



Reconnected normativity: the role of a contesting world society in Arctic science diplomacy

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Abstract

This article develops a model of *contesting world society* in order to show the origins of normative ideas in global governance, and to model how non-state actors attain legitimacy to interact with constructive norm development. The model draws on world society (Buzan 2018) and contestation approaches (Wiener 2014) to account for the ways non-state actors engage in global governance and make normative ideas count, enabling us to theorise normative paths from the societies of people to global governance. The MOSAiC Expedition of 2019-20 in the Arctic is explored to show how several empowered world society actors were able to make normative claims and reproduce practices through their engagement with this expedition. The expedition presented opportunities for different forms of world society actor to engage with norms in various ways, with powerful actors engaging constructively in norms of collaboration and reaffirming international science, while smaller-scale actors acted performatively to reproduce practices.

Keywords Arctic · Contestation · Norms · World society

Introduction

How do normative claims originating in world society reshape state behaviour in the absence of formal institutional consolidation? Existing constructivist accounts emphasise contestation as constitutive of norms (Finnemore and Sikkink 1998; Wendt 1999; Wiener 2014; Gadinger and Nieman 2025), yet they under-specify the conditions under which contestation produces durable transformations in international order. For example, climate governance has long been marked by intense normative contestation, from debates over common but differentiated responsibilities

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(Petri and Biedenkopf 2020) to disputes over legitimacy (Von Allwörden 2025). Yet, while contestation has reshaped discourse and generated new arenas of negotiation, it has only intermittently produced durable transformations in the institutional architecture of governance concerning climate issues (Thompson 2024). This limitation becomes visible in Arctic science diplomacy, where epistemic and societal actors have reshaped governance practices without constitutional embedding.

To address this gap, this article develops a *contesting world society* approach, a synthesis of world society (Buzan 2018) and contestation (Wiener 2014) to reconceptualise how normative ideas can challenge or sustain the legitimacy of global governance. The synthesis of these ideas into a *contesting world society* approach presents a new understanding of normative change that helps to explain how governance can change from the bottom-up. This approach offers an appreciation for both the social processes and conditions which allow actors with different backgrounds and capacities to interact with norm change. In contrast to international society, the English School's flagship concept, this article foregrounds people and organisations beyond the state as presented in a world society.

Although contestation has been explored within the English School (Schmidt and Williams 2023) and hinted at in similar syntheses (Navari 2013; Williams 2011), this article is the first to systematically foreground world society in this context. By bringing these approaches together, stronger analytical claims can be made regarding the normative origins of governance. Specifically, this article contributes to constructivist scholarship by specifying the conditions under which norm contestation can generate meaningful interactions with actors beyond the state by pulling on the sociological connections in a differentiated world (Buzan and Albert 2010). It expands on Habermas' (2006) transnational structures as critical agents in the formulation of global governance that is more inclusive of cosmopolitan ideals. The analysis develops this point by showing how transnational structures enhance engagement with cosmopolitanism through actors' access to forms of norm validation, and by illustrating that different organisational capabilities are critical to the success or failure of their interaction with international society.

A *contesting world society* approach has applicability to broader questions of IR, such as a disconnect between concerns of the people and the concerns of the state (Bogdandy and Venzke 2014). Despite a growing case of moral claims from humanity ascending to international governance as demonstrated through the uptake of norms like Responsibility to Protect or the Universal Declaration of Human Rights, there is still a distance that persists and indeed might always persist as evidenced in the continued primacy of state concerns in the discipline (Weiss and Wilkinson 2014; Kochi 2020). The crux of the problem is that the concerns of the state differ from those of the people, since states carry ethical duties tied to their position within an international system (Drezner 2008; Price 2008; Gaskarth 2013). Similar to Finnemore and Sikkink (1998), this paper considers that norms often originate domestically and are filtered through certain structures before they are accepted at the international level, but takes a different perspective on the lifecycle of norms. They argue that 'domestic influences are strongest at the early stage of a norm's life cycle, and domestic influences lessen significantly once a norm has become institutionalized in the international system' (Finnemore and Sikkink 1998: 893). While the role



of the norm entrepreneur is not disparaged in this article, it is instead argued that the norm lifecycle is continuously and constructively contested by domestic actors when given opportunities to do so.

As suggested by Rubin (2015), both the normative concerns of people and the governance systems around them appear to be changing toward solidarism and altruism. A shift in moral obligations at the state level is particularly reflected in *The Rise of Responsibility in World Politics* (Hansen-Magnusson and Vetterlein 2020) which attributes the Brundtland Report as the cornerstone of imbuing modern states with senses of responsibility in economic and environmental governance. Still, states frequently override responsibility, such as has been seen in recent years with troublesome rhetoric surrounding climate change despite the earlier advent of the Paris Agreement and other climate pacts (Urpelainen and Van De Graaf 2018). The conceptualisation of a *contesting world society* aims to explore how world society actors can constructively engage with norm development of international society, an attempt to explain the foundations for a turn toward solidarism.

To illustrate how a *contesting world society* can operate in practice, this article turns to reframe science diplomacy as sites of contestation. Science diplomacy links knowledge production with political discourse, which is often understood as ‘the process by which states represent themselves and their interests in the international arena when it comes to areas of knowledge—their acquisition, utilisation and communication—acquired by the scientific method’ (Turekian et al. 2015: 4). While accurate, this state-centric understanding is limiting because it overlooks the variety of actors and interactions involved. Scientists, policy makers, bureaucrats, non-state organisations, and local community leaders can participate in events of science diplomacy, giving a variety of small-scale actors the opportunity to engage at the nexus of scientific curiosity and political discourse. These events also provide opportunities for actors to shape the very norms of international society. These actors might, for example, attempt to further certain normative ideas at the political level through advocacy or exert political constraints on other actors. Such activities are possible because nexus events allow actors at different levels an uncommon opportunity to communicate directly and on relatively equal terms.

Rather than only viewing science diplomacy as merely opportunities for soft power transfer or chances to further scientific activity, events of science diplomacy should also be viewed as incidents of contestation amongst states and world society actors supported by the normative grounding of collectives of people. Reframing science diplomacy in this way, and drawing on the *contesting world society* model, builds on existing interpretations but shifts the emphasis toward normative contestation, where actors are afforded opportunities to contest normative ideals (Orchard and Wiener 2022). Under this interpretation, it still borrows from the logic of soft power in science diplomacy (Gluckman et al. 2017) by reflecting the political intentions associated here, but instead also appreciates the influence that world society actors can attain in these events. Recognising these sites as opportunities for contestation highlights how they create ideal conditions for constructive norm development. To conceptualise this reframing of science diplomacy, a theoretical position is needed to interpret the mechanisms at play here.



