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"Other(ed)" Ocean Knowledges: Unlearning Integration in Ocean Governance for Recognitional Justice

Giulia Champion [1,2] and Mia Strand [3]

[1] Institute of Advanced Study, University of Warwick, UK
[2] Faculty of Arts and Humanities, University of Southampton, UK
[3] Institute for Coastal and Marine Research, Department of Development Studies, Nelson Mandela University, South Africa

Correspondence: Giulia Champion (g.champion.1@warwick.ac.uk)

Abstract

There is an increasing call for the need to "integrate" Indigenous and local knowledge systems in ocean governance processes, on national and global scales. However, the knowledge systems, epistemes, and practices of different Indigenous and local coastal communities, whose stewardship of the planet sustains and protects marine ecosystems, pre-date the institutionalised ocean sciences and governance with which they are meant to be integrated. The concept of integration often perpetuates othering and devaluation of various ocean knowledges that should not be subject to these problematic practices. Much of the current knowledge informing ocean governance is underpinned by colonial, military, and financial projects, in direct juxtaposition to epistemes and practices that are deeply interconnected with marine life. Writing from a marine social sciences perspective, we explore the inherent problems and limitations of integration approaches and propose reversing how we frame "knowledge" and its othering by suggesting that our scientific and governance practices are, in fact, "other" to longstanding ways of coexisting with the ocean. Without attempting to represent Indigenous knowledge systems or categorise these as unaware of scientific developments, we argue that researchers and scientists need to actively unlearn what is taught in prominent ocean sciences. By focusing on global governance through the International Seabed Authority and national ocean governance in South Africa, respectively, we explore knowledge othering and the process of unlearning what ocean governance teaches as knowledge integration to better critically consider how the ocean is, has been, and should be valued.

Keywords

knowledge integration processes; ocean knowledges; ocean governance; othering; recognitional justice; unlearning

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1. Introduction

There is an increasing call for the need to integrate Indigenous and local knowledge systems in ocean governance processes on local, national, and global scales. In this article, ocean governance refers to decision-making processes regarding a specific marine area and it can be understood as various approaches to "sustainably" managing the ocean. Recently, there have been calls for *transformative* ocean governance, which can be understood as more integrative and inclusive ocean decision-making processes (Erinosho et al., 2022). There is a growing recognition that we cannot solve the complex sustainability challenges facing our environment, including our ocean, without considering multiple ocean knowledges, particularly recognising Indigenous knowledge systems and traditional ecological knowledge (Chilisa, 2017; Mulalap et al., 2020; Vierros et al., 2020). However, how this knowledge integration should take place and what it should look like is continuously discussed and contested (Strand et al., 2022; Zeigermann, 2021), and several critiques of knowledge integration practices suggest that they do not adequately consider existing power asymmetries and knowledge hierarchies (Chilisa, 2017; Niner et al., 2024; Reid et al., 2020; Stein et al., 2024), therefore entrenching or upholding these unequal power relations (Bohensky & Maru, 2011; Nadasdy, 2007). In this article, we purposefully refer to the plural "knowledges" to unlearn the structural and western understanding of single knowledge and challenge the western hegemonic understanding of knowledge production.

To integrate (n.d.) is defined by the Cambridge Dictionary as follows: "to mix with and join society or a group of people, often changing to suit their way of life, habits, and customs" or "to combine two or more things in order to become more effective." As emphasised by Bohensky and Maru (2011, p. 1), knowledge integration can be understood as "incorporating new information into a body of existing knowledge," which begs the questions: "Whose knowledge is 'new,' whose is 'existing,' and who decides? Current integration efforts for ocean governance often consider the combination of various sciences (such as natural and social), or the combination of marine sciences and Indigenous knowledge systems. As emphasised by Godemann (2008), knowledge integration involves the process of drawing together diverse knowledge bases and disciplines to address complex problems or develop comprehensive solutions. The idea is that being open to a greater ecology of knowledges does not require a discrediting of scientific knowledge or western ideas of rationality (Mazzocchi, 2018) and that there are similarities between Indigenous knowledge systems and marine sciences in the way they speak about overlapping environmental, social, and intellectual spaces.

