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Oceans of Conflict: Pathways to an Ocean Sustainability PACT

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ABSTRACT

Festering ocean conflict thwarts efforts to realize the Agenda 2030 Sustainable Development Goals. This paper explores transformations of ocean conflict into situated sustainability pathways that privilege human needs, justice and equity. We first outline the promise and limits of prevailing ocean/coastal governance practices, with a focus on marine spatial planning (MSP), which by framing conflict in shallow terms as use incompatibility, supports resolution strategies that privilege neoliberal technocratic-managerial and post-political models of consensual negotiation, thereby obscuring the structural inequalities, maldistributions and misrecognitions that drive deep-seated conflicts. Next, the distinctive features of the marine realm and ocean conflict are explained. Third, we outline the root causes, drivers and scale of conflict, with reference to history, climate, culture, governance, institutions and prevailing international socio-political conditions. Fourth, we reflect on the nature of conflict, exploring implications for shallow and deeper approaches of handling conflicts. Fifth, we highlight the implications of knowledge co-production for understanding and transforming conflict in pursuit of justice. Then, in response to the orthodoxies of MSP and prevailing conflict resolution strategies, we elaborate an alternative approach – Pragmatic Agonistic co-produced Conflict Transformation (PACT) for sustainability – sketching out key elements of a praxis that seeks to transform destructive interaction patterns of conflict into co-produced, constructive, scalable and 'institutionalizable' yet contestable and provisional sustainability knowledge-action.

1. Introduction

A healthy ocean is foundational for life on this Blue Planet. Despite its immensity, covering 71% of the earth's surface to depths of up to about 11,000 m, and its seemingly limitless bounty, the health and sustainability of the ocean is now in peril (Visbeck, 2018). Drivers include a cocktail of anthropogenic climate change, ocean acidification, pollution and degradation of marine ecosystems, and over-exploitation of coastal and marine resources (Visbeck, 2018). In coming decades, sea-level rise will displace millions on low-lying coasts, and submerge some small island nations (Oppenheimer *et al.*, 2019). Despite the proliferation of laudable coastal and ocean governance endeavors, environmentally unsustainable ocean practices are intensifying alongside deepening ocean-related poverty, inequity, injustice, human rights violations and the severing of cultural ties and

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connections to the sea (Murray & Storey, 2003; Bennett et al., 2015; Gee & Siedschlag, 2019).

The ocean is also awash in long-standing conflict between activities like fisheries, marine conservation, coastal tourism and oil and gas exploration (Chuenpagdee & Jentoft, 2018). Ocean and coastal conflicts involve struggles over contending values, identity, ownership, sovereignty, rights, access, terms of use, the distribution of benefits and costs, and human-nature relationships (Cicin-Sain, 1992; Murray & Storey, 2003; Pinkerton & Davis, 2015; Tafon, 2019). New coastal and ocean conflicts are also emerging as the rush to capitalize oceans in the name of blue growth and blue transformation intensifies. With the rapid and widespread uptake of the chrematistic blue growth/transformation discourse, new activities (e.g. aquaculture, blue biotechnology, seabed mining and ocean energy) increasingly clash with traditional ocean uses, such as fisheries, coastal tourism, conservation, etc., which may lead to increased human rights abuses, marginalization and dispossession (Jentoft & Knol, 2014; Ertör & Ortega-Cerdà, 2015; Tafon, 2019; Tafon et al., 2019a). The prevalence, intensity and potential for socially and environmentally destructive conflict will thus escalate as the number and diversity of ocean and coastal activities increase (Cicin-Sain, 1992); environmental, technological and societal change accelerates (Spijkers et al., 2018); planetary boundaries are reached (Smith, 2000; Galaz et al., 2012); and nations jockey for geopolitical control and resource use rights in places like the Arctic and South China seas. Festering ocean conflict thus thwarts efforts to realize the Agenda 2030 Sustainable Development Goals (Quimby & Levine, 2018).

However, conflict in and of itself is not necessarily bad. The prevalence of environmental conflict has led to the rise and spread of ocean justice movements and environmental defenders across the world as key agents of sustainability transformation (Temper et al., 2018). Ocean conflict can mobilize conservation advocates who seek to advance ecological goals to enhance biodiversity and foster sustainable resource use. It can also be a manifestation of grassroots struggles to reduce poverty, inequity and injustice and advance human rights and well-being, be they centred on nutritive, economic, socio-cultural, religious or aesthetic concerns (Del Bene et al., 2018; Tafon et al., 2019a). Conflict can also alert planners and policymakers to 'competitive or contradictory laws or policies regulating access to or control over natural resources; weaknesses in the ways in which natural resource management policies or laws are implemented [and] people's need or desire to assert their rights, interests and priorities' (Engel & Korf, 2005, p. 36). Conflict is thus a catalyst for transformative change (Lederach, 2003) – conflict can generate trust among actors; foster intellectual and emotional growth (Alexander, 2019); build capacity for reflective leadership; and open possibilities to challenge and modify 'bad' institutional arrangements. Undoubtedly, while we see opportunities to realize just and sustainable change through conflict portals, we are aware that antagonistic interaction patterns related to bad governance practices and violence (e.g. involving criminalization, militarization and assassination) can be damaging for environmental sustainability, human well-being and societal change. With respect to non-physically violent sustainability conflicts, they highlight where antagonistic societal values and interests may be lurking behind programmatic consensus narratives such as blue growth.