This article argues that in events of science diplomacy, non-state actors can help bridge the disconnect between human and state imperatives. Certain non-state actors have been known to make it their mission to affect the normative principles of the state toward a more cosmopolitan design (Dietzel and Harris 2019). In events of science diplomacy, they can act as intermediaries, attempting to grant legitimacy to collective identities to advocate normative change amongst the state system. Applying a *contesting world society* approach allows for the identification of themes of actors based on their participation and infrastructure, and in events of science diplomacy the roles of these actors can be better understood in their significance for shaping the global agenda.

The Arctic provides an ideal focus for this article. Nowhere else in the world enjoys the same extent of non-state actor inclusion in governance, as seen in their extensive participation in regional fora and intergovernmental organisations (Shadian 2010). Likewise, the Arctic experiences a tremendous multi-cultural setting offering a variety of Western and Indigenous perspectives that feed into well-informed governance arrangements (Sellheim and Menezes 2022). It also experiences more than its fair share of geopolitical interest resulting in steady tensions, be it from rising attention of non-Arctic states, or potential land grabbing from the littoral states, and the contestation of Arctic governance mechanisms (Olczak 2024). Science diplomacy therefore has a significant role to play in this region, both in the way that it can be viewed as science *for* diplomacy to further diplomatic progression (Binder 2016; Zaika and Lagutina 2023; Wood-Donnelly and Gehrke 2024), or diplomacy *for* science to underpin scientific activity in the complex multi-state environment of the Arctic.

The Multidisciplinary drifting Observatory for the Study of Arctic Climate (MOSAiC) expedition of 2019–20 serves as the case of interest for this article. This expedition set out to investigate ‘ground zero’ of climate change. An immense international collaboration of 20 countries and countless research institutions, the expedition sent the German research icebreaker *Polarstern* deep into the Arctic Ocean for a year to become trapped in the ice and study the Arctic environment to better understand climate change. The expedition took place amongst the geopolitical puzzle of the modern-day Arctic, and normative visions for planetary sustainability and collaboration were a significant inspiration. This expedition, as will be explained below, created vast and unique conditions for science diplomacy, instigating numerous opportunities for involved actors to make normative claims, and therefore entertained meeting points for normative values with the political world and the possibility for a *contesting world society* to operate. This expedition serves as the case study for this article due to the sheer scale that it managed to achieve, pulling in a vast number of state and non-state actors and had an impact on norm development.

This article first develops the concept of a *contesting world society* by synthesising world society and contestation, exploring how these ideas enable a unique perspective on the role of transnational actors in global governance. In this theory discussion, the ideas are shown to complement each other by expanding on the transmissive boundaries between domains of people, the transnational space, and interstate society. This article then reframes science diplomacy as sites of contestation before examining the MOSAiC Expedition as a case where these dynamics are visible.



World society and contestation: how non-state actors can achieve legitimacy in governance

The two ideas in their synthesis as presented in this article investigate actors engaging in normativity in world politics that typically do not have access to contestation. For example, an individual—unless a statesperson or organisational leader—is unlikely to affect the normative order of global governance alone. Given that governance demonstrates a lack of interest in pandering to the individual (Çalı 2024), it is perhaps not surprising. However, when this person is associated with a collective of people who share the same issues, concerns, or values, this collective becomes far more likely to be taken seriously. When concentrated into an organisation dedicated to championing the collective case, these organisations not only concentrate the ideas of these collectives, but as they are also capable of interacting with the state (Keck and Sikkink 1999), they are far more likely to engage the state's attention. Organisations are therefore an important component of global governance, for better or worse (Teubner 2012). This section explores two ideas that, when combined into a *contesting world society* framework, provide both the structure (the social conditions) and the mechanics (social processes) to explore how non-state actors attain legitimacy in governance. Both ideas, although hailing from different theoretical backgrounds, situate global governance within a web of actors beyond the state, considering that the normative design of governance is not solely a responsibility of the state.

First, Buzan's typology of World Society (2018) provided some much-needed conceptual tangibility to world society by providing a typological structure, with Buzan noting that as a concept it “remains seriously underspecified” (2001: 477). Complimentarily, English School literature frequently regards much promise for world society as a concept (Basu-Mellish et al. 2023: 579–580, Green 2021: 53, Williams 2014), yet little theoretical development has been achieved despite its growing relevance to modern society with the increasing entanglement of social structures in the world order (Buzan 2023). As Babones and Aberg (2019) reflect on its importance and ensuing neglect in Buzan (2014), ‘if that was true then, it is even more true now’ (Babones and Aberg 2019: 294).

With an aim to advance world society conceptually, Buzan (2018) has opted to firstly integrate the state system, and secondly, and more importantly, to define world society with granular detail. Made up of three constitutive and discrete ‘world societies’: normative, political, and integrated world societies reimagine a new operational world society. Normative world society refers to collective identities of people with shared issues and moral concerns. Buzan (2018) clarified that this could mean any specified magnification of society, a village, profession, religion, nationalism within a state, to the most general version of wider humanity, cosmopolitanism. Political world society are the non-state actors that represent those groups in global governance. Integrated world society houses the three domains of: people, transnational actors, and the state, into one system. By including the state in this world society theorisation, the intention by Buzan is to demonstrate the way in which world society and the states are not completely independent of each other.

The central problem, however, as stipulated by Buzan is the lack of understanding of how world society and states interact: ‘Indeed, their interaction needs to be



understood, because without taking it into account, it is not possible to understand how the society of states work' (2018: 129). It is an important question not just for the constitution of world society, but also for the constitution of global governance which is often disconnected from the cosmopolitan concerns of the people (Dunoff and Trachtman 2009; Bogdandy and Venzke 2014). Buzan relates this issue back to Clark (2007), who considers that there is a strong relationship between the legitimate identity of international society and the norms that support it. This relationship, which Buzan (2018) has used strongly to create his typology, is the normative value of world society in legitimising international society, but it remains unclear on the nature of *how* world society links to international society. While Buzan has conceptualised pathways that bridge the domain of the human with the arena of the state through political world society, much is left to understand regarding the nature of interactions between political and interstate society.