Critiques of knowledge integration, however, emphasise that Indigenous knowledge systems are not products that can be packaged to "fit" the status quo, that they can be misused and misappropriated and that the term knowledge integration is often used tokenistically to argue that Indigenous peoples have been considered as a part of ocean governance processes (Chilisa, 2017; Latulippe & Klenk, 2020; Reid et al., 2020). Nadasdy (1999, p. 1), emphasises that one of the problems with the idea of integration is the "implicit assumption that the cultural beliefs and practices referred to as 'traditional knowledge' conform to western conceptions about 'knowledge.'" Indigenous scholars and scientists have also pointed out that climate change and ecological challenges are rooted in "colonial patterns of relationship" and the ways in which the universalisation of western ways of being and knowing have been imposed (Stein et al., 2024, p. 2; see Davis & Todd, 2017; Hernandez et al., 2022). Throughout this article we use "western" to refer to the spaces created within what Shahidul Alam coined in the early 1990s as "Minority World": "'The Minority World' is a shorthand term for those people, wherever in the world they are, who fall into the top percentage of indicators for income and other indicators of wealth and wellbeing" (Oppong & Dombroski, 2024, p. 116).

We aim to mostly use Majority and Minority Worlds throughout, but at times might keep western (with a lowercase) when suggesting that a construct is part of an antiquated understanding of the word. We find the expression Majority and Minority Worlds more apt as it does not divide the globe by hemispheres, or development indicators, which designate parts of the world through a metric that reduces people and communities to only numbers and data, though any division of the world always has limitations:

> In short, "Majority World" refers to the majority of people in the world, who live in previously colonised, lower and middle-income nations, but who do not have access to the elite lifestyles of the richest people in their home countries, or elsewhere in this globalised world. "Minority World" refers to the minority of people in this world, including those who live in high-income countries and also those who have access to elite consumerist lifestyles from anywhere in the world. (Oppong & Dombroski, 2024, p. 115)

There is a need to better consider and address who holds power in knowledge integration efforts, as well as the context in which knowledge integration is being considered. In fact, the process of integrating various ocean knowledges, such as Indigenous knowledge systems, into top-down, didactic, positivistic knowledge hierarchies can perpetuate epistemic and recognitional violence, and uphold processes of othering. Othering refers to creating or perpetuating a conceptual difference between us and them (Said, 1978). It is the subsequent distancing or distinction between an "in-group" and "others," which has been used to subjugate countries, cultures, populations, and knowledge systems (Spivak, 1985). "Others" are characterised by their difference (often expressed through opposite or conflicting binaries). In the context of colonialism and coloniality, such as through development aid discourses from the Minority World to the Majority World, for example, othering has been expressed through binaries where the latter "have been defined by notions of their 'Southern' uncivilised, backward, cultural and/or traditional nature, in comparison with Western and Northern societies' civilised, progressive, scientific and modern nature" (Strand, 2022, p. 366).

By not recognising that it may be western academic marine sciences that are "the other" (Spivak, 1985), and continuing to highlight Indigenous and local knowledge systems as "other ways of knowing," we are upholding "unequal power relations between Western and non-Western knowledge" (Chilisa, 2017, p. 815), and reinforcing colonial structures and legacies. Without adequately considering and deconstructing the ways in which western, Eurocentric knowledge has suppressed (and continues to suppress) Majority World's knowledge, we are inadvertently supporting knowledge hierarchies in which certain ways of knowing are seen as more valuable, credible, and legitimate than "others." In this view, knowledge integration efforts can perpetuate othering of various ocean knowledges by supporting existing Eurocentrism and academic imperialism by inadvertently proposing "assimilation" (Reid et al., 2020). Academic imperialism is defined by Chilisa (2017, p. 814) as "a practice where conceptual and theoretical frameworks, research questions, research designs, and research techniques that stem from the developed world continue to promote the European/western thought systems and build deficit theories that perpetuate distortions of African experiences."

Although it is not new to point out the dangers of knowledge integration, we continue to see this practice being perpetuated in ocean governance processes without adequate scrutiny and attention to how this can reinforce coloniality and othering. This is also the case for governance overall, given that global, and most local, systems are grounded in what Adébísí (2022, p. 25) calls "Euro-modern law," which:

> Was and is necessary for the continuation of colonial legacies…through its role in naturalising the orders of power already laid down…yet, this world it makes is also characterised by the reproduction of extreme, manufactured inequality and the acceleration of ecological disaster.