Surprisingly, there is relatively little scholarship focused on the distinctive challenges associated with ocean conflict and possibilities for transformation in a comprehensive manner beyond specific conflicts. Yet as we later discuss, while ocean conflicts often manifest

locally, reflecting distinctive management regimes and locality-specific historical, cultural, environmental and socio-economic realities, their drivers, root causes and transformation possibilities often transcend the immediate context – specific issue, management regime, local communities, nation states and associated institutions – requiring a more comprehensive analysis and action. In governance regimes like marine spatial planning (MSP), conflict is often ignored or postponed by planners, commonly through prevailing post-political strategies (e.g. conflict resolution) that seek to depoliticize or displace conflict (Tafon *et al.*, 2019a). (We consider this technique subsequently in Sections 2 and 5.1 in contrast to the more empowering conflict transformation approach in Section 7, which is suited for transforming deep-seated conflicts). The tendency to displace conflict is often due either to a lack of willingness or mandate to confront existing tyrannies such as non-recognition of customary rights over sea spaces or to the assumption that conflict is tangential to or disruptive of a predominant blue-growth MSP agenda (Tafon *et al.*, 2019b). Opportunities for harnessing the transformative potential of conflict are thus missed.

To address this gap, we propose a framework for understanding and transforming conflict, which can assist policymakers and practitioners in harnessing conflict and leveraging plural sustainability frames, knowledges, values and visions toward the co-production of transformative and 'institutionalizable' ocean knowledge-action. First, we problematize how ocean governance, exemplified by MSP, approaches contestation and consider challenges of prevailing conflict resolution techniques for transforming deep-seated societal biases. Second, we outline distinctive features of the marine realm (as compared to the terrestrial) and how this poses particular conflict challenges. Third, we outline the root causes, drivers and scale of ocean conflict, ranging from immediate causes to structural issues related to history, culture, governance mechanisms and institutional arrangements, as well as to external pressures pertaining to global socio-economic shocks and changes in the international political economy. Fourth, we reflect on the nature of conflict, exploring implications for shallow and deeper approaches of handling ocean conflicts. Here, we review different conflict resolution techniques and highlight their limits in redressing societal inequities – related to governance, basic needs, identity, culture, recognition, socio-political status and rights, etc., – that often underpin deep-seated conflict. Fifth, we reflect on the implications of knowledge co-production for understanding and transforming conflict in pursuit of ocean justice and sustainability. Then, in response to the orthodoxies of MSP and prevailing conflict resolution strategies, we elaborate an alternative approach – **P**ragmatic **A**gonistic co-produced **C**onflict **T**ransformation (**PACT**) for ocean sustainability – sketching out key elements of a praxis that seeks to transform destructive interaction patterns of ocean conflict into constructively co-produced and 'institutionalizable' yet contestable and provisional knowledge-action.

This framing is based on a review of diverse but interconnected domains of scholarship, including marine governance with a focus on MSP, conflict studies, agonistics, critical pragmatism and phronesis, critical institutionalism, and transdisciplinary knowledge co-production. We use ocean conflict in the broadest sense to encompass disagreements between parties that range from small-scale disputes to large-scale conflict applicable in diverse settings, from the coast to the high seas and from the Arctic to Antarctica. We limit our approach to non-violent conflict, while acknowledging the damaging effects of violent conflicts and geopolitical disputes between states. By unravelling ocean conflict dynamics and embedding a more radical praxis of agonistic knowledge co-production and conflict

transformation within (re)politicized MSP and ocean governance processes, this framework contributes to the UNESCO Decade of Ocean Science for Sustainable Development call for research that sheds light on barriers and enablers of global progress toward realizing Agenda 2030 objectives at sea.

2. The Marine Spatial Planning Approach to Conflict

MSP is promoted as a radical approach to governing conflict. However, in practice conflict is conceived predominantly in spatial terms – that is, prioritizing zoning or the allocation of space for different uses as a key means to identify and resolve conflicts. The following dominant definition of MSP as 'the rational organization of the use of marine space and the interactions between its uses' (Douvere, 2008, p. 766) is symptomatic of this way of framing and handling ocean conflict. A key problem with this approach is that in conceiving conflict predominantly as a spatial use problem, conflict is commonly cast in terms of mere conflicting interests, which obscures the maldistributions, misrecognitions and political exclusions that often underlie and result from destructive ocean conflicts. A second problem is that space allocation is grounded on a neo-liberal, rational, technocratic-managerial and post-political model of consensual negotiation (Tafon, 2018; Clarke & Flannery, 2020), the purpose of which is to either zone multiuse space where compatibilities are found or impose restrictions where compatibility between uses is deemed to be low (see column on conflict/dispute resolution in Figure 1). While consensual negotiations, often through conflict resolution frameworks may (or may not) resolve issues around conflicting use interests, they fail to address conflicting value-rationalities, path dependencies and structural inequities related to governance, basic needs, identity, culture, recognition, socio-political status and rights, livelihoods and capacities (Engel & Korf, 2005; Saunders *et al.*, 2020) – issues that drive deep-rooted ocean conflicts and for which a conflict transformation framework rather than zoning and spatial approaches is more suited (see Oceans PACT column on in Figure 1). In this way, MSP misses on opportunities to transform itself into a radical marine governance system capable of bringing about change both 'in ingrained patterns of action and in the structures in which they take place' (Kelly *et al.*, 2019, p. 12).

We now consider the distinct features of the marine environment, which should inform ocean conflict transformation thinking and practice in what are markedly different settings from the terrestrial realm.