Contestation is an opportunity for world society to make a normative connection with the society of states. Antje Wiener argues that norms are not static but are subject to regular contestation, and that governance processes rely on these contestations to function (Wiener 2007). Contestation primarily focuses on who has access to negotiation of norms rather than on why actors comply with them (Wiener 2014: 4) and therefore is about normative meanings-in-use (2017: 113). Although Niemann and Schillinger (2017) make a convincing argument of the contradiction of the stability of norms in contestation and constructivism, world society's structural composition presents a stronger cultural foundation with which to ground the origins of norms. Thus, there are certain similarities between contestation and world society, both world society and contestation attribute social processes as the key processual elements that explain the functional operation of governance.

As Albert et al. (2008) suggest the need for a communicative turn in IR theory, Wiener firmly places norms as a process of social evolution. In fact, within constructivism, there is a growing appreciation for the role of processes in determining norms (García Iommi 2020) and the complex interpretive relationships actors share with norms (Stimmer and Wisken 2019). The processual perspective fits with world society: Buzan (2018) takes a dual perspective on the flexibility of norms by pulling on the English School notion of institutions as a mechanism to assign such institutions to the different world societies that he describes. In doing so, he implicitly overlays these institutions with the intent of making these world societies empirically useful to map 'the identity structure of normative world society and address what kinds of identities get political recognition, what do not, and why' (ibid.: 134).

Therefore, the different perspectives can be overlaid to contextualise both the social processes of norms and the different actor groups that interact with these processes. In this way, Buzan's world society adds structural composition as a fourth thinking tool beyond 'the normativity premise, the diversity premise, and the concept of cultural cosmopolitanism' (Wiener 2017: 113). Without the appreciation for different forms of norm validation as social process, Buzan's typology lacks causal relation between world and international societies as it lacks the empirical connectivity of how ideas that form in normative world society can translate into international society. Likewise, Wiener's contestation benefits from the structural composition as it contextualises the social conditions that actors operate within. Wiener's Cycle-Grid



model (2014) is a useful aid to demonstrate the way in which different actors have access to different kinds of validation as an important consideration for how some actors are more important than others. The following conceptual model maps how access to norm validation varies across actors and domains, rather than classifying actors exhaustively.

A *contesting world society* framework in Fig. 1 straddles multiple levels of governance in an abstract way but is more specific about different kinds of transnational actors that can occupy levels of governance. The levels of governance largely correspond with Buzan’s (2018) world societies, denoting how different actors have access to different forms of validation in global governance. Political world society operates across all three when understood broadly, as it contains a vast variety of actors with varying levels of scale, infrastructure, political prowess, and power. Political world society is understood here not as a fixed category of actors, but as a functional position occupied by organisations capable of translating societal normativity into politically recognisable claims. As Andrieu and Lubbock (2023) indicate on the ambiguous nature of classifying political world society, these actors can vary significantly in their constitution. However, a ‘fuzzy’ reading of these actors is consistent with the inherent fuzziness of world society (Navari 2018; Bucher and Eckl 2022) and global governance generally (Hansen-Magnusson and Gehrke 2025). This ‘fuzziness’ also refers to the multitude of actors involved in governance, focusing more specifically on how certain actors operate across domains of the interhuman—the interactions person-to-person—to the interstate—the interactions from state-to-state—presents opportunities to examine the legitimacy of global governance (Peters 2009).

To situate norms within a *contesting world society* framework, contestation can be understood as encompassing reactive, proactive, and interpretive engagements with norms (Orchard and Wiener 2022), reflecting whether actors object to violations, seek to advance or reshape norms, or contest their meaning in practice. In turn, where

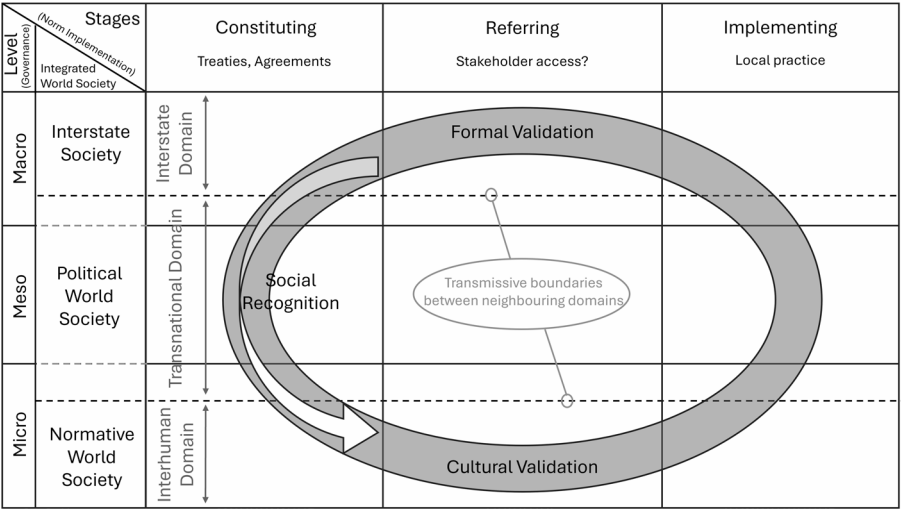


Fig. 1 Contesting world society. A synthesised illustration of Buzan’s typology of world society (2018) with Wiener’s Cycle-Grid Model (2014)



norms are understood as types, such as fundamental, organising principles, and standardised procedures per their degree of generalisation (Wiener 2007), norms and contestation are an insightful account of global politics. Read through world society, contestation becomes a mechanism for bridging a legitimacy gap by expanding access to constructive forms of norm validation across differently positioning actors. Political world society plays a pivotal intermediary role in this process: by organising and articulating the concerns of collective identities most affected by rigid standard operating procedures, it enables normative claims origination at the interhuman level to be elevated beyond limited, reactive contestation and into engagement with organising principles and fundamental norms. Access to contestation is thus structured by power differentials that correspond to actors' positions within global order and the forms of validation available to them, with political world society occupying the widest range of access. Through organised advocacy—recognised as a legitimate mode of representation (Buzan 2018)—political world society translates diffuse normative concerns into politically intelligible claims, allowing non-state actors to engage interstate society more proactively and shape the normative design of governance.

