Global Ordering and the Interaction of Communities of Practice: A Framework for Analysis

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Abstract:

Several new frameworks for the study of the differentiation and relations between global orders have recently been introduced to International Relations (IR). This article demonstrates how the community of practice framework provides complementary as well as novel answers to the processes of global ordering. Community of practice research has become a thriving research framework and has already led to substantial innovative work on the internal logics of international institutions, including NATO or the EU, and various professional communities, such as diplomats. Surprisingly, researchers have so far not appreciated the potential of the approach as a more general theory of global order. We argue that lifting this potential implies focusing on the interaction of and spaces between communities as well as going beyond the study of the internal logics of a discrete community. We propose a framework for the study of this interaction with a focus on a spatial and agential level. We then show how this leads to an innovative research framework drawing on an illustration from the case of global ocean governance.

Keywords:

global order; communities of practice; transnational communities; ocean governance.

1. Introduction

Several frameworks for conceptualizing the differentiation of global order into sub-orders have recently proliferated in the discipline. Frameworks such as regime complexity, network theory or field theory share the ambition to provide new understandings of the dynamics inherent in sub-orders and how these shape global orders. In this contribution we demonstrate how communities of practice theory provides an alternative account that offers genuine advantages over the other approaches.

Communities of practice theory is a thriving research framework in the International Relations (IR) discipline and cognate social science fields. Inspired by Etienne Wenger's (1998) groundbreaking work on communities of practice, the framework was advanced in the field of IR in particular by Emanuel Adler (2005; 2008). It has led to substantial innovative research on international institutions, including the North Atlantic Treaty Organization (NATO), the European Union (EU), or the World Bank, and a diverse spectrum of transnational communities, ranging from diplomats to pirates[1]. Indeed, communities of practice has become one of the pivotal contributions in the thriving debate on practices in IR ().[2]

A community of practice presents a unique unit of analysis for IR. In this sense, it complements the ontological vocabulary of the discipline and competes with analytical aggregates such as regimes, systems, fields, networks, or assemblages. Contrary to these concepts, where significant efforts have been made to spell out a general theory for IR, communities of practice theory – short, COP theory– has so far, however, not progressed into a genuine and more general theory that allows us to theorize and investigate global ordering at different scales.

In this contribution, we argue that in order to take key steps towards a more general IR theory based on communities of practice, we need to explore how the international system and global order can be interpreted through such lenses. If communities of practice are the constituent units of the international system, how do these interact with each other? Such questions not only prompt theorizing the interaction of communities of practice; they specifically demand examining the ways in which such interaction drives global ordering and the international system, and how such dynamics spur conflict and cooperation.

Scholars have not sufficiently theorized this interaction so far. The debate is characterized by a proliferation of studies that use COP theory to analyze single communities and their driving elements and logics at micro-scales. However, in order to generalize ideas from the COP approach, we argue, three distinct moves are required: First, we need to go beyond the study of isolated communities. Second, we need to recognize that the framework is open in scale, and hence allows for larger scopes and the study of macro-level entities. Third, we need to theorize how community interaction takes place and produces effects.

To develop these two arguments, we introduce recent theorizing on the interaction between differentiated social spaces (Liu 2021). We also explore key categories on interaction introduced in the original works of Wenger (1998, 2000), which have so far received little attention. On this basis we introduce a taxonomy of the interactions between communities of practice.

We distinguish between two different scales: (i) The interaction of communities through *spaces*, that is how communities are nested in each other in distinct locales and how they meet in particular shared arenas, and (ii) interaction through *agents* that perform particular boundary roles, here identified as 'guardians', 'brokers' and 'space travelers'.

We first develop these concepts and mechanisms in the abstract and then turn to the case of global ocean governance to illuminate how the framework translates into a research strategy. Since COP

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[1] For key reference works on Communities of Practice see Bicchi 2011; Brunnée & Toope 2011; Gross Stein 2011; Bueger 2013b; Bicchi 2016; Bremberg 2016; Græger 2016; Hofius 2016, 2022; Mérand & Rayroux 2016; Orange 2016; Zwolski 2016; Glas 2018; Ekengren & Hollis 2020; Kenney 2020.
[2] Adler and Pouliot 2011; Bueger and Gadinger 2015, 2018; Adler-Nissen 2016; Bicchi & Bremberg 2016; Cornut 2017; Drieschova and Bueger 2022

theory is in principle open in scale, our conceptualizations will be likewise relevant to those interested in large-scale global phenomena as well as those interested in particular institutions or micro-situations.

We proceed in the following steps. The following section provides a brief reconstruction of the current debates in community of practice research in IR. We start in contrasting COP theory with other attempts to theorize international orders and then demonstrate that research has failed so far to conceptualize and study the interaction of communities of practice. The following section then details our conceptual outline of how communities of practice interact. We sketch out a range of mechanisms of how interaction takes place and then illustrate these through the empirical case of ocean governance. We study the interaction between three ocean governance communities of practice that are centered around the concepts of maritime security, blue economy and ocean health. In the concluding section, we call for systematic research on the emergence and interaction of communities of practice that draws on these categorizations and further explores the ordering effects produced in these.

2. The State of Communities of Practice Research in International Relations

2.1 Theorizing International Order(ing)

Which mechanisms drive different forms of international order is a long-standing concern within IR. While international order was classically understood as one coherent space ('the international system') mainly characterized and driven by the interaction of great powers, at least since the 1980s a pluralistic understanding of order has evolved that understands the international as composed of various overlapping and competing orders. The 1970s and 1980s regime debate has done much to foreground this pluralistic understanding (Behnke 1995), as has research on regional orders such as security communities (Adler and Barnett 1998).

Regime theory has been recurrently criticized to be particularly vague about the precise mechanisms that make orders – or, phrased differently, how ordering unfolds and how some degree of coherence between international units is achieved (Steffek, Müller, and Behr 2021). Since the 2000s, different social theories have been brought into the debate to offer such mechanisms. This includes revamped versions of regime theories under the notion of regime complexity, but also network and field theories.