3. The Distinctive Character of the Marine Realm (Ocean and Coast)

The ocean realm is foundational for life on earth, yet it is markedly different from the terrestrial environment that humans inhabit; and this has profound implications for ocean conflict and its transformation (Alexander, 2019). The ocean is distinct physically: it is a three-dimensional 'salt-watery' world instead of the chiefly two-dimensional land surface we occupy; notwithstanding the subterranean world below us and the atmosphere above. The essence of the ocean goes beyond 'wet ontologies and fluid spaces' (e.g. Steinberg & Peters, 2015), for it includes ice (viz. the Arctic and Antarctica) and mist, and this watery form is constantly being produced and reconstituted.
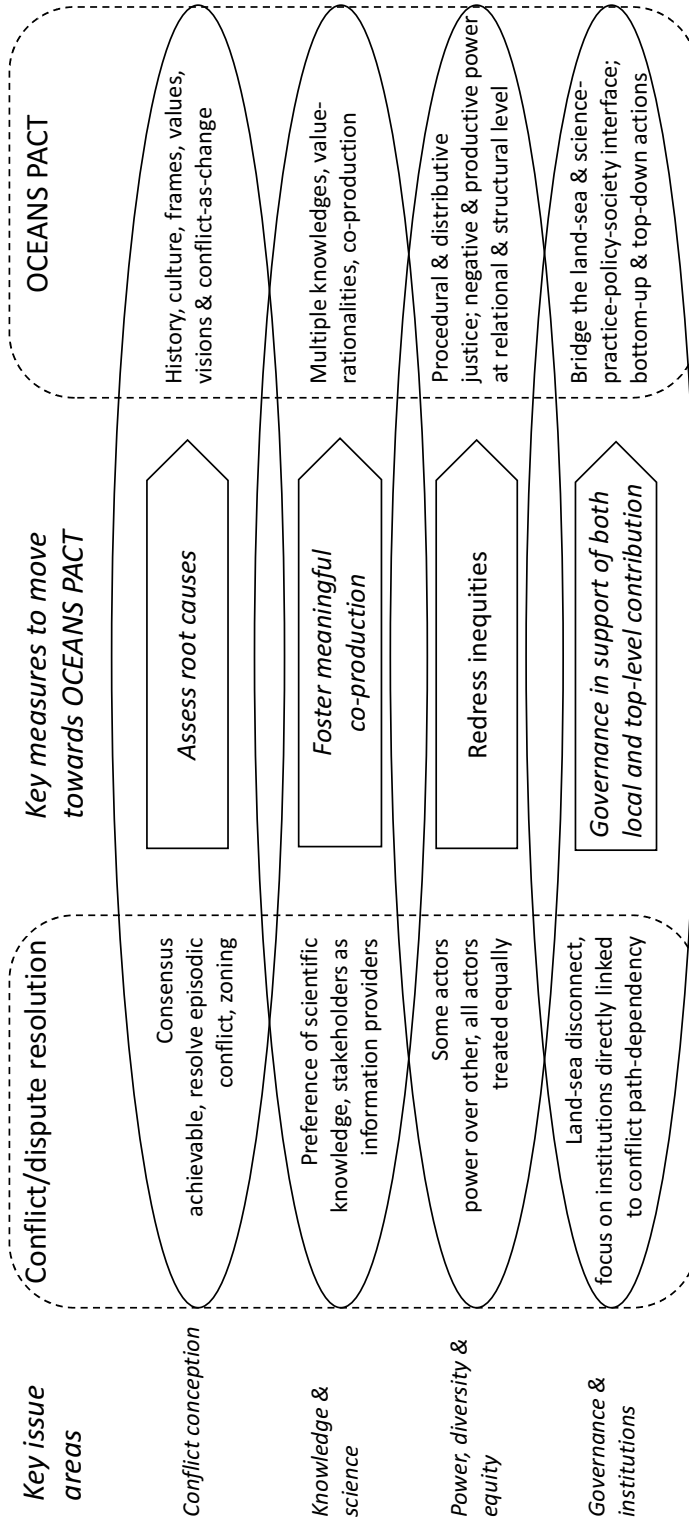
Figure 1. The rows on the left of the figure show four key issue areas (these include processual and ambition aspects) to consider when engaging in and addressing marine conflicts (i.e. Conflict conception, Knowledge & science, Power, diversity & equity and Governance & institutions). The column on the left shows how these key issue areas tend to be considered and addressed by a conflict/dispute resolution approach (which we argue is the conventional approach to engaging in ocean conflict). The arrows in the middle show transformative steps required to move to an OCEANS PACT driven approach (what we call conflict transformation). It is important to that note the Conflict/Dispute Resolution and OCEAN PACT columns are conceived as endpoints in a continuous scale, rather than as binary pairs. These endpoints should not be viewed in absolute terms but rather in relative terms in any particular conflict context. The OCEANS PACT column describes how this approach differs in considering and addressing the four key issue areas of marine conflicts and thereby the possibility of advancing contextualized and 'institutionalizable' sustainability pathways.

All three dimensions of the ocean are actively used by people: the surface for activities like maritime transport; the water column for fishing and mariculture; and the seabed for exploiting minerals, oil and gas, and laying telecommunication cables, etc. It is different biogeochemically, with markedly different 'liquid' ecosystems and resources that provide an array of life-enabling and irreplaceable support, regulating, provisioning and cultural goods and services (Visbeck, 2018). The ocean connects the continents, with fluid boundaries, literally, in contrast to the 'hard boundaries' on land. The temporal rhythms of the ocean are typically more pronounced than those on land with daily, monthly, seasonal and longer-term fluxes and cycles – many of which shape the temporality of ocean activities, like fishing seasons and coastal tourism (Russo *et al.*, 2020).