Expanding on the transmissive boundaries between world societies

The connection of the two ideas presented above to form *contesting world society* is realised in the relationship between interhuman societies and transnational actors within a supposed integrated world society. The connection rests on the normative-political world society syllogism: political world society emerges from normative world society, engaging states through advocacy, operating within the legitimacy gap as an intermediary between human concerns and state action. Buzan suggests that 'the obvious principle that explains such permission [of non-state actors to advocate interstate society] is the rise of organized advocacy as a legitimate expression of public opinion' (Buzan 2018: 135). A legitimate cause is thus founded through a corresponding collective identity that shares the same issues or values, such that an organisation can tap into this normative source and propagate its messaging via advocacy amongst interstate society. Figure 2 below schematically illustrates the transmissive boundaries discussed here, highlighting how normative claims move across interhuman, transnational, and interstate domains through distinct interfaces.

In several ways, political world society resembles the transnational advocacy networks suggested in Keck and Sikkink (1999). Political world society is good at communicating with states due to the contexts that transnational actors operate within, their agency 'takes place in *several national contexts simultaneously*'. Thus, transnational social forces do not operate outside states but *inside different states at the same time*' (Van Apeldoorn 2004: 145). Therefore, becoming politically intuitive is a necessity for transnational actors, particularly as Hale (2020) argues that 'the web of economic connections across borders, underpinned by technological changes in communications and transport, created both the interest in and the possibility of politics beyond the state' (Ibid: 205). As Keck and Sikkink (1999) suggest with transnational advocacy networks, these actors intuitively make use of information and international infrastructure to engage the international society. However, political world society differs from Keck and Sikkink (1999) as they are established to exist *for*



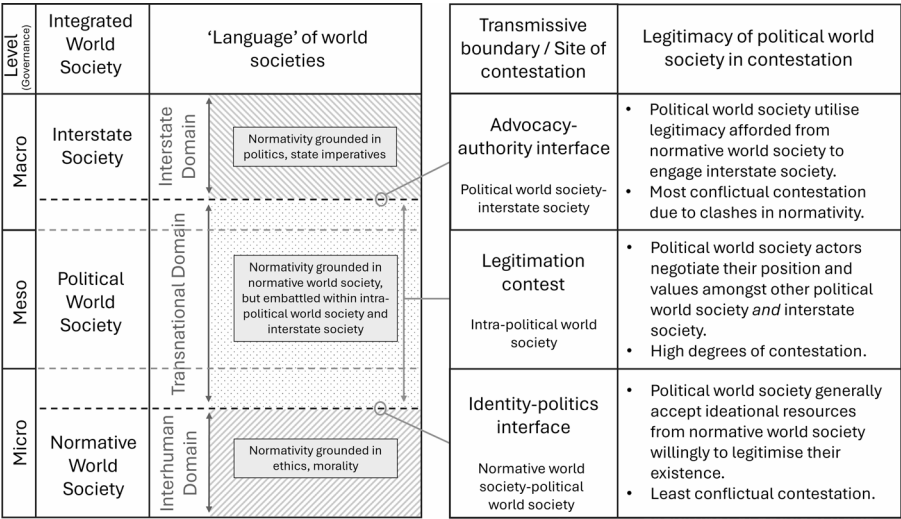


Fig. 2 The transmissive boundaries between domains

normative world society. Rather than operating distinctly in the transnational space, these actors are able to translate normativity into political messaging suitable for advocacy efforts.

The relationship between political world society and interstate society is fairly clear. The state does not require transnational actors to exist but nonetheless is subject to normative claims made by these actors. Examples of this are numerous, such as the way in which the WWF might appeal to states to alter behaviour surrounding environmental protection (Wapner 1995). This perhaps alludes to the power of normativity in an integrated world society and the inherent linkages between the state and the human and the intrinsic need for a world society generally. But it mostly ties into the fact that organised advocacy is seen as the legitimate process of representation by interstate society (Buzan 2018). However, transnational actors do—to some extent—require the state to exist as they benefit from the structure provided by states, and therefore also rely on an incongruent alignment of normative ideas between normative world society and interstate society. There is a presupposition here that political world society can only exist where there is a valid normative dissonance between the people and the state that requires their efforts to correct. As this discussion engages with these different world societies, it is worth recalling that these entities are ideal-types and so a certain amount of abstraction is expected.

What Buzan (2018) does not discuss, however, is the interplay within the transnational space. If it is established that political world society attempts to advocate interstate society on behalf of normative world society, it would be naïve to assume that this happens in a vacuum free of other similar actors with similar objectives, with different normative resources. This alludes to the fact that there are countless very different collective identities across the world with equally different and unique normative concerns. Take the area of human rights, for example, where interpretational issues persist over the correct regime (Voeten 2017), or global energy governance



where organisations vie for legitimacy (Downie 2022). Transnational actors are embattled in a competition to affirm their own normative vision. As such, a legitimisation contest features throughout political world society that determines which actors, and therefore which ideas, ascend to the top (Fig. 3).

Sites of contestation amongst the ice: arctic science diplomacy and the mosaic expedition

This article now moves to reframe science diplomacy through the lens of a *contesting world society* as sites of contestation in practice, and not just the traditional lens of soft power. In the case of soft power, science diplomacy might present opportunities for states to foster international collaboration and trust-growth or to promote their own scientific excellence (Zaika and Lagutina 2023). While it is useful to understand the potential role of science in state politics, a soft power interpretation of science diplomacy reduces these instances to exclude the role of world society actors. Their exclusion is a significant oversight when, as will be shown, world society actors are particularly active in science diplomacy events and have the potential to constructively engage with global normativity. Through the lens of a *contesting world society* framework, science diplomacy is a performative space where normative claims are advanced, negotiated, and resisted. It presents an opportunity to examine the ‘translation’ of normative ideas into political messaging, thus providing more empirical structure to the political world society-interstate society relationship.

Norm	Type of norm	Relation to science	Description
Sustainability/Environmental commitments	Fundamental norm	Constitutive	Science embedded as the process of achieving this norm
Human rights and responsibility	Fundamental norm	Constitutive	Alike sustainability, science plays a guiding role in achieving goals via social sciences
International collaboration/Peace and demilitarisation	Fundamental norm	Flanking action to science	This is needed to support scientific operations seamlessly
Indigenous knowledge	Fundamental norm	Constitutive	Science must engage with and incorporate Indigenous knowledge systems, shifting from extractive to inclusive epistemologies
The Agreement on Enhancing International Arctic Scientific Cooperation	Organising principle	Flanking action to science	A supporting and legally-binding agreement to facilitate scientific operations and international collaboration
Open data and transparency	Organising principle/Standardised procedure	Constitutive to science	Scientific data should be only shared to foster trust, reproducibility, and collaborative analysis

Fig. 3 Science norms in the Arctic and their relationships to science



To begin, a brief reflection on the embedded nature of science in the Arctic demonstrates why world society actors in this region might enjoy particularly strong legitimacy during events of science diplomacy. The prominence of science entered an intensification period following the famous 1987 zone of peace speech by former Soviet leader Mikhail Gorbachev, leading to the formation of the International Arctic Science Committee (IASC) and Arctic Council itself (Åtland 2008). The positive role of science in the Arctic is reinforced by several authors, noting that scientific cooperation has tremendous value for facilitating peaceful geopolitical relations (Berkman and Young 2009; Bertelsen 2019; Everett and Halašková 2022; Wood-Donnelly 2023; Obydenkova 2024). It is unsurprising, then, that diplomacy and science have become the subject of increased attention given science's superior position in the increasingly shaky geopolitical landscape of the Arctic.