Regime theories posit that orders emerge through actors negotiating and agreeing on norms and ideas that give coherence to different social spaces (Kratochwil and Ruggie 1986). As the contemporary debate on regime complexity highlights, this often leads to the situation that contemporary problems of the international are objects within more than one regime, and hence a situation of complexity arises (Raustiala and Victor 2004). The majority of regime theorists contend the increasing regime complexity resulting from the proliferation of international organizations and pluralization of non-state actors has led to fragmentation, contestation and disorder rather than overarching, fully integrated orders. While the concept of fragmentation is, in principle, value-free, theorists argue that regime overlaps with diverging norms are sources of competition (Alter & Meunier 2009: 19-20) and conflict (Margulis 2013) – even a 'pathology […] that threatens governance effectiveness' (Abbott et al. 2015: 7). As a result, fragmentation is considered a stumbling block towards building overarching global orders (e.g. Benvenisti & Downs 2007; Gomez-Mera 2016). This negative outlook on the ordering effects of regime overlaps has been countered by more recent work that demonstrates that norm conflicts do "not necessarily undermine the global legal order", for they are most often cooperatively managed (Kreuder-Sonnen & Zürn 2020: 359; Krisch 2020).

Irrespective of how scholars evaluate the outcome of fragmentation, regime theorists predominantly hang on to a rationalist understanding of order-formation in which states are the key actors that produce international orders by agreeing on how a particular domain should be governed. What continues to be problematic in such an understanding is not only that the opportunity to disaggregate the state, which is anything but a coherent unit, is missed, but also that transnational actors, including international organizations, transnational movements, experts or non-governmental organizations are often inappropriately considered. Moreover, the literature continues to lack a deeper understanding of how precisely the norms and ideas underpinning regimes are actually produced, and how they may constitute a source of coherence among rather than fragmentation across regimes.

Network theories, introduced in different variants since the early 2000s and prominently associated, for instance, with Anne-Marie Slaughter's *A New World Order* (2005), offer a different reading of international ordering. For Slaughter and others, orders are made through the interaction of a rich set of governmental officials (Avant and Westerwinter 2016). The level of analysis hence moves to the interaction of sub-governmental units, with more recent research gradually integrating other types of officials and representatives.

Network theories open up the debate on ordering considerably since they leave the question of scale (that is, what size an international order may have) principally open: They approach the question of agency inductively by looking at who contributes to ordering. Identifying the ordering agents is the primary outcome of network analysis, which elucidates those nodal points where interactions come together. The long-standing literature on 'transnational advocacy networks' has been especially helpful in identifying those groups of actors that advocate for a specific cause through strategic action. These groups, composed of non-governmental or unofficial actors that share specific value-commitments, arguably "mobilize information strategically to help create new issues and categories, and to persuade, pressurize, and gain leverage over much more powerful organizations and governments" (Keck and Sikkink 1999: 89). Actively creating links across a diverse number of stakeholders, they promote key norms of the international system and have the power to reconfigure or even transform the structure of the international system.

Network theory also opens up vast possibilities for quantitative analysis and considering large-scale data sets of interactions, and thereby allows for the identification of clusters and patterns through replicable methodology. The core limit of quantitative network analyses is, however, that they tend to reduce order to quantifiable forms of interaction. They hence often have little to say about the quality of interactions and overlook potentially other forms of coherence, such as the prevalence of joint understandings or the norms highlighted in the regime debate.

In contrast, qualitatively-oriented network analysis considers shared norms and values as critical to a network's coherence and success. Yet, this strand of research comes with its own limits, making value-commitments a prerequisite for rather than the result of participation in a network. This significantly raises the bar for engaging in joint projects because value diversity arguably hinders the formation of networks. A further shortcoming relates to the rational actor assumptions underlying network analysis: agents are here understood as strategic, utility-maximizing actors who seek to promote their campaign through issue framing, pressure politics and persuasion. The knowledge to be diffused is here reduced to mere information that can be traded as a commodity in exchange for other services. What is essentially left out of view in this framework is the pre-reflexive and practical know-how that is activated in and through practice. This know-how is, however, key to a group's coherence. As a condition for intentionality, this background knowledge orients its members' practices towards making sense of the world and constructing their goals, principles and "rules of engagement" in the first place (Adler 2005: 20).

A third recent contender for the explanation of ordering is field theory. Originally associated with the work of Pierre Bourdieu, IR is increasingly moving forward the wider debate on international fields (Nexon and Neumann 2018; Musgrave and Nexon 2018). Field theories join network theories in arguing that interaction is the key mechanism in driving ordering. Yet, they go beyond network theories and add important insights on the quality of interactions to explain both the coherence and differentiation of fields. Through their interaction, actors gain a practical sense of what is at stake in a

field and they strategically compete over these stakes. Such stakes might be authority, recognition or material resources that actors participating in the field aim to gain.

Field theorists also increasingly highlight the importance of boundary discourses, that is, debates among participants on what belongs to a field and what not (Lesch and Loh 2022). Consequently, analysis starts out from observing the interaction in and across fields (often drawing on similar quantitative tools such as network theory) and then seeks to understand the stakes in a field and its boundaries. While very promising, the way in which the analysis pays attention to the qualities of interaction producing coherence or differentiation, field theories risk reducing such qualities to the competition and struggles between actors, paying less attention to other forms of coherence, such as cooperation that proceeds along shared normative understandings.

The COP framework shares many assumptions of network theory and field theory[3], yet it brings a thicker understanding of different forms of interaction and shared understandings that enriches our understanding of ordering. As explained in the next section, communities of practice are distinct forms of orders; like networks and fields, they are open in scale and center on the study of interaction. Yet, the approach adds important additional dimensions concerning the quality of interaction and sources of coherence, such as the importance of joint projects, pre-reflexive know-how and shared normative understandings that build trust, mutual accountability and commitment. It highlights how the interaction across communities of practices can significantly contribute to the ordering of global spaces and thus provide impetus for cooperation rather than competition and conflict in the global realm.

In the next step, we introduce the COP framework and discuss the mechanisms it identifies. In order to advance the approach and bring it on a par with the regime complexity, field theory and network debates, we then argue for the need to study the interaction of communities of practice to scale-up the approach and allow for observations on world ordering more broadly.

2.2 Communities of Practice

Communities of practice were introduced to IR as a core unit of analysis within the 'practice turn'. One of the core claims of the practice turn is that order is the outcome of practices and their enactment. This implies thinking of order as an ongoing achievement, which is why the majority of international practice theorists prefer the verb, and hence give preference to 'ordering' (Bueger 2014: 393; Bueger and Edmunds 2021). While different understandings of the concept of 'practice' prevail, there is some agreement to conceive of practice as an 'organized nexus of doing and sayings', with some divergence over what precisely organizes the nexus. The organization of the nexus is linked to a background of shared practical understandings, that is, standards of how a practice should be performed and when an activity becomes recognizable to constitute a practice. These standards have been variously understood as norms (Wiener 2014, 2018), tacit and formal rules (Frost & Lechner 2016; Hofius 2016), emotional stances, but also future-looking goals and objectives (Schatzki 2001).