This is the case for ocean governance as well; indeed, 20 years ago, Mansfield (2004, p. 313) argued that neoliberalism was becoming the "dominant mode of ocean governance" through its focus on marketisation and privatisation, and Winder and Le Heron (2017, p. 4) emphasise that the blue economy can be recognised as a "neoliberal governance regime." Instead of seeing the ocean as part of our social-ecological system, it has become characterised as something to be "managed, allocated and developed as property, and governed through market mechanisms" (Winder & Le Heron, 2017, p. 4).

For this reason, this article explores problems with knowledge integration in the context of marine spatial planning (MSP) in South Africa and the International Seabed Authority negotiations for a regulatory framework for deep-sea mining (DSM). We propose reversing how we frame "knowledge" and its othering by suggesting that our scientific practices are "other" to longstanding ways of coexisting with the ocean. Indeed, as some have argued, ocean sciences are deeply entangled with colonial, mercantile, and military projects, and they are often funded through the corporate world (see Dutt, 2020; Elias, 2019; Hardy & Rozwadowski, 2020; Oreskes, 2021). Moreover, we cannot claim to resist othering and knowledge hierarchies without considering and reflecting on our own positionalities and biases. Writing from a marine social sciences perspective, identifying as two women trained in largely western institutions and now residing in the UK and South Africa, we recognise the limitations of our White European positionalities in what we can and should argue, and even how our positionality statement can perpetuate manifestations of coloniality (Gani & Khan, 2024). From our own experiences as researchers, scholars, and ocean enthusiasts, continuously benefiting from coloniality, but seeking equity and anti-coloniality through our work, we have both experienced a recurring encounter with knowledge depreciation, devaluation, and othering of "non-academic" knowledge systems that should be represented, respected, and recognised equitably in ocean governance processes. Departing from these motivations and positionalities, we therefore explore the inherent problems and limitations of integration approaches and discuss opportunities for advancing pluriversality and recognitional justice. Without attempting to represent or speak for Indigenous peoples or Indigenous knowledge systems, we argue that we as western-trained scholars need to actively unlearn what is taught in prominent ocean sciences. By focusing on two examples of ocean governance processes with which we are personally and professionally familiar—namely, the International Seabed Authority and MSP in South Africa—we consider examples of knowledge othering and explore practices of unlearning knowledge integration processes in ocean governance to better critically consider how the ocean is, has been, and should be valued.

2. Theoretical Framework

2.1. Othering of Ocean Knowledges

Othering is a process of conceptualising an in-group, emphasising that "others" are not included because they are characterised by their supposed difference (often culturally constructed), often highlighted through dimensions such as space and knowledge (Spivak, 1994; Strand, 2022). Othering through space refers to the representation of an "other" that is far away, distanced, and different from the supposedly progressive, enlightened, and modern west (Said, 1978). At the core of this theory is the conceptualisation that you cannot

identify yourself without characterising the other (Feierman, 1993), and this othering often takes shape in collective notions identifying Europeans as "us" against non-Europeans as "others" from different geographies and cultures. This othering can be argued to extend to the invention of the "Third World" (Escobar, 2012), which conceptualised it as something that needed outside intervention from the thriving and developed "First World" during imperialism and colonialism.

There is also a process of othering through knowledge hegemonies and hierarchies. As emphasised by Foucault (1980), there has been a claim of a "unitary body of theory" which omits, devalues, and disqualifies knowledges that do not fall within its metrics or frames. This othering through knowledge valuation is often termed "Eurocentrism" and is the thought that knowledge produced in Europe is the only source of universality and truth (Grosfoguel, 2009; Strand, 2022). Knowledges not framed within a Minority World point of view are deemed illegitimate and have through history been buried, disguised and discredited, and silenced (Chilisa, 2017; Ndlovu-Gatsheni, 2019). Chilisa (2017, p. 813) emphasises that in sustainability science, Indigenous knowledge "is sometimes relegated to 'junk status' through narratives of 'backward,' 'irrelevant,' superstitious, and inferior knowledge which is 'less' than Western Science and harmful to the environment." Trends in knowledge hierarchies can also be seen in marine sciences today, through statistics on the lack of representation of top publishing scholars in climate change and ecology from the Majority World, and an even more striking underrepresentation of women of colour (Maas et al., 2021; Schipper et al., 2021). Lobo and Parsons (2023, p. 128) emphasise that sustainable development goals, climate change agreements, and laws of the sea have attempted to transform "dystopic planetary futures through openness to Indigenous and local knowledges" without recognising that "Indigenous, Black, Brown, and southern intellectual traditions of belonging and responsibility in settler colonial, postcolonial, and post-apartheid societies have always existed alongside White, western Euro-American ontologies of the ocean." There is also the continued phenomenon of helicopter and parachute science, where marine scientists (mainly from the Minority World) extract knowledge and data from contexts (mainly in the Majority World) without recognition of or benefit to the knowledge holders in the local communities themselves (Adame, 2021). Therefore, when ocean sciences claim to be objective, neutral, and universal, they are not when we consider whose voices, lived experiences, and situated knowledges are informing them and whose are not.