Reviewing the concept of science diplomacy highlights its nuance; it is not a unitary notion, which is precisely why such events provide excellent opportunities for world society to engage at the policy interface.

Informing foreign policy objectives with scientific advice (science in diplomacy); facilitating international science cooperation (diplomacy for science); using science cooperation to improve international relations (science for diplomacy). (The Royal Society 2010: vi).

Delineating three types of science diplomacy highlights the depth of the relationship between science and diplomacy. Typically, the third kind of science *for* diplomacy is of interest to IR given the.

Consequently, there is also a lot of interest in the concept of science diplomacy in the Arctic. It is a positive phenomenon for the persistence of relative stability in the region (Binder 2016; Berkman et al. 2017; Caymaz 2021), but it is not without its caveats. Not only has science diplomacy become increasingly a part of states' Arctic strategies (Everett and Halašková 2022), but it has also furthered state interests on matters that concern competition in the area (Wood-Donnelly and Bartels 2022).

In discussing the different types of science diplomacy in the Arctic, Sorokina et al. (2023) show how national interests can be deeply embedded in projects in the area, though as a positive driver for diplomatic collaboration. It is observed that science diplomacy is increasingly used at the locus points between state interests and the scientific world. Yet, little is understood about the agents involved in science diplomacy (Wood-Donnelly and Gehrke 2024), despite the vast number of possible actors that can participate in these events.

Considering then how science is situated in the Arctic, science is integrated within several contexts. In terms of the different types of norms, per Wiener (2007), the fundamental norm of sustainability supports large segments of this sector, particularly with reference to climate-based or general physical scientific research. The relationship is, however, co-constitutive as science permits the discovery of sustainable processes and sustainability underpins exploratory rationale in scientific curiosity. Sustainability as a growing norm is consistent with a reading of environmental stewardship as increasingly becoming a key institution of international society (Falkner



and Buzan 2019). Science is therefore a critical aspect of a primary institution of international society in the Arctic.

Science, however, affects and is affected by other sectors. Advancements in technology, be it in telecommunications, resource harvesting, or transport are entwined with economic imperatives as these can often create greater economic opportunities. Socio-cultural research helps to protect vulnerable populations or promote alternative approaches to issues, and so science can also be embedded within norms of responsibility and human rights, to name a few of the contexts of science norms in the Arctic.

To consider how these norms fit within a model of *contesting world society*, Fig. 4 below represents how norms relate to different layers of governance, world society, and stages of norm implementation. Modelled in this way, norms are demonstrated not to be heterogenous but instead relate to people in different ways. Data sharing as a standardised procedure, for example, is considerably more relevant to normative world society than interstate society, and is at the latest stage of norm implementation.

Contesting world society in action

This penultimate section empirically examines how science diplomacy functions as a site of contestation in Arctic governance in the context of *contesting world society*. A *contesting world society* framework acknowledges that actors can have varying access to types of contestation, and that those with access to proactive contestation will have more of an impact on the overall constitution of a norm compared to those with access to reactive contestation. The MOSAiC Expedition serves as the test case to examine this, because it is a strong example of science diplomacy that enabled proactive contestation with norms in the Arctic.

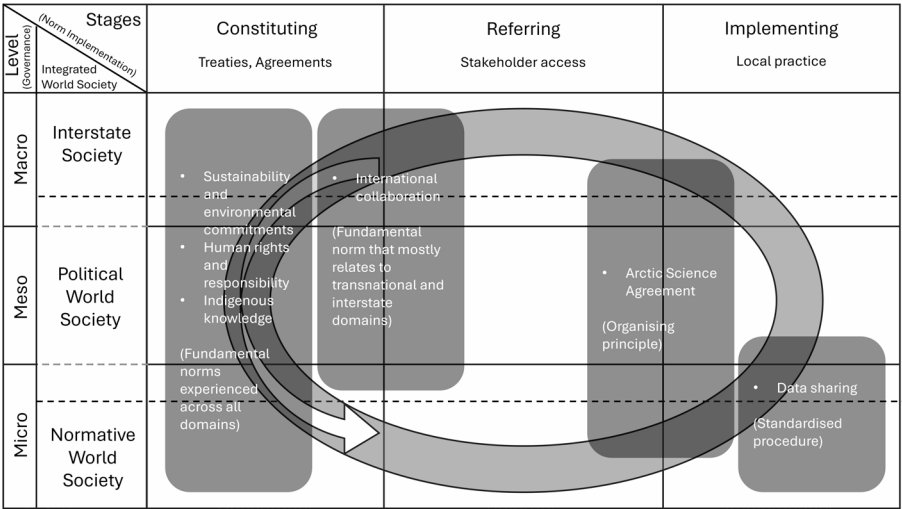


Fig. 4 Science norms in a contesting world society



The MOSAiC expedition was a trailblazing one-of-a-kind observation mission (Shupe et al. 2020) that consisted of the German research icebreaker *Polarstern* being left to drift throughout the Arctic Ocean and become frozen in the ice from September 2019 until October 2020. The purpose of allowing the ship to become frozen into the ice was to observe and harvest data on the atmosphere, physical geography, snow and sea ice, ecosystem, and beyond (Fong et al. 2022; Nicolaus et al. 2022; Rabe et al. 2022; Shupe et al. 2022). The expedition included the participation of researchers from 20 countries as an international effort to produce meaningful research on climate change and to further understandings of the Arctic, several organisations took part in the project led by the Alfred Wegener Institute (AWI) (Nixdorf et al. 2021).