In the COP framework, communities are the key form of order and container of practice to provide continuity over time. Wenger highlights three criteria that make a community of practice: 1) the mutual engagement of actors through which they agree on the meaning of their activities; 2) joint enterprises, that is, shared understandings of what matters, of what is worthwhile and requires attention, what requires justification or is tacitly accepted and what actions require refinement and adjustment; 3) a shared repertoire, which includes all sorts of practical resources, ranging from concepts and metaphors to material tools and artefacts (see Bueger and Gadinger 2018: 53-54). These three criteria allow for the identification of a community of practice at different scales. While the framework primarily provides sensitizing concepts in that it gears attention to particular mechanisms through which coherence and a community is produced, claiming that a particular configuration can

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[3] This is unsurprising given the common roots in practice theory and relationalism; see McCourt (2016), Bueger & Gadinger (2018) and Jackson & Nexon (2019).

be meaningfully understood as a community of practice implies that the three criteria are fulfilled and evidence for mutual engagement, joint enterprises and shared repertoires can be provided.

2.3 Communities of Practice in International Relations

In IR, the COP approach has been used primarily to rethink earlier concepts of transnational communities, such as security communities and epistemic communities. This analytical move is plausible since it allows authors to claim accumulative knowledge and to draw on prior and established empirical notions of community. The North Atlantic community and its organizational form NATO, for instance, have been frequently evoked as an example of a community of practice. Substantial earlier research has argued that there is a recognizable (non-war) community, and what requires explanation is how it functions (Adler and Barnett 1998).

Table 1 provides an overview of the studies in IR that use the COP framework. As the table documents, the majority of studies take a well-studied political configuration as their empirical case; they focus on either regional organizations, such as ASEAN, the EU or NATO, or on recognized professions, such as diplomacy, international lawyers or humanitarian aid workers. Conspicuously, communities are most often equated to the formal organization itself, with their boundaries neatly coinciding with those of the organization. Efforts to identify emerging or not yet known transnational communities of practice that evade organizational classifications are sparse by comparison. Yet some studies aim at conceptualizing piracy, terrorism or crisis early warning systems in such a way (Bueger 2013a; Kenney 2017; Zwolski 2016).

Table 1. State of the Art of 'Communities of Practice' Research in International Relations Theory

Reference	Core objective	Single or multiple COPs?	Scale	Empirical Focus	Direct Link to Formal Institution
Adler (2005)	Conceptualization of COP	Single	Transnational	n/a	Diverse
Adler (2008)	Expansion of Security Communities through COPs	Single	Regional	NATO Enlargement	Yes
Pouliot (2010)	Formation of security communities through COP	Single	International	Diplomacy in the NATO-Russia Council	Yes
Bicchi (2011)	COP as an instance of a larger political community	Single	Regional	EU *COREU* communications network	Yes
Gross-Stein (2011)	Change and resistance in COPs	Single	Transnational	Transformation of humanitarian community	Yes
Lachmann (2011)	Formation of COPs	Single	International	UN Alliance of Civilizations as the embodiment of the 'International Community'	Yes
Bueger (2013a)	Internal cohesion of a COP through narratives	Single	Transnational	Somali Piracy	No
Bueger (2013b)	Regime emergence through a COP	Single	Transnational	African Maritime Security	No
Koschut (2014)	Criticizes COP framework, argues for a norms- based one	Single	Regional	NATO 'out-of-area' conflict management in Afghanistan	Yes
Bremberg (2015)	Security Community building through distinct COPs	Single	Regional	Spanish-Moroccan cooperative security practices within the framework of the EU's CSDP	Yes
Davies (2015)	Continuity and change in COPs	Single	Regional	ASEAN's historical evolution over time	Yes
Goff (2015)	Nature and dynamics of COPs	Single	Transnational	UN Alliance of Civilizations	Diverse
Baylon (2016)	Formation of COPs; role of learning and identity	Single	National	Diplomatic Training at the Diplomatic and Consular Institute by the French Ministry of Foreign Affairs	Yes
Bicchi (2016)	COP at work	Single	Regional	EU diplomacy in Jerusalem and Ramallah	Yes
Bremberg (2016)	Security Community building through distinct COPs	Single	Regional	Spanish-Moroccan cooperative security practices within the framework of the EU's CSDP	Yes
Glas (2016)	Habitual dispositions as a source of stability within a COP	Single	Regional	ASEAN's long peace	Yes
Græger (2016)	Formation of a COP	Single	Regional	Security cooperation between EU and NATO	Yes
Hofius (2016)	COP at work; role of boundaries	Single	Regional	EU diplomacy in Kyiv, Ukraine	Yes
Mérand & Rayroux (2016)	Formation of COPs; anchoring practices	Single	Regional	Burden sharing in European crisis management	Yes

Zwolski (2016)	Formation of COP; role of power within COPs	Single	Transnational	EU's efforts to integrate crisis early warning systems at global level	References to various formal and informal institutions
Heaven (2017)	Contested COPs	Single	Transnational	Human Rights Fact-finding	No
Barnett (2018)	Distinction between COPs	Multiple	Transnational	Relationship between Humanitarian and Human Rights	No
Glas (2018)	COP at work; contradictions between principles and practices	Single	Regional	African security culture	Yes
Bremberg, Sonnsjö, & Mobjörk (2019)	Formation of a COP	Single	Regional	EU climate security	Yes
Ekengren & Hollis (2019)	Formation of Security Communities through COPs	Single	Regional	EU civil protection	Yes
Schmitt (2019)	COP as sites to examine national interest formation and foreign policy motives	Multiple	International	Russian diplomatic practices in multilateral security organizations	Yes
Banerjee & MacKay (2020)	Formation of COP; instigator of long-term change in great power politics		Transnational	Russian and Japanese military attachés exchanges	Yes
Kenney (2020)	Learning within COP	Single	Transnational	Islamist activist network "al-Muhajiroun"	No
Sondarjee (2020)	Role of learning at the boundaries of COPs	Single	International	Inclusive practices at the World Bank	Yes