All dimensions of othering are interlinked, and they are often perpetuated through binaries and dichotomies that classify human beings according to "invented racial categories" (Said, 1978; Strand, 2022). Building on the argument made by Chilisa (2017), knowledge hierarchies are often played out through dichotomies such as "relevant" vs. "irrelevant," "subjective" vs. "neutral," "backward" vs. "progressive," and "superstitious" vs. "science-based." In marine sciences today, we find there is often a juxtaposition between "science" and "Indigenous knowledge systems" or "traditional knowledge." This is emphasised through the increasing push to integrate Indigenous and local knowledge systems in marine sciences, thus assuming they are inherently different—and that one enjoys a higher status than the "other." Shizha (2010, p. 115) argues that the academic system has been "created as the epicentre of colonial hegemony." Instead of calling for the reinvention or deconstruction of hierarchical, colonial, and Eurocentric research methodologies and research approaches, knowledge integration tends to perpetuate and reinforce existing epistemologies and worldviews rooted in western and Minority World knowledge hierarchies and othering. This means that integration efforts may not be enough, and Wilson (2008, p. 41) argues the need for an Indigenous paradigm, stating that:

We have tried to adapt dominant systems research tools by including our perspectives into their views. We have tried to include our cultures, traditional protocols and practices into the research process through adopting suitable methods. The problem with that is that we can never really remove the tools from their underlying beliefs.

2.2. Integration as Recognitional Injustice

Integration is often framed as a positive concept in ocean sciences and governance, a process that can bring together various ways of knowing the ocean and various sectors and stakeholders with an interest in ocean governance (Winther et al., 2020). Since the late 1990s, integrated ocean management has been celebrated as the ultimate approach to ocean governance, as the limitations of sector-based approaches became evident (Cicin-Sain & Knecht, 1998). However, in recent years, the need to pursue social-ecological systems approaches, that see humans and nature as intrinsically linked, has to some extent replaced the dominance of integrated ocean management, although perhaps more in theory than in practice. Concerning ocean sciences, the push for knowledge integration has received similar attention since the 1990s, particularly the need to integrate natural and social sciences, marine sciences, and Indigenous knowledge systems.

Although we do not dismiss that knowledge integration is important for holistic approaches to ocean governance, we argue that there is a need to adequately deconstruct and address existing power structures and dynamics that impact what role, sovereignty, and legitimacy specific knowledges and knowledge systems enjoy in these processes (Chilisa, 2017; Wilson, 2008). Continuing with knowledge integration for ocean governance in the status quo, we ascertain, can perpetuate or lead to recognitional injustice, particularly when these processes are often, like climate policies, "designed with the intention of trying to 'incorporate' limited elements of Indigenous thinking into an established non-Indigenous framework" (Deranger et al., 2022, p. 52).

Recognitional ocean justice refers to the equitable acknowledgement and realisation of people's rights, of people's values, livelihoods, knowledges, lived experiences, narratives, and worldviews (Bennett et al., 2021; Lau et al., 2021). It refers to identifying and questioning whose interests, worldviews, and identities are currently valued, respected, and legitimised (Lau et al., 2021), and pursuing recognitional equity by prioritising the rights, interests, and identities of people that have historically been devalued, disrespected, and delegitimised through ocean governance processes (Strand, 2023). Recognitional justice is different from the politics of recognition, which in some instances, similarly to positionality statements, have been found to reproduce colonial power structures by assuming or reinforcing the superiority vs. inferiority binary (Coulthard, 2014). Rather, recognitional justice involves cognitive justice, as adapted from Amadiume (1997) and Bhargava (2013), which can be understood as occurring when people are governed and understood by how they self-identify and self-categorise the world around them. To reach recognitional and cognitive justice, we therefore need to elevate ocean knowledges that have been, and continues to be, silenced, excluded, and devalued (Strand, 2023).

