures of interests and powers. The dynamic nature of contemporary international politics and diplomacy as well as the increased complexity of the social and environmental challenges countries face calls for an open, reflective approach to science diplomacy. Through processes of aligning values and definitions as well as mapping competences, strengths and weaknesses, an optimal institutional science diplomacy infrastructure can be negotiated that allows for room to maneuver while producing a win-win situation for all actors involved. This may potentially also hold for the strained relation between the EU and its member states, where meta-governance may present a third way to the advantage of all.

The building bricks for an open, reflective meta-governance framework can be derived from the inner workings of contemporary science diplomacy. Preliminary findings point to the fact that facilitating interaction and exchange between actors in the foreign policy community and the science community as well as the provision of strategic intelligence is a hiatus that such a meta-governance framework can use to develop principles of interaction. This results in conditioning conditions in three overarching domains. These are (a) norms and values, (b) organization and procedure, and (c) knowledge use. Enabling and facilitating constructive and productive interactions in these domains can be achieved by defining modes of interaction:

(a) Modes for reflection

Given the contested relationship between EU organizations and member states over the division of tasks and responsibilities in the field of science diplomacy, meta-governance of science diplomacy must bring actors together to let them reflect on and co-construct their positions, different truths, norms and values, concerns and interests. Reflection modes must enable finding common ground concerning the meaning of core concepts and processes, such as ‘science diplomacy’, and how these meanings may differ between actors. These processes must also include a thorough exploration of existing and potential strengths and weaknesses of either actor to map the opportunities for mutual reinforcement of science diplomatic activities. This requires an open mind and the acknowledgement that the efficacy and efficiency of unified action may be higher. This can be achieved through dedicated and guided meetings with high-level strategic as well as operational actors from the governmental and non-governmental spheres.

(b) Modes for scoping/developing knowledge

As a working basis, functioning and efficient modes of knowledge gathering and dissemination need to be ensured. This includes the mapping of traditional science diplomatic activities and specialisms; monitoring of ongoing processes relating to networks, expertise or interfaces;

sharing of knowledge and enabling interested actors to find others with a certain desired expertise, e.g. through a web platform dedicated to strategic science diplomacy intelligence. Finally, existing resources and dedicated instruments need to be known, both explicit and implicit.

(c) Modes for identifying topics and levels

Member states have already built up networks and expertise in specific science diplomatic fields, which they do not want nor should forfeit. Think of existing rules of engagement and tacit codes of conduct. The EU as a relatively new actor in science diplomacy needs to perceive these existing expertises. The supra-national perspective may discern topics that are either not yet covered or that could benefit from cooperation between member states. This also includes scanning the horizon for future topics that will benefit from a science diplomatic approach. In such a way, the institutional landscape can already be prepared for these topics, be that through flagging them and putting them on the agenda for existing science diplomacy networks and expertise or through the proactive organization of new constellations of actors and expertise.

In practice, this can lead to the institutionalization of conferences, services or meetings that deal not with the content of science diplomacy processes specifically, but with negotiating and reflecting on the conditioning conditions on a strategic level.

6. CONCLUSIONS

In this paper we have argued that a meta-governance framework may present a third way to strengthen science diplomacy efforts of EU member states and EU alike while honing their respective diplomatic specialisms. We have discussed the prevailing approaches to science diplomacy and explained the characteristics of meta-governance as an alternative to content-oriented science diplomacy conceptions. We have briefly touched upon the empirical sources for a meta-governance framework which was presented in the following. A meta-governance framework for science diplomacy should have at least three building bricks, including: (a) modes for reflection; (b) modes for scoping/developing knowledge; and (c) modes for identifying topics and levels.

Integration and subsidiarity of policy domains is an important debate among EU political actors. There is a push and pull between the EU and its member states concerning who has authority over certain policy domains – some more than others. Foreign policy is certainly one of those domains and EU activity in this field is eyed critically by member states. Now that the EU steps up its activities in the field of science diplomacy, this is not welcomed by all actors in the diplomatic arena. EU actors are felt as competition instead of a potential support and facilitator. A meta-governance framework can overcome this integration impasse by means of its relational, reflective and tentative nature. It does not prescribe the content or motivation of science diplomacy ties, but rather presents ways in which the actors can align their interests, find mutually beneficial mechanisms and strengthen potentially weaker domains to maximize synergies. A meta-governance framework for science diplomacy enables cooperation among EU and member state science diplomacy actors while respecting and preserving each actors' specialisms and expertise.