Moreover, as Table 1 indicates, the vast majority of research investigates single communities of practice. Only a minority of IR scholars have studied, for example, how two previously distinct professions or organizations come to form a community of practice (Bueger 2013b; Græger 2016). Only more recently a new wave of studies has been interested in the environment in which communities of practice operate and, for instance, explores what happens at the boundaries of a community of practice. Recognizing the need to examine the interaction between two or more COP, scholars have started to shift their analytical focus towards the boundaries of specific COP (Adler and Greve 2009; Bremberg 2016; Hofius 2016), conceiving of boundaries as a testing ground for the relative depth, reach and stability of shared practices. Hofius (2016) examines the "boundary work" of COP members, with Græger (2016) and Sondarjee (2020) venturing into the study of the practices and spaces in-between two communities, where individuals and groups traverse not only institutional and professional boundaries, but also more informal ones. These studies present valuable steps towards highlighting the informal nature of communities and the possible change of practices resulting from boundary encounters, knowledge exchanges and brokering of meaning across two or more communities. This is an important step in generalizing the framework and a development that needs to harnessed.

In sum, in the extant literature, the use of the approach has been astonishingly narrow, both in terms of the entities that are studied as COP but also in terms of zooming out of a single community. This is surprising in so far as the first major book that popularized the framework made a clear case that the approach not only gives us an apparatus for studying discrete communities, but also invites us to study global politics through such lenses. When introducing the concept, Adler (2005: 14) stated that "we can take the international system as a collection of communities of practice".

Adler has further advanced this claim in his 2019 book *World Ordering*, arguing that COP are embedded within distinct "international social orders" that together form a plurality of overlapping orders across time and space (Adler 2019: 23). Rather than conceiving of global politics as constituted by one overarching order, Adler urges us to think of global politics as the result of multiple interacting international social orders that "cut across domestic, international, transnational, and supranational boundaries" (ibid.: 1). While social orders function as the organizational "arrangements of practices" (Schatzki quoted in Adler 2019: 122), COP are both the sites and agents by which the "metastability" of a given social order is ensured (ibid.: 123). Adler thereby significantly expands his previous theorization of COP by linking them to the auxiliary concept of social orders. This conceptual bridge allows him to scale up his ordering framework to the systemic level, explaining how and why specific international social orders evolve as authoritative vis-à-vis others, how they change and at the same remain metastable.

In the following, we take the opportunity to build on Adler's systemic approach, but return to his original call to specifically focus on COP. Accordingly, we scale up to the systemic level, while looking down on the interaction among and spaces in-between communities of practice. This interactive framework addresses several gaps in COP research: First, it goes beyond research on single COP to demonstrate that the world is ordered by a plethora of different, often crisscrossing entities. While a single COP may indeed constitute one form of (global or regional) order, it can only provide a snapshot of the existing plurality of global orders.

Second, it takes seriously Adler's plea to examine transnational COP. In lieu of looking for COP in well-defined organizational settings, it invites scholars to investigate both the emergence and operation of communities in less densely institutionalized environments so that ordering effects can be fully discerned. Third and finally, it moves from the interior of COP to the exterior, requiring scholars to investigate how these interact with other entities, inter alia with formal organizations such as the nation state. This encompassing perspective enables us to set the COP framework on a par with competing approaches such as regime, field and network theories that aim at understanding global ordering and differentiation.

3. Interactive Forms: A Framework for the Study of Communities of Practice

The objective of the following section is to identify a discrete set of ways in which COP interact. We draw on Wenger's original outline, concepts from symbolic interactionism that have inspired Wenger's formulation, as well as recent theorizing on the interaction of differentiated social spaces recently advanced by Liu (2021). On this basis we present a framework of interactive forms whose objective is methodological in nature. Like Liu (2021: 125), we therefore seek to theorize the "formal properties" of the interactions between COP rather than their substance, and exclude hypothesizing about the possible motivations that bring about different forms of interaction. Our heuristic is structured along two distinct categories. The first category is spatial: communities interact by meeting in spaces and at particular sites. They form relations that can be described as 'nested', 'overlapping' or'peripheral'. The second category is agential. Communities of practice interact through functions performed by agents, which we conceptualize as 'guarding', 'brokering', and 'space traveling'. Taken together these interactive forms provide a comprehensive heuristic framework for the study of the interactions of communities of practice in global ordering.

3.1 Shared Spaces and Interaction of Communities

COP firstly interact by sharing spaces. In such spaces they form relations with differing density. One form of density is that of 'nested' relations. This is the deepest degree of interaction in terms of intensity of interactions, depth, and interdependency. A second form is 'overlap' and provides looser ties: there is sustained and relatively deep interaction, though this does not imply that one community is embedded in another, but they function independently. A third form of density is 'peripheral' interaction, which is marked by the least strong forms of interaction, and where there is little to no interdependence.

In the case of nested interaction, one or several COP are fully embedded and integrated within another one that might be broader in social and spatial scope. Accordingly, one community provides the space within which another one is situated. As Fligstein and McAdam (2012: 59) indicate, in such a setup we are looking at a Russian doll, "whereby actors that make up smaller collectivities are located within larger strategic action fields that contain larger collectivities".

Some scholars, reflecting Adler's (2019) argument that COP are embedded in social orders, contend that situations of nestedness necessitate the introduction of a broader category to speak about the environment of COP. There is a rich body of work that draws upon Bourdieu's notion of "fields of practice", where various fields are embedded within one another, and particularly the field of power (see Eyal 2013; Steinmetz 2016). In his most recent formulation Etienne Wenger calls for a concept of "landscapes of practice" with an emphasis "… on the multiplicity of practices involved, the importance of boundaries among them, and with problematizing identification and knowledgeability across these boundaries" (Wenger-Trayner and Wenger-Trayner 2014: 27). Since COP are open in scale, the introduction of an additional concept is however not required. Vital in embeddedness is that one community of practice "shares all its actors and positions within the larger space" (Liu 2021: 8).

Within nested interaction there is a variety of relations depending on the structures of the overarching community.One form of structure is hierarchical, suggesting that only limited contestation can occur between nested communities due to the influence of the more encompassing community. Fligstein and McAdam (2012), however, argue that dependence might go both ways. At times the smaller community may be dependent on the larger, and at others the larger dependent on the smaller (2012: 60). Nested interaction also implies that communities can also complement one another productively avoiding any forms of contestation. .