People have diverse perceptions of cultural ties and connections to the sea (Gee & Siedschlag, 2019) – cultural, social, aesthetic, economic and political – which may be different from ties to the land. For some, it is the source of foundational spiritual and religious beliefs and practices; for others, it is a remote and faraway place, all but inaccessible and out-of-mind.

Complex formal and informal institutional arrangements are in place to govern the ocean – from ownership to its use, resolution of conflict, and sustainability. They typically involve some combination of communal property regimes that have a long history in island nations, for example, private property regimes chiefly along the shore-line; public property regimes, where the State owns and oversees management in territorial waters (up to 12 nautical miles from the shore) out to the Exclusive Economic Zone, extending to the continental shelf and even beyond, including provisions for exploiting the seabed, and the open access high seas.

Land-based rights are well established in law and the political economy. Despite long-standing communal ocean governance regimes, rights in the marine realm are more recent (e.g. through UNCLOS which only came into force in 1994) and still evolving. Much of the day-to-day responsibility for governance of land use and associated property rights falls within the ambit of local governing authorities. In the ocean realm, by contrast, it is chiefly the nation-state that assumes governance responsibility – even if business and other non-state actors play important roles. This constellation of distinctive features shapes ocean conflict and its transformation. To complicate matters, the coast is distinct from both the terrestrial and marine realms; again, with implications for coastal conflict.

The coast is neither land nor sea, but an interface between the terrestrial and marine; a narrow strip along the shoreline where the interplay between land and sea give rise to distinctive livelihoods and ways of life. In essence, the coast is the meeting place of land and sea; of people and cultures; of the local and global; of a smorgasbord of activities; intersecting administrative jurisdictions and societal institutions. It is a place of immense value where integrated management and governance is imperative – across many domains, including spatial, temporal, sectoral, political, administrative, institutional and disciplinary, and science-policy-practice-practice integration. The coast is character-ized by widespread unsustainable and inequitable patterns of development and is a place where complexity, dynamism, uncertainty about the future and contestation are magni-fied – reflected in intensifying coastal squeeze as sea-levels rise and coastal population and development pressures mount. The coast is a fragile but resilient environment, attuned to daily, seasonal and longer-term rhythms that shape this dynamic milieu – with boundaries and thresholds that can be easily transgressed, for example, a modest rise

in sea level poses a major challenge for low-lying coastlines and communities, and an existential crisis for some small island developing states (Oppenheimer *et al.*, 2019). Moreover, the complex interactions between physical and biogeochemical coastal processes and the panoply of human activities concentrated along this narrow strip complicate governance endeavors, raising the stakes of public decisions about how to reconcile contending interests, manage risk, build resilience and foster sustainable coastal livelihoods and development.

Moving into the open seas, property rights become less defined (beyond the demarcation of state boundaries moving beyond the EEZ), the role of UN international laws of the sea becomes more pronounced and industrialized extraction of resources more prevalent – thereby opening up for ambiguity and conflict.

4. Causes, Drivers and Scale of Ocean Conflict

Ocean conflicts are commonplace, especially at the land–sea interface, where land- and sea-based value-rationalities and interests often clash in a multiscale terrain of plural actors, institutions, worldviews and visions. Transforming ocean conflicts requires proper understanding of their root causes and drivers, including resolvability challenges associated with conflicting frames, values, and imbalanced power relations.

First, ocean conflict permeates all management domains, from marine protected areas (Smith, 2000) to fisheries management, offshore wind farms siting and MSP (Jentoft & Knol, 2014; Tafon *et al.*, 2019a). While ocean and terrestrial conflicts share some similarities in that they deal, for example, with insufficient property rights and poor governance, monitoring and implementation regimes, ocean conflicts additionally deal with mobile and common pool resources, and fragmented policies governing resource use. With respect to policy fragmentation in the European Union, for instance, while the Marine Strategy Framework Directive emphasizes Good Environmental Status of Europe's seas, the Integrated Maritime Policy, the Blue Growth strategy and the Directive establishing Marine Spatial Planning alike are more growth focused. It is also striking that rather than having a comprehensive piece of legislation, the legal basis for MSP in many EU countries is an existing land-based code or regulation, which is typically extended to accommodate a section or ordinance on MSP. These different issues render ocean governance and management particularly challenging.

Second, there is no single 'true' account of conflict. Rather, conflict is framed differently by observers and participants, depending on their values, perspectives and interests, including 'the meanings that people give to events, policies, institutions, etc.' (Engel & Korf, 2005, p. 37).

Third, ocean conflicts often manifest locally, reflecting distinctive locality-specific historical, cultural, environmental and socio-economic realities. Yet they also transcend the boundaries of local communities, nation states and associated institutions, requiring trans-national and global governance structures that complement state and local actions (Rochette *et al.*, 2015). Examples of transnational and global action to address ocean conflict and promote maritime peace and security in areas beyond national jurisdiction include the International Maritime Organization, the United Nations Convention on the Law of the Seas, and the EU Maritime Security Strategy. Furthermore, in Europe, for instance, MSP (despite some of the inadequacies) is anchored in EU policies and

directives, with well-established regional institutions (e.g. HELCOM and VASAB in the Baltic Sea region) that promote coherent implementation within Europe's different sea basins.