The expedition is an example of primarily science *for* diplomacy as it facilitated the most intense instance of international collaboration in the Arctic to date, though no doubt there are elements of diplomacy *for* science due to the logistical requirements of the expedition. The vast collaboration network orchestrated by IASC and the AWI required substantive diplomatic effort to achieve, this is seen rhetoric from prominent Arctic scientists (Berkman 2022) reflecting on the expedition. It is also worth noting that the AWI, an institution based in Germany which is a non-Arctic state, spearheaded the expedition and provided substantial funding for the expedition. As Han (2018) points out, non-Arctic states can overcome geographical disadvantages through the medium of science. Of the 20 nations involved, 13 were non-Arctic states, it was therefore a complex case of science diplomacy that is heavily contextualised in geopolitical terms.

The methodological approach taken to analyse the MOSAiC expedition is a theory-driven case study approach with the objective of exploring a *contesting world society* framework in an appropriate environment. This approach relies firstly on the conceptual synthesis of world society and contestation to derive the theoretical framework, from here a typological mapping of actors involved in the event of interest will be carried out to understand their roles. Finally, an interpretive analysis of discourse in media, institutional rhetoric, and academic dialogue related to the MOSAiC expedition explores how normativity operates at the intersection of scientific and diplomatic practices in global governance. This approach is selected as it reflects the interpretive attitude of this overall article, and places emphasis on social practices as the core processes of social function.

In completing this methodology, it became clear that, although the expedition produced an extensive body of physical scientific publications, there is comparatively little social scientific reflection. The absence of these studies can be linked to the expedition's distinctly apolitical framing, which has given social science studies limited grounds to approach it from this perspective. It may also indicate the lack of interest from social sciences in the effects of science diplomacy on governance. Therefore, the limited studies in this area are critically evaluated alongside empirical sources. The following sub-sections situate the MOSAiC expedition between latent geopolitical tension and cosmopolitan normative commitments, showing how Arctic science was conducted amid divergent strategic interests while simultaneously legitimised and mobilised through the shared norms of environmental stewardship, cooperation, and climate responsibility, ultimately through the lens of a *contesting world society* framework.



Between power and principle

This expedition took place during a backdrop of geopolitical tensions between major states with interests in the Arctic. The academic discourse on the state of geopolitics in the Arctic swings between stability and tension. Heininen (2018) argues that there is an institutionalised cooperation unique to the Arctic and a resultant lack of military conflict or armament is only confirmatory of this setting. Indeed, he would be correct even now, in the post-2022 Russian invasion of Ukraine that has had the most devastating impact on Arctic cooperation in decades (Koivurova and Shibata 2023) the Arctic is yet to tip into military armament. However, whilst no engagement may have occurred, it does not fully appreciate that tensions were still higher-than-desired around the time of the MOSAiC Expedition. Intent to land-grab is seen in how states have made applications to the Committee on the Limits of the Continental Shelf in the spirit of the UN Convention on the Law of the Sea to extend their territorial influence over the continental shelf and ocean floor (Kröger 2019), all the while amongst a potential resource competition (Korkut and Fowler 2019), and with China that has been maintaining a firm stance on its desires to be included in the Arctic (Mariia 2019) fuelling further interest from non-Arctic actors of which many often test the limits of jurisdiction and treaty interpretations over access to ocean resources (Østhagen and Raspotnik 2018). So, while the Arctic has enjoyed some exceptional cooperation, there remained a need to push for cooperation amongst a latent threat of conflicting agendas in this delicate space.

Further to the geopolitical context, the expedition—and indeed the Arctic generally—is situated within cosmopolitan normative contexts. The global climate movement, youth activism, and humanity's broader concerns about the melting Arctic all feed into a better need to understand the environment and humanity's impacts on it. These normative themes indicate corresponding normative world society concentrations; collective identities concerned with planetary sustainability and climate justice. Recent studies draw links between social group identification and the climate movement (Holzhausen and Grecksch 2021; Mackay et al. 2021; Masson and Fritsche 2021; Allan and Robinson 2022; Hornung 2022; Nasrin and Fisher 2022). This kind of grass-roots interest is mimicked in global international society with the acceptance of environmental stewardship as a primary institution (Falkner and Buzan 2019; Kırprızlı and Köstem 2022).

In the investigation of normative values, it was observed that studies do discuss the expedition in the context of international cooperation in the Arctic (Devyatkin 2022) and the pivotal role that it has played for science itself (Turner et al. 2017). The expedition is often contextualised amongst a backdrop of worsening climate conditions (Shupe and Rex 2020). In media, the same contextual processes take place, except rhetoric tended to be simpler and more accessible for audiences: 'How anchoring a ship to an ice floe will help fight climate change' (McKie 2019), 'Nowhere on Earth is warming as fast. Scientists will spend a year trapped in sea ice to understand what that means for the world' (Kaplan 2020). From the very community of supportive researchers with stakes in the expedition, it is grounded in normative values such as international cooperation: 'The concept of the MOSAiC Arctic cruise began as an International Arctic Science Committee (IASC) initiative and evolved into an incred-



ible international collaborative program involving hundreds of researchers from 20 different countries’ (IASC Bulletin 2021: 9), and climate change: ‘on 20 September 2019 Polarstern departed from the Norwegian port of Tromsø, bound for the central Arctic, the epicentre of climate change’ (Ibid: 28).

These normative values are entirely relevant, as the acceptance of this expedition rests on a legitimacy of its mission. The media articles from above—amongst a chorus of media sources repeating the same rhetoric—frequently feature the cost of the expedition. Sitting at €140 million, this expedition required a congruency with a cosmopolitan normative base, such as the audiences the media articles above are likely aimed at, to legitimise its activities and justify such expenditure. Such a sum spent entirely on scientific activity requires sufficient support such that it is not rejected by citizens on the grounds of legitimacy, or else it would fail to ever leave port. In this sense, the expedition functioned as a constitutional performance: it reaffirmed and operationalised the norm of environmental stewardship as a shared principle of Arctic governance.

Performing multilateralism in Arctic science

The expedition presented ample opportunities for political world society actors to participate in contestation. As lead coordinator, the AWI undoubtedly was the most legitimate actor to participate, given that this organisation facilitated much of the expedition’s infrastructure—including the very ship that collected the data—it has a superior position in affecting other actors involved and indeed the overall narrative of the expedition itself. The AWI was not the only political world society actor, though. Various research agencies and organisations like IASC, high-profile climate scientists, Arctic Council working groups, and other institutions acted in this capacity.