The middle proximate form of interaction is that of overlap: two COP maintain a direct and sustained interpenetration, creating a common area in which some actors from both COP may be located. This is not wholly nested, and practices and actors generally remain distinct, but interaction across this overlapping common area is marked by an overlap between communities, their practices, and some actors (Wenger 1998: 115-6). The complexity of this form of interaction is centered on the

overlapping boundary space itself and the way in which actors operate within it. As Eyal argues, these "fuzzy zones of separation and connection" are less regulated than the core of the communities themselves (2013: 175). Spaces of overlap are not static. While they might have a degree of longevity, they have the potential to grow or decline as actors move in and out. In this form of interaction there is a substantial degree of interdependence and communities mutually influence the space of overlap (Liu 2021: 131). If sufficiently sustained, there is the potential for spaces of overlap to become independent COP in their own right.

Due to their nature, the overlapping zones can result in contestation or consensus. Competition, for example, may lead to the reinforcement of existing practices as interaction with outsiders gives actors within a COP something to relate against through the contrast presented (Liu 2021). In such a condition, the overlapping zone itself becomes an area of strong contestation which is unable to permeate the communities' cores as it strengthens the boundary between the overlapping space and the core of the COP. If they are highly similar, however, in terms of their actorsand practices, it may result in similar modes of interaction and consensus, or even allow for minor forms of renegotiation as the boundaries increasingly blur. The outcome of this form of interaction is heavily influenced by the actors withing the overlapping zones their positions, practices, and the nature of the overlap (Barrett et al. 2012; Pyrko et al. 2019), an issue to which we turn below.

More socially distant are peripheral interactions between COP. While in spaces of overlap interaction is relatively thick, in peripheral spaces it is thin. Interaction takes place on the outer edge of a COP, rather than a space between them. There is less sustained interaction and less interdependence as interaction does not need to flow both ways. As Wenger argues, access to the community's boundary is casual but legitimate, and marked by observation or limited forms of interaction with this outer edge (1998: 117). These forms of interaction do not take place in an overlapping space, and boundaries remain relatively strong (Abbott 2005: 255; Liu 2021: 129). They instead may be linked in some manner by boundary resources, common issues and interests, or actors who move across different communities (Abbott 2005: 255, 265).

Due to its relatively thin and shallow nature, a peripheral interactive form may be assumed to result in an outcome of less renegotiation, as interaction occurs on the boundary and is distant from the community's core. Wenger, however, argues that as the rules are looser at the periphery, there is a greater likelihood for contestation to occur, and that the inside/outside duality of the boundary allows for this renegotiation to permeate deeper away from the periphery itself (Wenger 1998: 188).

3.2 Interactive Agents: Guardians, Brokers, and Space Travelers

A second key dimension for the interaction of communities are agents. While surprisingly little empirical attention has been paid to the agents who 'do' the interaction[4], the COP framework is not short of considerations of the different roles actors may assume. Different roles have been conceptualized and here we focus on three ideal types: the broker, the guardian and the space traveler.

In his original outline, Wenger (1998: 105, 109–110) generically speaks of "brokers" to refer to those who enable the interaction of COP by participating in multiple communities and transferring elements of a practice from one to another. Inside organizations, he argues, brokers are usually individuals who are "in charge for special projects across functional units" and are by default tasked to span these functional boundaries on an everyday basis (Wenger 1998, 109). To function as competent brokers, however, they need sufficient legitimacy and authority in each of the communities they engage. They

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[4] To date, few study exists that specifically zooms in on the key drivers and systematically analyses their different forms of interaction, including actors' backgrounds and repertoires, as well as the various roles they play and effects they have on the interaction dynamics between communities of practices. Work in the International Relations literature on interorganizational cooperation has recently sought to capture the multiple roles that individual agents may play when international organizations interact. Schneiker and Joachim (2021), for instance, refine Organ's (1971) 'linking pin' concept in management and organization studies to demonstrate that 'linking pins' can fulfil the dual function of gatekeeping and 'boundary spanning'.

also require special skills of translation, mediation and perspective-taking to facilitate interaction across boundaries.

In 2000, Wenger has nuanced this idea, and proposes to think in terms of "boundary spanners", "roamers", "outposts" and "pairs" (Wenger 2000: 235–36). 'Roamers' are portrayed as constantly moving in space, and do not necessarily belong to any one COP in particular. "Outposts" by contrast are rooted in one specific community of practice and regularly return to their home community from the frontlines (Wenger 2000: 235). Wenger's conception of "pairs" is to denote brokering "through a personal relationship between two people from different communities" (Wenger 2000: 236). These conceptualisations provide degrees of brokering, but little indication of the effects that they have on the interaction.

The literature on boundary work may shed light on Wenger's blind spots to highlight the diverse modes of boundary work between social spaces.[5] In their survey on boundary work, Langley et al. (2019) identify three types: "Competitive boundary work" that denotes practices of demarcation for the purpose of sustaining distinctions; "collaborative boundary work" that implies practices of linking to facilitate collaboration and cooperation among these units; and "configurational boundary work" through which purposeful individuals engage in practices of differentiating and/or integrating as to effect a specific broader design. Boundary work can hence be exclusive and inclusive, and can have a direct bearing on the spaces that communities share.

In this light, Wenger's conceptualization of brokers is only one type of several. His brokers' practices are highly compatible with 'collaborative boundary work', in which boundaries are actively "negotiated" (Langley et al. 2019: 715–17) and differences or divisions between groups "downplayed to get work done" (Langley et al. 2019: 714). Conceptually, however, Wenger's 'brokering' concept is unable to capture those constellations in which communities either refuse to collaborate and instead guard their distinctive practices or are ignorant of boundaries all along, preferring to move in and across multiple communities without active brokerage.

Liu (2021) provides the most advanced current framework of how differently positioned actors engage in and enable the interaction of COPboundary work. As the most "basic categories" of a variety of actors, he distinguishes "guardians" from "brokers" and "space travelers" (Liu 2021: 132ff.). "Guardians" are gatekeepers who 'guard' the expertise and repertoires of their community against external or new COP, who threaten to intrude their domain of practice. Accordingly, guardians seek to fend these off and erect boundaries that limit access to effect "social closure and monopoly over identity, resources and status" (Liu 2021: 132). The likely result is the maintenance of "autonomy and distinction" (Liu 2021: 133), in which incumbents, who dominate a social space, continue to do so. It follows that no active brokering takes place, unless incumbents see a strategic advantage to span boundaries across domains or challengers like external actors and novices contest this form of domination. Guardians hence aim at ensuring that individual COP remain distinct and separate.