Fourth, while conflicts are localized and often treated in isolation, they are usually fueled by the broader economic, policy and legal context (Engel & Korf, 2005). For instance, much of the conflict in Poland's fishing industry over the past decades stems from a reorganization of the sector's governance, regulation and political economy following Poland's EU accession (Tafon, 2019). Conversely, and fifth, resource conflict at the broader economic, policy and legal context can also be fueled by local conditions. The UK's decision to assert itself as an independent coastal state has led to tensions at the EU policy level. Recent developments indicate that the entire faith of Brexit negotiations rests partly on a fishery-related stand-off. The EU wants a deal that maintains Union fishermen's access rights to UK fishing waters and resources as stipulated in the Common Fisheries Policy. However, the UK insists on asserting its post-Brexit right to become a sovereign fishing power that negotiates annually with the EU (UK IN A Changing Europe, 2020). While the EU has made a number of no-deal contingency plans (e.g. adjusting the European Maritime and Fisheries Fund to enable Member States to financially compensate fishermen's lost access to UK waters), cordial and lasting UK–EU marine relations require the establishment of fishery and other ocean-related conflict mediation arrangements.

Fifth, conflict also arises as a result of proposed changes in the use of marine and coastal resources and ecosystems (Alexander, 2019). Climate change impacts like sea-level rise are already having profound impacts on marine ecosystems and ocean-dependent livelihoods that in coming decades could drive escalating conflict (Oppenheimer et al., 2019). Ocean conflicts take many forms and vary significantly in nature, intensity and 'resolvability', depending on historical context, changing societal conditions (e.g. rights, gender and power relations), multi-scale governance character-istics and capacities, institutional arrangements, and antagonistic episodic interactions between stakeholders (Engel & Korf, 2005; Tafon et al., 2019a; Alexander, 2019). A local fisheries conflict between two parties might be resolved quickly through informal nego-tiations (Gallardo & Saunders, 2018). Other more complex multi-party and value-related conflicts may require a mix of formal and informal interventions, for example, to decenter exclusive natural or economic-based scientific claims; to define and secure participatory, cultural, historical, management, access and use rights; and to build individual, group and institutional capacities for constructive engagements.

Finally, conflict may also be intensified by interventions following big crises and traumatic events. Immediately following the 2008 global financial crisis, tremendous pressure was put on fish resources leading to conflicts as efforts were intensified to achieve the first Millennium Development Goal of halving the number of people living in poverty and hunger (Allison, 2011). Drawing on this experience, it is likely that ocean conflicts will intensify globally after Covid-19 as efforts to reverse the current food and nutritional insecurity will intensify and nations will jockey to recover jobs and revenues lost from activities like fisheries, global shipping, coastal and marine tourism, aquacul-ture, ocean energy, blue biotechnology and sea bed mining etc.

5. The Nature of Ocean Conflict and Resolvability Challenges

Conflict can take different forms. Rather than self-contained events or a predictable sequence of stages, conflicts are interactive and emergent social processes: each conflict has its own unique history and runs its own course over time, with fluctuating intensity that unfolds in non-linear ways as social relations fluctuate (Engel & Korf, 2005). In exploring levels of conflict, the transition from emergent conflict to dispute is often dynamic and contingent, rather than systematic and automatic. Conflict is thus relational, path dependent and often underpinned by deep-seated values and differences. Path dependency relates to the process of making decisions about the future based on past choices and existing institutional practices (Kelly *et al.*, 2019). For instance, the issue of policy layering and fragmentation highlighted earlier and the fact that MSP is grounded on a rationalist epistemology and technocratic-managerial mode that privileges 'government' over governance can produce unintended consequences, thereby rendering the governance regime both resistant to change and susceptible to generate unintended consequences. Combined, these different conflict characteristics require transcending shallow framings and interventions to consider the root causes of deep conflict, including relational and structural elements.

5.1. Overt Conflict (Disputes)

Conflict can emerge gradually, steadily or rapidly, and is usually expressed as competition over resource use and space, often sparked by the introduction of a new maritime use (e.g. marine energy or conservation), which may be perceived as incompatible with other interests, goals and uses. Incompatibility can be locational, organizational, environmental or aesthetic (Vallega, 1999). Drawing on Vallega's (1999) categorization, incompatible management patterns can bring about organizational incompatibility in terms of say, conflict in maritime transportation patterns (e.g. between supply vessels serving offshore gas and oil fields on the one hand and yachting or cruising on the other hand). Locational incompatibility is when two or more uses (e.g. naval exercise areas versus mercantile navigation) need to be located in the same place but there is not enough space for all of them. Environmental incompatibility applies when one use (e.g. thermoelectric plant discharging warm water) has impacts on the local ecosystem and damages other uses based on the ecosystem's conservation (e.g. marine sanctuary). Incompatibility of an aesthetic or visual nature occurs when one use (e.g. offshore wind farm) alters the scenic, recreational, touristic and monetary values of the coast. Incompatibility may also be socio-cultural (e.g. conservation, management or development goals versus religious, historical and place-based values).

Gradually, use incompatibility may intensify into disputes if not managed effectively. Disputes are conflicts that tend to be tangible, overt and measurable, and can be malleable, and sometimes resolved through interest-based negotiations, bargaining and win-win strategies between disputants. Examples of dispute resolution strategies include the use of fair compensation packages by the private sector (Alexander, 2019) or the financing of community (cultural) projects and other means of securing the social, community and market acceptance of offshore/coastal developments (Wüstenhagen *et al.*, 2007). Mediation and third-party interventions are also used to settle disputes (Susskind *et al.*,

1999). In some disputes, planners may deploy a combination of negotiation and mediation strategies that can settle disputes (Forester, 2013). Resolution may also be achieved through procedural justice and due process, ranging from informed issue and stakeholder mapping to inclusive and reflective public hearing and comments on proposed plans. However, in many cases disagreements intensify, often as a reaction to dislocatory events – dissatisfaction with negotiation tactics and compensation packages or perceptions and experiences both of conflict as having been ignored, and of management/planning processes and decisions as unfair, exclusionary and socio-environmentally harmful (Tafon et al., 2019a). Here, resolution may be sought through the juridical system, which may oversee litigation, or roll out processes like adjudication and arbitration (Higgs, 2007). It should be noted, however, that, while resolution techniques may sometimes settle episodic disputes, they seldom transform structural problems of society, which often underlie environmental and ocean conflicts. This is because ocean disputes are often only a surface manifestation of deep-rooted inequities and injustices that usually remain hidden and unaddressed through prevalent dispute resolution techniques.