7. BIBLIOGRAPHY

- Börzel, Tanja A. 2005. "Mind the gap! European integration between level and scope." *Journal of European Public Policy* 12 (2): 217-236. <https://doi.org/10.1080/13501760500043860>.
- Degelsegger-Márquez, Alexander, Tim Flink, and Charlotte Rungius. 2019. *What it takes to do science diplomacy: Practices, identities, needs and challenges of science diplomacy practitioners. Baseline analysis and needs assessment*. S4D4C (Vienna).
- Dunsire, Andrew. 1993. *Manipulating Social Tensions: Collibration as an Alternative Mode of Government Intervention*. Max-Planck-Institut für Gesellschaftsforschung (Köln).
- . 1996. "Tipping the balance: Autopoiesis and Governance." *Administration & Society* 28 (3): 299-334.
- Flink, Tim, Stefan Kuhlmann, Gonzalo Ordonez-Matamoros, and Alexander Degelsegger-Márquez. 2018. "Science Diplomacy for Global Sustainability – Towards a Supportive Governance Framework." EU-SPRI Conference, Paris, June 2018.
- Flink, Tim, and Nicolas Rüffin. 2019. "The current state of the *art* of science diplomacy." In *Handbook on Science and Public Policy.*, edited by W. Canzler, Stefan Kuhlmann and D. Simon. Cheltenham: Edward Elgar.
- Gluckman, Peter D., Vaughan C. Turekian, Robin W. Grimes, and Teruo Kishi. 2017. "Science Diplomacy: A Pragmatic Perspective from the Inside." *Science & Diplomacy* 6 (4): 1-13. <http://www.sciencediplomacy.org/article/2018/pragmatic-perspective>.
- Jessop, Bob. 2002. *The Future of the Capitalist State*. Oxford: Blackwell.
- . 2003. "Governance, and meta-governance: on reflexivity, requisite variety and requisite irony." In *Governance as social and political communication*, edited by Henrik P. Bang, 101-116. Manchester: Manchester University Press.
- . 2011. "Metagovernance." In *The SAGE Handbook of Governance*, edited by Mark Bevir, 106-123. Los Angeles: SAGE.
- . 2015. "The course, contradictions, and consequences of extending competition as a mode of (meta-)governance: towards a sociology of competition and its limits." *Distinktion: Journal of Social Theory* 16 (2): 167-185. <https://doi.org/10.1080/1600910x.2015.1028418>.
- Kuhlmann, Stefan, Peter Stegmaier, and Kornelia Konrad. 2019. "The tentative governance of emerging science and technology—A conceptual introduction." *Research Policy*. <https://doi.org/10.1016/j.respol.2019.01.006>.
- Lindner, Ralf, Stefan Kuhlmann, Sally Randles, Bjørn Bedsted, Guido Gorgoni, Erich Griessler, Allison Loconto, and Niels Mejlgaard, eds. 2016. *Navigating Towards Shared Responsibility in Research and Innovation: Approach, Process and Results of the Res-AGorA Project*. Karlsruhe: Fraunhofer Institute for Systems and Innovation Research ISI.
- López de San Román, Alea, and Simon Schunz. 2018. "Understanding European Union Science Diplomacy." *JCMS: Journal of Common Market Studies* 56 (2): 247-266. <https://doi.org/10.1111/jcms.12582>.
- Rein, Martin, and Donald Schön. 1996. "Frame-critical policy analysis and frame-reflective policy practice." *Knowledge and Policy: The International Journal of Knowledge Transfer and Utilization* 9 (1): 84-104.
- Rungius, Charlotte, Tim Flink, and Alexander Degelsegger-Márquez. 2018. *State-of-the-art report: summarizing literature on science diplomacy cases and concepts*. S4D4C (Vienna).

- Smith, Michael. 2004. "Toward a theory of EU foreign policy-making: multi-level governance, domestic politics, and national adaptation to Europe's common foreign and security policy." *Journal of European Public Policy* 11 (4): 740-758. <https://doi.org/10.1080/1350176042000248124>.
- Smith, Michael E. 2016. "Institutionalization, Policy Adaptation and European Foreign Policy Cooperation." *European Journal of International Relations* 10 (1): 95-136. <https://doi.org/10.1177/1354066104040570>.
- The Royal Society. 2010. New frontiers in science diplomacy: Navigating the changing balance of power. (RS Policy document 01/10): 32.
- Van Genderen, Ruben, and Jan Rood. 2011. *Water Diplomacy: a Niche for the Netherlands?* Netherlands Institute of International Relations 'Clingendael' (The Hague).
- Wagner, Caroline S. 2002. "The elusive partnership: science and foreign policy." *Science and Public Policy* 29 (6): 409-417.

UNIVERSITEIT TWENTE

Drienerlolaan 5
7522 NB Enschede

Postbus 217
7500 AE Enschede

053 489 9111
info@utwente.nl



UNIVERSITY OF TWENTE.