With his concept of "brokers", Liu refers to those actors also conceptualized by Wenger as competent enough to span and connect COP. Due to their long-time experience and work in influential positions, they are capable "to build bridges rather than barriers" (Liu 2021: 133). Through the work of brokers communities become "porous" through the frequent interaction as well as the exchange of knowledge and resources (ibid.). Whether two or more communities ultimately merge, however, is dependent on both the brokers and the structural prerequisites of spaces of interaction. On the one hand, it depends on whether brokers see mutual benefits for merging or separation. On the other hand, it hinges on the structural similarity of the communities, and whether their relations are already nested, overlapping or peripheral. The frequent cooperation and exchange of resources might lead to "a division of labour" that is best accomplished in separate spaces, rather than mergers (Liu 2021: 134). Hence, COP might

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[5] In the cognate fields of sociology and STS, especially the sociology of professions, early work focused on the primarily exclusionary effects of boundary work, in which the demarcation of jurisdictions is considered key to maintaining a given boundary between professions (Gieryn 1983), later work also acknowledges, even insists on the possibility of more inclusive effects (Liu 2015, 2018; van Bochove et al. 2018; Yagi and Kleinberg 2011).

form close symbiotic relations, with participants moving across COP in a "revolving doors" fashion (Liu 2021: 128, 129). But, ultimately, they remain separate.

Space travelers, Liu's third type, are the most difficult to classify in terms of membership. They travel from post to post, either occasionally or regularly, and often do not occupy a fixed position in any community. Consequently, they are not boundary workers, since they do not have a boundary to negotiate or defend. Instead, they embrace the styles and repertoires from different communities and therefore "develop plural and complex identities" (Liu 2021: 133). Their experience of multi-membership can also have adverse effects on their identity, entailing those "occupational hazards" Wenger mentions with respect to brokering: "[u]prootedness, homelessness, marginalization, and organizational invisibility" (Wenger 2000: 236). And yet, Liu suggests that space travelers "can be dominant actors in multiple social spaces [...] without losing their status" (Liu 2021: 133). For COP interactions this means that space travelers are essential to foster closely linked COP that, if not completely merged, reflect kindred relations, with actors adopting similar rules, ways of doing, and seeing.

In sum, the degree and quality of COP interactions are a result of both the spaces within which they are embedded and the actors through which they operate. Together, they define which ordering dynamics ensue from the interaction of communities, whether they are consensual and cooperative, competitive or even conflictive.

In what follows, we aim at illustrating the interaction forms by drawing on empirical instances from global ocean governance and oceanic orders. We do so largely with methodological intentions, that is, to demonstrate which empirical instances come into focus and what research questions the framework spurs. Living up to the potential of COP theory to be open in scale, our focus is on a high level of aggregation and our cases are COP active on a global and transnational level. Ocean governance offers interesting empirical sites: The ocean is not only a space where civilizations have interacted on a global level since ancient times, it is also a configuration of communities of practice that has intensified in the past decade with the rise of several ocean crises and the political attention to them (Bueger and Mallin 2023). Yet, it lacks attention from contemporary theorizing.

4. Illustration: The Interaction of Communities of Practice in Ocean Governance

OGlobal ocean governance is receiving growing attention in IR.[6] Yet, it is mainly international legal scholars which have investigated ocean governance as a form of global order. Here, the UN Convention on the Law of the Sea entering into force in 1994 is often seen as the 'global constitution' of the ocean. Yet, several other international treaties and international and regional organization also attend to the space. Working mainly in the framework of regime theory, legal scholars describe ocean governance as highly complex as well as fragmented.[7] They suggest that the growing complexity and fragmentation increasingly implies disorder. So far, little work has been conducted by drawing on alternative theories, and the oceans have not yet been studied from the viewpoint of newer theories of ordering. As such, ocean governance calls for new forms of theorizing that allow to cut through complexity and provides better understandings of the sources of fragmentation and contestation, but also cooperation and order.

In the following, we explore ocean governance from a COP perspective drawing on the outlined categories. We start out with a brief discussion of relevant communities of practice that have been identified.We then show how ocean governance has been changing and can be understood as an increasingly socially differentiated social space in which COP interact with one another. In a final step we provide examples of actors and discuss their importance in driving the interaction of communities of practice.

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[6] See Bueger and Edmunds 2021 for a short overview over the IR literature, as well as de Carvalho and Leira (2022).

[7] Paradigmatically: Blanchard 2017, see also the overview in Wisken and Kreuder-Sonnen (2020).

4.1 Ocean Communities of Practice

A wide set of international actors uses the sea and governs it in one way or the other. On the one hand, this includes users such as the transport and extractive industries, fishery, the leisure industry and telecommunications. On the other, a variety of state agencies addresses the oceans, ranging from law enforcement and security agencies (navies, coast guards, marine police, border agencies, fishing inspection agencies, marine safety agencies) to various ministries involved in regulation and marine conservation (environment, trade, fisheries, economy, etc.). Some of these law enforcement functions are undertaken by regional organizations, such as the EU's European Maritime Safety Agency or the Indian Ocean Tuna Commission.

What are the relevant communities of practice to understand global ocean governance? As argued in section 2.2, identifying communities of practice implies detecting 1) mutual engagement, 2) joint enterprises, and 3) shared repertoires. While a community of leisure users, of fishers, steamship captains, engineers, or submariners could certainly be identified in this way, such communities might not be the most relevant for understanding the governance of the oceans. Another, indisputably useful way forward would be the identification of communities by drawing on established and well documented international professions (diplomatic, legal, military, safety). This would drive analysis towards the theory of professions and preconceived understandings of communities in which the ocean does not necessarily stand in the focus of attention (e.g. following the assumption that such communities operate roughly the same way – independently of whether they concern the land or sea).

In the following we on a study by Bueger and Mallin (2023). Bueger and Mallin start out from the observation that concepts are often the key vehicle of mutual engagement. They hence detect key contemporary ocean concepts and infer communities of practice from them, showing that actors which converge around these concepts have developed significant joint enterprises and shared repertoires. Bueger and Mallin observe four ocean governance COP anchored in the concepts of maritime security, blue economy, ocean health and blue justice. They argue that the latter, the blue justice community is only nascent, and hence we not be include it our following discussion.