5.2. Deep-Rooted Conflict

Deep-rooted conflict refers to wicked conflict driven by strongly held and difficult-to-shift values and beliefs (Higgs, 2007), or basic human needs that are core to the identity of disputants (Avruch & Mitchell, 2013). They represent unrecognized and marginalized 'ocean ontologies': those 'more fundamental, non-material social and psychological unmet needs – including status and recognition, dignity and respect, empowerment, freedom, voice and control, meaning and personal fulfillment, identity [. . .], belonging and connectedness, social, emotional, cultural, and spiritual security' (Madden & McQuinn, 2014, p. 98). Deep-rooted conflict is thus by nature intractable, rendering its resolution complex and elusive. Indeed, intractability not only defies bargaining and interest-based negotiation strategies, and litigation, but the use of these resolution techniques can further exacerbate deep-rooted conflict and related ocean misrecognitions and maldistributions.

The implication for MSP is that, its predominant spatial and blue growth orientation, including its technocratic-managerial and science-based rationale that seeks optimality and consensus, often through prevention/resolution techniques, may further erode the diverse immaterial ontologies of weaker groups, while legitimating the interest and rationality of power elites. As differences intensify, deep-rooted conflict may be expressed through overt disputes, often with the use of antagonistic 'us/they' divides (Engel & Korf, 2005). Different politicization and depoliticization strategies may be mobilized by protagonists, from discursive logics (e.g. NIMBY and counter-NIMBY arguments) to media campaigns, programmatic tug-of-wars and legal showdowns (Tafon et al., 2019a). In some instances, protagonists may resort to violence, for example, in the context of resisting relocation due to dam building projects (Del Bene et al., 2018). Military force may also be invoked, for example, when national security, geopolitics, extractive resources, etc. are at stake. The Cameroon–Nigeria maritime dispute over the oil-rich Bakassi Peninsula, and the listing by the Center for Preventive Action, of a possible armed confrontation over disputed maritime areas in the South China Sea as one of the top 13 conflicts to watch out for in 2020, are indications of the forceful character of some

ocean conflicts. However, as highlighted earlier, it is important to remember that while deep-rooted conflict may gain visibility as dispute, it is often underpinned by fundamental differences, values, frames, needs and related power, equity and justice issues that require engaging with productively.

In line with our transformative agenda, we now examine in what ways MSP and ocean governance practices and institutions might transform conflict into ocean sustainability pathways by privileging basic human needs, justice and equity. We situate this discussion within and beyond knowledge co-production research and practice.

6. Knowledge Co-production and Conflict

Knowledge co-production is a burgeoning sustainability research practice that has assumed its place in a lineage of closely linked transdisciplinary approaches, including participatory research, citizen science, post-normal science, and transdisciplinary knowledge production (Turnhout *et al.*, 2020). Defined as 'iterative and collaborative processes involving diverse types of expertise, knowledge and actors to produce context-specific knowledge' (Norström *et al.*, 2020, p. 183), co-production 'has the potential to lay the foundations for transformed relationships between Global North and Global South, between Western scientific traditions and indigenous forms of knowledge, and to disrupt [...] the toxic "monocultures" of dominant forms of knowledge production' (Facer, 2020, p. vii). We see four key arguments and relevance of this type of research collaboration for ocean sustainability: (1) there is a status quo that is unsustainable and needs to be changed; (2) a (radical) pluralism approach ensures a wide range of perspectives, framings, and values from all relevant disciplines and actor groups related to the problem; (3) a processual orientation will create enabling spaces that allow for differences of view over divergent long-term sustainability goals and transformative pathways; and (4) co-production of knowledge-action between researchers and non-academic stakeholders can work to produce 'actionable' knowledge in response to sustainability challenges. Here, actionability is conceived as knowledge that is salient, having broad legitimacy and aligned with policymakers' triad logics of useful knowledge advanced by Dewulf *et al.* (2020) – for example, consequentiality, appropriateness and meaningfulness.

While desirable and promising, knowledge co-production is not without criticisms. For instance, Turnhout (2018) argues that co-production processes, including considerations of legitimacy, saliency, appropriateness and meaningfulness reduces actionability to the realm of policy, often through an exclusionary 'measurementality logic' that is sustained by powerful technocratic, managerial and policy discourses. Second, the use of science-based rationality as a starting point of knowledge co-production limits deeper reflections on how existing power structures and institutional arrangements may shape interactions and sustain rather than disrupt the 'politics of knowledge' (Turnhout *et al.*, 2020). A third criticism is that knowledge co-production often takes place in small-scale, localized projects, commonly disconnected from wider institutional arrangements (Turnhout *et al.*, 2020). While we agree that transformative knowledge-action cannot be imposed on context by top-down means but must be 'drawn upon, produced and used from within the situation at hand' (West *et al.*, 2019, p. 3), we believe that in addition to local efforts, long-term sustainability transformation also requires actions 'that are at once structural, systemic and enabling' (Scoones *et al.*, 2019, p. 7).