It is here then, within this context of geopolitical conditions and normative values, that proactive contestation is observed. In opposition to the aforementioned nationalist sentiments creeping on the verges of Arctic cooperation, scientists involved in this expedition advocated for cross-border cooperation, knowledge sharing, and the furtherment of climate science in the broader context of climate emergencies:

The MOSAIC expedition was an incredible success. Scientifically, it broke new ground by offering many observations that are the first of their kind. Programmatically, it embodied the spirit of international collaborative science, leveraging the support of 20 nations toward addressing shared scientific priorities (Shupe and Rex 2022: 225).

It is only through principles of joint logistics, shared access, and data collaboration that this expedition is made possible, creating instances of institutionalised contestation. The choices by these actors were not merely logistical, however, they were normative acts that contested the growing politicisation of Arctic access and instead asserted a vision of science as a common good. In carrying out this expedition, science is reaffirmed as an activity of peaceful collaboration and responsibility (See Shupe et al. 2020: 7).



The translation of normative values into political messaging is clear. Scientific norms are codified into practice via enacting shared infrastructure and data platforms, and multilateral agreements like the expedition itself as a framework for international collaboration for science. The role of science in the expedition feeds into a contribution of the legitimacy of transnational climate science even in periods of state competition.

The role of political world society was instrumental in facilitating proactive contestation in this instance. From an organisational point of view, the AWI acted as a norm entrepreneur of unprecedented international collaboration from countries with complex geopolitical relationships (i.e. Russia, China, the US, Norway). IASC facilitated normative dialogue by acting as the backbone of the expedition by connecting an exhaustive network of research institutions, guiding discussions amongst a diverse crop of stakeholders and therefore emphasising the importance of collaborative research in informing policy and governance in the Arctic. The leadership of the AWI and collaborative support of IASC fostered multinational participation, guarding against unilateral approaches and advocating inclusive and coordinated scientific inquiry for effective environmental governance. The examples from IASC and the AWI represent the role of communication in IR, presenting a communicative interface to allow for social interaction to occur as the constitutive operation for norms to be shaped (Albert et al. 2008). As such, the excellence of the AWI and MOSAiC expedition is recognised by the Arctic Circle Assembly with its prestigious Arctic Circle Prize in 2022, an award reserved for exceptional contributions to Arctic prosperity. While this may be interpreted this as norm reproduction, it constitutes proactive contestation through performative reaffirmation of multilateralism and an example of continued constructive norm interaction even after the end of the expedition.

With reference to *contesting world society* in Fig. 1, it can be observed that several normative world society actors were granted access to proactive contestation through these political world society's actors' actions. Actors of cosmopolitan climate activism were given serious time in the spotlight to negotiate the responsibility of actors in dealing with climate change. Additionally, the normative world society actors of scientists were granted opportunities to performatively demonstrate international collaboration and initiate further research to further the legitimacy of climate science. While climate activism is generally in the realm of cultural validation with social recognition usually being observed in certain political world society actors like the World Wide Fund for Nature or Greenpeace, formal validation in the case of the MOSAiC expedition is achieved through mass-collaboration of research institutions that pool their legitimacy. The expedition creates a model for international collaboration in Arctic Science in the face of a geopolitical puzzle as the legitimization contest is largely bypassed in favour of a congruent normative vision (Fig. 5).

Two observations of *contesting world society* are made here. Firstly, at the interface between normative and political world societies, actors with interest in science were able to synergistically perform their normative aspirations in a political context, thereby allowing political world society to meaningfully engage the interstate (see example A in Fig. 6 below), pulling on their pooled legitimacy in Arctic science. Secondly, a low degree of contestation intra-political world societally allowed for a streamlined legitimization contest. Rather than competing for different normative



Actor	Role	Contestation/normative outcome
AWI (Alfred Wegener Institute)	• Lead coordinator that provided infrastructure (ship, logistics, data collection). • Acted as norm entrepreneur of unprecedented collaboration across geopolitically tense states (Russia, China, US, Norway).	• Reaffirmed science as peaceful collaboration and common good. • Proactive contestation away from nationalist tendencies. • Performative reaffirmation of multilateralism.
IASC (International Arctic Science Committee)	• Facilitated normative dialogue and guided discussions among diverse stakeholders. • Backbone of expedition due to role in providing logistical and communicative infrastructural support. • Connected broad network of institutions. • Provided scientists with institutional standing.	• Advocated collaborative research. • Contributed to policy/governance relevance. • Emphasised inclusivity and coordination.
Arctic Council Working Groups and institutions	• Participated as political world society actors.	• Supported institutionalised contestation through collaborative frameworks.
High-profile climate scientists	• Advocated cross-border cooperation and data sharing. • Participated in climate science advancement.	• Normative acts contesting politicisation of Arctic access. • Promoted vision of science as common good.
Normative world societies	• Climate activists given platform to negotiate responsibility. • Scientists showcased international collaboration and pooled legitimacy of institutions.	• Mass collaboration legitimised climate science. • Bypassed legitimization contest in favour of a shared normative vision.

Fig. 5 The world society of the MOSAiC expedition

visions amongst each other, political world society actors had a mutual agenda and thereby focused their advocacy efforts with the interstate while producing opportunities for lower-level political world society actors to appear (example B in Fig. 6). All the while, normative world society, like climate activists and researchers (example C in Fig. 6) were communicatively involved in the normative ideals of the expedition. This cooperation culminated in the exceptional international and cross-border coordination that the expedition achieved. Together these observations indicate a movement of constitutional significance, the informal codification of collaboration and environmental responsibility as higher-order norms guiding conduct among states and non-state actors alike. Additionally, these observations indicate the continued interaction with norm development available to non-state actors, suggesting that the norm life cycle (Finnemore and Sikkink 1998) has extensions where suitable opportunities for contestation allow.