The maritime security community of practice is composed of actors understanding oceans as a space of insecurity that requires protection from threats, including by military means. While the joint enterprise centers on securing marine activities, in particular shipping, the repertoire consists of shared securitizations, tools such as law enforcement operations and maritime surveillance known as Maritime Domain Awareness.

The blue economy community of practice interprets the oceans primarily as an economic realm that needs to be governed to ensure economic growth and new employment opportunities while paying attention to sustainability of business. The core joint enterprise is hence to find ways of sustainably exploiting ocean resources. Dedicated tools are part of the repertoire, including marine spatial planning, economic valuations, and blue economy strategies.

The ocean health community of practice understand the oceans as an eco-system and as an endangered space of biodiversity that is threatened by extraction, over-use, pollution and climate change. Environmental protection and the rehabilitation of ecosystems, such as coral reefs are the main enterprise of the community, with the repertoire consisting of oceanography, marine biology, systems analysis, or fishing inspections.

Each of these communities contains internal struggles over power and meaning, prioritizations and the value of particular tools in the repertoire. Yet there is a sufficient level of coherence that allows addressing ocean governance at this scale. Different professions are more relevant in one community than the other, and the importance of state-sponsored actors might also differ. In maritime security, private and public security professionals are important, while in the blue economy it is economists and planners, and in ocean health conservationists, biologists and environmental agencies. State agencies are particularly important in maritime security, but equally matter in the two other communities. Non-governmental actors are active in all three communities, whether this is science,

philanthropies, investors, technology companies, shipping giants, or global watchdogs. Grasping collectives beyond the classical dichotomies such as state/non-state, private/public, civil/military or categories such as nationalities is precisely the analytical power of the COP framework.

Bueger and Mallin do not provide much of an indication of how these communities interact, mainly pointing to the need for studying contestations and synergies. The framework laid out provides us with the opportunity to address this question through the focus on spaces and agents. In the following we provide a range of indicative examples that demonstrate what empirical foci and questions the framework of interactive forms spurs. We start with a discussion of spaces and turn to actors next.

4.2 Oceanic Spaces of Interaction

To some degree, it could be argued that the 'ocean' provides the space in which the three communities interact. Indeed, the argument can be made that within a larger ocean governance community of practice all three communities overlap. While this is true, it oversimplifies matters. The above-described communities have radically different understandings of the ontology of oceans, why they are in crises, and how to govern them (Bueger and Mallin 2023). Also, the assumption of spatial unity does not hold long. To start with, it is unclear whether ocean should be used in plural and whether there is a difference between 'oceans' and 'seas'. With the ambiguous nature of ice, shifting tides, flooding, and sea level rises, it is also difficult to state where precisely the oceans start and the land ends.

Governance mechanisms have also created complexity. The proliferation of legal treaties and technical regimes have fragmented the oceans into different spatial constructions (Peters et al. 2022). Even if one draws exclusively on the most foundational regime, the UN Convention on the Law of the Seas, the ocean is already carved up into different zones: territorial waters, archipelagic seas, contiguous zones, exclusive economic zones, and international straits (Ryan 2019). Each of these legal zones imply different rules, responsibilities and rights prescribed under UNCLOS, and they are spaces that prescribe roles for states leaving it to them to organize relations internally. Yet, the oceans are also carved up in a substantial number of functional and pragmatic spaces, which include search and rescue zones, transport corridors, marine protected areas, no-fishing zones, areas of interest, and high-risk areas (Bueger 2022). Given that these spaces are functional and problem-driven, they are more interesting in terms of the interaction of the three communities of practice they host.

Marine Protected Areas

A good case are Marine Protected Areas (MPAs). These are zones created for conservation and economic purposes and an increasingly widespread national spatial tool in governing the oceans (Gruby et al. 2016). They are spaces that cut across territorial waters (where states have full sovereignty) and Exclusive Economic Zones (where under UNCLOS states have the rights to resource exploitation but also obligations to protect the environment). As marine geographers have shown, MPAs are rich in political interaction, not the least given that they often have multiple purposes and objectives and are linked to other regional zones (Gruby et al 2020).

While they differ in type and form, MPAs provide an example of overlap and peripheral interaction of the three ocean COP. Planning MPAs is a core response to the problem of the multiplicity of ocean use with divergent interests (e.g. fishing, swimming, oil and gas extraction, or conservation). They are a tool in the repertoire of both the ocean health as well as blue economy communities, and indeed the planning processes bring both of these communities together where they overlap. Yet, in these spatial planning and management processes, maritime security and law enforcement issues are often hardly considered or only vaguely addressed as matter of 'compliance' (Pieraccini, Coppa and de Lucia 2017). In other words, while one would expect that the law enforcement of the maritime security community would be vital to protect such zones, in practices of planning and implementation this

community is marginal. Paradoxically, then MPAs are a peripheral space for the maritime security COP.

Governance Spaces

Spaces where ocean COP interact are however not necessarily 'in' the oceans. The oceans are also the object in other spaces. This includes spaces where the oceans are governed through practices such as debate, consent formation, or rule making. Such governance spaces include informal ocean summits, such as the UN Ocean Conference, the Our Ocean Conference, the World Ocean Summit, coordination bodies on a global or regional level, such as UN-Oceans, or regional Coast Guard Forums, but also formal international organizations that govern the sea, such as the International Maritime Organization, or the UN Office on Drugs and Crime. The Our Oceans Conference, for instance, is heavily dominated by the ocean health community with the blue economy community nested or overlapping. The UN Office on Drugs and Crime, runs a Global Maritime Crime Programme, which is primarily concerned with marine law enforcement, where there are some overlaps to the blue economy community and ocean health sits at the periphery.

Virtual Spaces

Another case of spaces is virtual in kind. Communities interact through the mediation of digital technologies and on-screen realities. The majority of states and regional organizations run digital surveillance platforms which provide representations of marine activities. Such digital platforms, often known as Maritime Domain or Situational Awareness systems are developing a shared understanding of what happens at sea. At the heart of such systems is the projection of vessel movements on the basis of radar and satellite data. This is used to remotely monitor maritime transport routes and fishing activity, but also to identify anomalous behavior through automatic detection.

The space of interaction in such cases is a shared digital platform that different communities use for their understanding of (normal and suspicious) activity at sea. The regional network of such platforms is in many ways at the heart of the maritime security community of practice (Bueger 2020). As a key law enforcement tool, such platforms are however also used by the other communities. To provide one example, the European Maritime Safety Agency develops a joint surveillance picture for the European Union institutions and member states (Dupré and Guy 2012). This picture is used in the European Union's naval operations, but it is also used to monitor oil spills and conduct environmental assessments, and to improve the flow of shipping in the continent's waters.