We draw on agonistic pluralism, critical institutionalism and critical pragmatism to propose a more integrative and radical praxis of knowledge co-production, conflict transformation, MSP and ocean governance, which we call **P**ragmatic **A**gonistic co-produced **C**onflict **T**ransformation (**PACT**) for ocean sustainability. The column on the right of Figure 1 highlights the different constituents of OCEANS PACT.

7. Pragmatic Agonistic Co-produced Conflict Transformation

We postulate that societal transformation is central to charting sustainability knowledge-action pathways, but this will not be achieved without confronting power-knowledge imbalances, injustice and inequity, and addressing the root causes of destructive conflict, alongside the creation of enabling institutions. Arrows in the middle of Figure 1 highlight key measures to move toward OCEANS PACT.

PACT is premised on the idea that authentic and meaningful transformation transcends an episodic view and shallow framing of conflict as resource use incompatibilities and disputes. We understand change as involving transformation of relational, historical and systemic dynamics shaping ocean sustainability, including social relations, socio-environmental interactions, knowledge-power dynamics and broader governance and institutional practices that drive deep-rooted conflict (Lederach, 2003; Marshall, 2016). PACT is thus intended to support action toward addressing deep-rooted conflicts.

Underpinning PACT is the notion of *the political* (Mouffe, 2005), a conception of conflict as an unavoidable dimension of social life (*ontology of discord*), which short of being prevented or resolved definitively, can be constructively harnessed as a catalyst for societal transformation (*ontology of change*). From this ontology of *discord as change*, PACT embeds conflict as a dimension of marine governance, offering opportunities and possibilities to realign governance processes and practices toward sustainability. Recognizing the imperative of radical ocean governance (Clarke & Flannery, 2020), our agonistics-inflected PACT supports the re-politicization of MSP as a political process, in which all protagonists and actors affected by conflict, as well as those on the 'outside' with relevant resources (material, human, technical and scientific) are implicated in conflict transformation. This is not to suggest the possibility either of a universal consensus or of harnessing incommensurable values, knowledge and interests that are inherent in conflicts in an unpoliticized way. Rather, radical pluralism urges a shift on the part of all actors from antagonistic frames of conflict in which conflict and the identity of the 'other' (in terms of knowledge and agents) are conceived in essentialist terms as fixed and threatening. Agonistics conceives identity, including knowledge as constructed and contingent, where 'otherness' (including conflict) is understood not as an enemy to be combated, but in adversarial terms as a generative force to be engaged with constructively. But what does this mean in terms of possibilities for transformative change in a world of unruly science, conflict and power?

The above question raises the critical challenge of how science can engage with co-production to support conflict transformations to advance sustainability, while being alert to the politics and power inherent in any such reconfiguring processes. Responding to this challenge may offer ways to integrate science with other ways of knowing that change scientific research and praxis. In pursuing this challenge, we are mindful of how as scientific knowledge producers, scholars are inherently caught up in the politics, circulation and application of the knowledge they produce (Nadasdy, 2011). Our

approach sees that knowledge and action in studying marine planning conflicts are indelibly intertwined as affected actors (including researchers) are inevitably shaped by different political agendas about what resources are and how they should be used and governed, and by whom. Being alert to this *problématique* enjoins PACT-driven researchers to work with, against and around established representations of knowledge and human-nature relations. This may entail decentering unreflective forms of scientific knowledge to include local knowledge, while acknowledging the situatedness, partiality and thus performativity of both, which calls for the need to evaluate both systems based on their effects in practice (Turnhout, 2018).

We are also mindful that co-producers of conflict transformation have different ways of knowing, which cannot be fully reconciled nor separated from culture and history (Bäcklund & Mäntysalo, 2010). Yet in co-production, as Healey (1993) notes, differently positioned participants may still 'act in the world together' and learn from each other (p. 239) – that is, they may engage in respectfully 'making sense together while living differently' (249). As a researcher, accessing and including the least powerful actors, including their local and indigenous knowledge may be integral to developing capacity to meaningfully address the prospect of conflict transformation. While the researcher may develop trusting relations with weaker actors, in doing so, this might jeopardize developing trusting relations with others, who (while) being in positions of power, are equally important to any possibility of change. So, upholding objectivity (or rather principles of natural justice) at a minimum, could arguably be seen as hearing all parties to the conflict, while being mindful that inequalities may affect capacities to be effectively recognized and represented (Lembke *et al.*, 2020). The PACT approach is not explicitly aimed at analyzing or deploying activism as such, rather it concerns developing a comprehensive (multi-interpretational) view of conflict that supports transcending shallow frames and analyses to promote sustainable, equitable and just transformations.

The idea of 'living differently' advanced by Healey (1993) is critical. It acknowledges the impossibility of truly shared meanings and rational consensus or win-win-win solutions in the face of complex sustainability problems and conflict. Yet against this impossibility, PACT endows itself with an element of pragmatism, which allows both phronetic deliberation about alternative values, interests and visions and exploration of actual possibilities of constructive and forward-looking interactions (Flyvbjerg, 2004) among otherwise unlikely collaborating actors in their diverse historical, institutional, cultural and cognitive settings (Forester, 1989, pp. 119–133). A pragmatism-inflected PACT is thus concerned with addressing conflicting value-rationalities and unbalanced power relations in pragmatic ways, with reference to forward-looking praxis. It points to the need for processes and strategies that are less indifferent to value-rationalities and local knowledge systems, less deferential to scientific rationality and political and economic power, less dismissive of conflict and difference (Forester, 2013, p. 6), and more attuned to the urgency of sustainability transformations both in terms of the ethically practical (Flyvbjerg, 2004) norms of equity and justice and to the decision-makers' triad logics of consequential, appropriate and meaningful knowledge-action. Of course, we must also keep in mind the question of translating such critical modes of engagement into practical advice for the design of formal ocean governance and conflict transformation practices and institutions, which brings us to the second concern – PACT-driven institutional requirements.