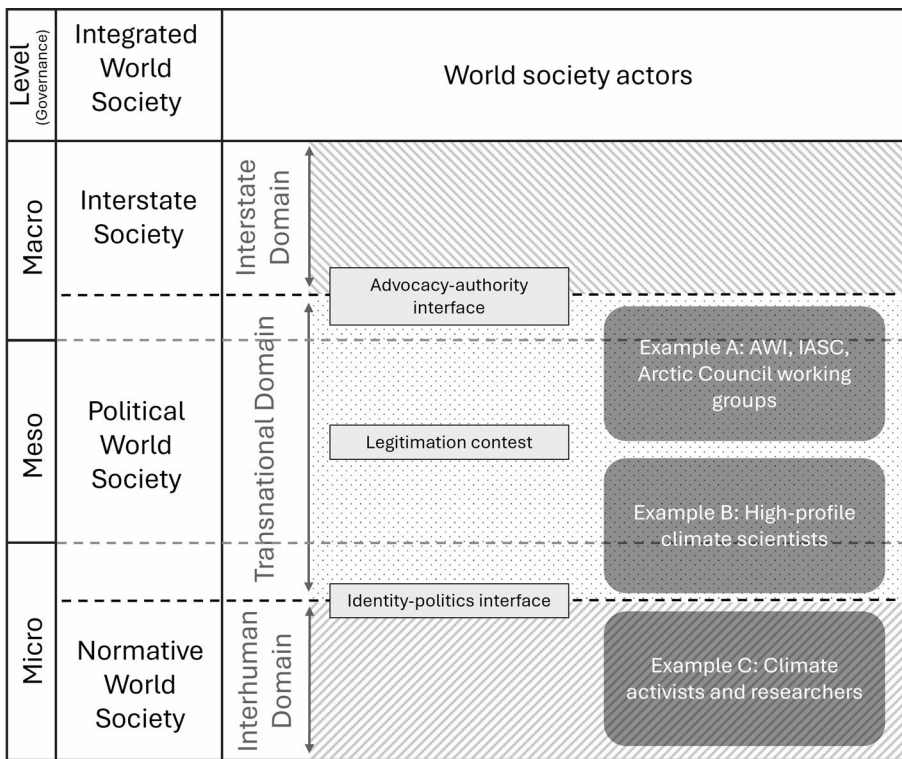


Fig. 6 Arctic world society actors in contestation

It remains unclear whether political world society actors recognised their capacity as these kinds of actors. As a political world society actor is one which has ‘the capacity and interest to engage the society of states to influence its normative values and interests’ (Buzan 2018: 129), mere participation is not a sufficient marker for a political world society actor. For example, in an interview with Markus Rex, the head of the MOSAiC Expedition and therefore significant ability to impact processes of the expedition, he does not exhibit the same rhetoric as the media sources do above. Instead, the focus is entirely on the expedition from a logistical standpoint without the normatively laden terms of ‘international cooperation’ (AWI n.d.), which is, however an implicit statement on cooperation. As Oreskes et al. (2014) discuss, scientists often walk a fuzzy line on the topic of their involvement with policy on account of whether they believe they should retain neutrality to ‘honour the boundary between science and policy’ (Ibid: 2) particularly as they obtain their funding from the state. In this instance, even though a scientist might not exhibit a clear political world society agenda, they are participating in the knowledge production process as a support actor to the wider network of Arctic political world society. Given the pretext of the expedition and the normatively laden rhetoric surrounding it, actors which have participated in the expedition are a part of the contestation process even if only in a legitimising context, rather than in an agency role.



Conclusion

In reframing science diplomacy as sites of contestation through the lens of a *contesting world society* framework, a new approach was developed to investigate how a range of world society actors engage in contestation in these events. This was done firstly by demonstrating the synthesis of world society (Buzan 2018) and contestation (Wiener 2014) in a thorough discussion of each idea and how they can be linked. It was explored that, although the approaches hail from different theoretical backgrounds, they bare common ground for their appreciation for social processes in global politics. This compatibility is most clear in their overlaid appreciation of social processes and conditions to explore complex actor interaction in global governance. More broadly, the approach produced in this article contributes to advanced interpretations of norms in global governance, expanding the ways in which transnational actors interact with constructive norm development (Keck and Sikkink 1999).

Contesting world society was operationalised in an event of science diplomacy to provide a focused context to observe political world society engaging in contestation. In the case of the MOSAiC Expedition, an event that provided many opportunities for science diplomacy to unfold, political world society had tremendous ability to engage with normative meanings through performative actions. Critically, the actors involved were able to act as norm entrepreneurs and facilitators of normative dialogue, playing an important role in representing normative world society and elevating them to be able to more constructively engage with norms where they would not ordinarily have the opportunity. The expedition allowed world society actors to propagate cosmopolitan values, demonstrating desires to align certain structures of international society with normative world society (Habermas 2006), and specifically this was achieved with the institution of environmental stewardship.

Contesting world society is a new approach to world politics, pulling on two ideas that already present insightful conclusions about global ordering and political processes. The value of this new approach to world society is, to an extent, the same value that it offers to the English School more generally: a methodological approach to studying international phenomena with a special appreciation for social processes and conditions. It was shown that this approach helps to explain which non-state actors are able to inform the global agenda through pulling on normative resources in specific settings where access to constructive norm engagement is particularly high. In doing so, the *contesting world society* approach demonstrates that the norm life cycle (Finnemore and Sikkink 1998) is flexible and allows for the possibility of continued engagement of norm entrepreneurs. It also considered that normative change can occur from the bottom up, with unexpected actors being granted rare opportunities to constructively engage with norm development.

A common criticism is that the English School lacks methodological direction (Finnemore 2001; Navari 2013) and that world society is largely undeveloped (Buzan 2001; Stivachtis and McKeil 2018). Through approaches like the one developed in this article, these kinds of issues can be addressed by improving the conceptual repertoire of the English School. Combining Buzan's (2018) typology with the works of Wiener (2007; 2014; 2017) brings fresh methodological clarity for studies with interests in global governance.



The specific use of *contesting world society* in this article demonstrates that world politics may not be properly attributed to fullest extent of the actors which determine global governance. Organisations like IASC and the AWI can have profound impacts on the development of norms concerning science and international collaboration, as demonstrated by the performative roles that they were able to play in the case of the MOSAiC expedition. This provides some evidence for transnational constitutionalism, where these actors operate as normative actors in meaningful events to contest global governance. While these organisations are accepted as major contributors in their fields, their actions walk the lines of purely for scientific purpose, into the world of politics. The importance of practicing international collaboration during times of tension is a crucial de-escalating practice, even if they display little political intent.

It would be useful to consider other types of contestations in the synthesis of the ideas presented here as well, particularly in other cases of science diplomacy. Interpretive contestation might be observed in the case of Indigenous knowledge inclusion, and reactive from scientists dealing with the renewed geopolitical obstacles following Russia's invasion of Ukraine and the subsequent suspension of Russia from Arctic scientific cooperation. Analysing different kinds of contestation may help to further demonstrate the conditions where actors have varying levels of access to the cycle of validation and therefore illustrate how political world society can be constrained by its given contexts.

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Declarations

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