The cases provide us with some empirical examples of where COP interact and what one might focus on in analyzing the interaction. Material spaces, such as the sea, planning spaces, such as MPAs, governing spaces, such as informal summits and international organizations, but also virtual, digital spaces are all sites where we will be able to identify and study interactions and their density.

4.3 Interactive Ocean Agents

What should count as an actor within COP theory is an open question. While some would argue that the focus must be on individuals, others would include collective and corporate actors, while yet others would prefer the term actants and extend the notion to non-humans. From an empirical perspective, we think that the inclusion of collective actors next to individuals is important, while the non-human extension leads too far into alternative theoretical terrains, that is, of actor-network theory and assemblage theory (Bueger and Gadinger 2018). In the following, we provide three illustrative cases of ocean governance actors that enable the interaction of the ocean COP. As for our discussion

of spaces, this provides us with an indication of what kind of what the researcher might want to focus on. Each of the following cases illuminates the spectrum of empirical instances and provides a different form of agency (individual, corporation, international organization) as well as an illustration for the three identified roles (space traveler, broker, guardian).

Space Travelers

The adoptions of the UN Sustainable Development Goal for the Oceans (SDG 14) led to a new office. In 2017, the United Nations Secretary-General appointed Ambassador Peter Thomson of Fiji as his Special Envoy for the Ocean. Since taking office, Thomson has become a major space traveler whose membership cannot be ascribed to or loyalty associated with any one community in particular.[8] While a core part of his job is to attend ocean related events, conferences and summits, his objective is to forge shared frames of meaning, ways of understanding and seeing the ocean.

Specifically, through speeches he gives at these events, he translates meaning between communities but also introduces tools across the communities. Thus, Thomson is an actor that brings communities into interaction, but without a distinct set of practices that emanates from any one community. An example is his call to submit 'Ocean Voluntary Commitments' for the 2022 UN Oceans Conference (Thomson 2022). Inclusionary in nature, all communities can present their practices as commitments, where he brings them together into interaction with one another. A commitment could be to develop 'diverse collaboration frameworks' to tackle ocean plastics (ocean health), produce a 'blue economy global report' (blue economy), or 'combat IUU fishing' (maritime security).

Corporate Brokers

The Economist is not only a renowned media giant, it has also expanded its portfolio as an event management company. One of its most important events is the organization of the annual World Ocean Summit. Launched in 2014, the summit has become a major event in the global ocean governance calendar (The Economist 2023). Held annually, it brings together heads of states, delegations from different international organizations, philanthropists, celebrities, activist groups, but also companies. It thereby acts as a broker who has sufficient epistemic authority and financial means to bring together and broker among two or more communities of practice. Through the creation of a joint platform, the Economist is engaging in configurational boundary work: though a traditional outsider to oceans governance, it has emerged as a broker who not only frames the debate through organizing the event program and its staff moderating the discussions. It also actively designs the structural spaces in which ocean governance takes place through deliberation.

Different to the space traveler, however, the Economist identifies both with the blue economy and ocean health, seeing them as relating to one another and therefore acting as a bridge. Bringing two communities together can be seen in the World Ocean Summit, where panels are mixed with participants from both communities, brought into interaction with one another to try to align practices for the conjoined goal of sustainability for the sake of future economic exploitation. It does not speak to maritime security. The exclusion of the maritime security community can be seen in its sign-up form. Participants are asked to register their sector and interest, and maritime security (as well as its subordinate groupings such as enforcement) are absent. This demonstrates The Economist's own position – a bridge that has competence within two communities of practice but not in the third.

Institutional Guardians

Our third example is the United Nations Security Council (UNSC). Increasingly involved in ocean governance, it acts as a powerful guardian of the maritime security community. Through its debates

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[8] An overview of Thomson's activities is provided in UN DESA (2023).

(three of which have explicitly focused on maritime security, many others concerned maritime threats), it defines the boundaries of what should count as a security issue and what not. Part of the Council debates have been environmental and blue economy issues, where the members disagree, however, on whether these should be evaluated as security issues (Bueger 2021). It follows that the Council as an entity in its own right carefully prevents a too close interaction between the maritime security and the other communities.

5. Conclusion

In this article we have outlined a refined version of COP theory that allows for studying processes of global ordering. Compared to approaches such as regime, network or field theory, this framework not only provides an account for the differentiation of global orders; it also generates a thicker understanding of the ordering processes underlying it. The COP framework goes beyond the relational emptiness of network theory and the prioritization of competition in field theory by substantiating the quality of interaction and sources of coherence within orders. While it does not deny the existence of contestation within and between COP, it foregrounds the predominance of cooperative dynamics that evolve from joint projects and collective normative understandings.

Two decades ago, Adler already argued to understand "the international system as a collection of communities of practice" (Adler 2005: 14). instead of taking this argument forward, as we have shown, COP research has narrowly zoomed into understanding the micro-mechanisms of isolated communities. We have argued that in order to allow COP theory to speak to IR more generally and to understand systemic levels, it is time to zoom out. Once this is appreciated, the COP framework can become a contender in offering new systemic interpretations of global order, complementing and challenging regime, network or field theories. In terms of its core unit of analysis, COP research must leave behind the mere study of isolated communities and formally organized settings and instead focus on the interaction of a diversity of transnationally operating COP that often transverse formal organizations.

The framework of interactive forms that we have developed in this article allows to study the interaction of and spaces between COP. Focusing on the spaces in-between COP can help researchers learn about the specific mechanisms by which global ordering unfolds. We have laid out a range of six interactive forms, including different spaces (nested, overlapping, peripheral) and agents (guardians, brokers, space travelers). These provide a promising heuristic for empirical analyses. Through the case of ocean governance, we have showcased how this framework offers intriguing new opportunities for understanding of the dynamics of ordering, challenging extant frameworks. As a case that is hardly studied, but global and transnational in focus, global ocean governance is a particularly interesting instance, to advance theorizing of global order. Yet, the framework is equally useful at other scales, whether global or not. In advancing empirical research driven by the framework the important next step is to investigate if and how particular spaces and agents are related to outcomes and produce global ordering effects which are complementary, conflictual, or cooperative ways.

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