The agonistic element of PACT entails what Tambakaki (2011) terms 'an ethos of disturbance', which requires that 'citizens with different conceptions of the good develop a critical ethos or attitude towards [. . .] politics and begin to resist, disturb and contest that which appears natural, hegemonic or final – be it rules, narratives, directorates or [. . .] policies' (Tambakaki, 2011, p. 575). Put differently, PACT-driven researchers need to take the role of 'creative destructors [. . .] who problematize naturalized and taken for granted classifications, frameworks and ways of knowing' (Turnhout, 2018, p. 368). In some contexts, this may mean supporting co-production initiated by grassroots movements (rather than through the State or academia). Mitlin (2008), for instance, sees bottom-up forms of co-production as political strategies that 'enable individual members and their associations to secure effective relations with state institutions that address both immediate basic needs and enable them to negotiate for greater benefits' (p. 339).

We must also keep in mind that while grassroots politics can prove effective in chipping away at imbalanced power and unreflective science, they may not effect long-term change unless reconfigured toward disturbing the broader institutions that frame what knowledge is and how it should be produced and use, and within which unsustainable and unjust governance practices are embedded. We are, therefore, circumspect of Tambakaki's (2011, p. 575) claim that it is the 'ethos of disturbance' and 'not institutional arrangements that are at the centre of attention' for agonists. Undoubtedly, Tambakaki's claim is not completely at odds with the underlying principles of agonistics: it would be paradoxical to conceive of agonism and institutionalization at the same time – agonism promotes constant contestation and is grounded on contingency, while institutions seek to stabilize relations and rules, often through explicit or implied coercion, which could take the form of specific mechanisms, like punishment or disincentives. Attempts at institutionalization (viz. the establishment of order) thus risks undermining agonism's potential to disrupt that which is totalizing, including unsustainable governance norms and practices.

However, as Lowndes and Paxton (2018) note, the trick lies in 'flip[ping] the question by asking not how to institutionalize agonism but how *institutions themselves can be agonised*' viz. disturbed (p. 702 emphasis in original). Possibilities to agonize institutions are given in the very nature of institutions as fundamentally contingent. Put differently, institutions can shape but not influence human (inter)actions; they do not represent a single set of value-rationalities in totalizing ways but constitute an arena for the contestation of value positions; they offer stability and predictability but the active interpretation of rules opens possibilities for change; they create temporary closure through including certain identities (i.e. actors, discourses and forms of knowledge) while excluding others yet such covert exclusions and inclusions, and not only the overt rules of the game are the subject of political action (Lowndes & Paxton, 2018, pp. 703–705). Such a reconceptualization dissolves the paradox between agonism and institutions, retaining the contestatory ethos of agonistic politics and stretching its reach all the way to what are fundamentally contingent and thus incomplete, contested, evolving institutions. This opens possibilities not only for contesting unsustainable knowledge-action and institutions but also for redefining, renewing and possibly replacing them in the context of contingency.

To unpack this further in terms of conflict transformation possibilities, analytical focus is required to understand key aspects of the historical roots and present conditions of the conflict context, including 'rules' structuring interaction and resource access and use, and

where fracture lines may lie between different actors and ways of knowing. This will enable a deeper tracing of contradictions and conflicts to help derive understanding of different situated perspectives, changing power relations between actors and the implications of this for agency and possible transformational dynamics.

Undoubtably, while a 'hard' approach to institutional analysis (where focus is on formal rules, regulations, roles, authorities and practices) is the common analytical drive, we must also be aware of and examine 'soft' approaches, including informal and ad hoc practices. For instance, in conducting PACT research it will be important to support the productive engagement of non-dominant and dominant actors to support collective problematization and exploration/analysis of responses. Such an approach may be vital to build workable collective understandings, which is key to promoting a collective will to shift social mechanisms or obstacles toward the progressive transformation of conflicts, rather than solely concerned with fixed institutional categories where particular forms of power reside (Wright, 2012).

Thus, when inflected with an ethos of disturbance that is forward looking and takes both soft and hard approaches to institutional design, a radical praxis of knowledge co-production opens possibilities for transforming negative conflict and the institutions that produce and sustain injustice, inequity and unequal power.

8. Conclusion

We have unraveled the dynamics of ocean conflict, highlighting its complex nature, root causes and drivers, and the transformative limits of predominant conflict framing and resolution approaches in prevailing strategies of ocean governance praxis like MSP. An alternative approach, OCEANS PACT reframes conflict as a catalyst for change and incorporates elements of agonistics, critical pragmatism and critical institutionalism and productively leverages co-production as a means to harness conflict toward sustainable, equitable and just oceans in a context of institutional indeterminacy. We argue that change requires commitment to manage that which is bad (i.e. totalizing discourses, relations, positivist forms of science, governance practices, policies and institutions), but also to challenge and possibly replace it with that which is collectively imagined and produced, better adapted to particular socio-environmental contexts, and transformative yet contestable and provisional. Put differently, OCEANS PACT supports the development of capacities to (1) see conflict as a window; (2) hear and engage meaningfully with difference (3) integrate identity, vulnerabilities and different ways of knowing; (4) collectively make sense of context-specific problems and forge alliances and partnerships for sustainability and (5) contest, redefine and possibly replace unsustainable socio-environmental relations as well as unjust institutional designs and relations of power in support of co-produced, constructive, scalable and progressively transformative yet contestable and provisional sustainability knowledge-action and institutions.

Disclosure statement

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