Currently, ocean governance processes such as MSP, marine protected areas, and conceptualisations and applications of the "blue economy" can lead to recognitional injustice by denying the rights and livelihoods of Indigenous peoples and local communities across the globe (Bennett et al., 2021; Lobo & Parsons, 2023; Mulalap et al., 2020; Okafor-Yarwood et al., 2020; Sowman & Sunde, 2018; Vierros et al., 2020;). There are

varying examples of local coastal communities experiencing ocean grabbing, bereavement of customary fishing opportunities, and disregard for the values that they attach to ocean spaces (Mulalap et al., 2020; Vierros et al., 2020). Chilisa (2017, pp. 814–815) points out that "the unequal power relations between European/Western knowledge and other knowledge systems poses a threat to meaningful integration." The aspect of knowledge integration can therefore lead to recognitional injustice, which is already emphasised by Lau et al. (2021, p. 2) stating that the "pursuit of benefit sharing in conservation projects in developing countries (i.e., distributional justice) often requires groups to assimilate dominant discourses related to human–nature relationships, leading to recognitional injustice."

In this article, we argue that the continued push for knowledge integration in both legal frameworks and ocean governance processes, such as the MSP and within the International Seabed Authority's work, are in danger of perpetuating recognitional and cognitive injustice by failing to deconstruct existing coloniality of knowledge and knowledge hierarchies (see Niner et al., 2024). As White/European scholars, we reflect on our complicity in these processes, and we discuss how centring, unlearning, and advancing pluriversality can assist in deconstructing existing othering processes of ocean knowledges in ocean governance.

2.3. Advancing Pluriversality Through Unlearning

Unlearning can be understood as learning to unlearn, which is conceptualised by Tlostanova and Mignolo (2012, p. 7) as "to forget what we have been taught, to break free from the thinking programs imposed on us by education, culture, and social environment, always marked by the Western imperial reason." Closely linked to this are the ideas of "unthinking" and "rethinking thinking," which can be understood as radically revising and sometimes even discarding many of the presumptions that remain the foundation of dominant perspectives today (Ndlovu-Gatsheni, 2019). In the context of ocean governance, unlearning what we know is the process of continuously questioning and critically examining whose values, norms, knowledges, interests, and onto-epistemologies are informing dominant ocean decision-making, science, and research (Lau et al., 2021, p. 2; Moon et al., 2021), instead of taking ocean governance processes and theories for granted. Circling back to the concept of "knowledge integration" for ocean governance, we could even reverse how we frame "knowledge" and its othering by suggesting that our own scientific practices are, in reality, "other" to longstanding ways of coexisting with the ocean.

This is particularly important in the context of environmental management and ocean governance, as we need to undo the human–nature divide that continues to promote the belief humans are superior to nature and that we should, therefore, control and exploit it. For instance, Ferdinand (2019, p. 30) argues that thinking ecologically from the Caribbean means undertaking an epistemic shift in the scene of knowledge and discourse production. This argument can also be found in Gumbs' (2020, p. 9) call for "undoing a definition of the human, which is so tangled in separation and domination that it is consistently making our lives incompatible with the planet."

One aspect of pursuing this unlearning is critically deconstructing existing methodological hegemonies in the marine and sustainability sciences. As argued by Chilisa (2017, p. 814), "there is a need to reclaim space for Indigenous epistemologies and methodologies in the global knowledge system." We argue that one way of approaching this, from our positionalities as European-born, White, marine social scientists, is to actively attempt to unlearn and deconstruct colonial knowledge hierarchies, unmask our implications in these knowledge hierarchies through processes such as knowledge integration, and posit our own knowledge

systems as "other" to Indigenous knowledge systems that have been co-living with the ocean for centuries, without essentialising or romanticising them. Indeed, we are not suggesting that all individuals must undertake this work independently, but rather we are doing this here in the hope to begin conversations about how unlearning could become a systemic practice at broader levels than simply the individual one. We do not expect that our approach here is necessarily the "right" one, but we see it as forming part of a wider engagement with this type of work. We need to reveal, deconstruct, and unlearn methodological hegemonies, which have a "tendency to perpetuate the dominance of one race over the 'other' by building a collection of theories, concepts, methods, techniques, and rules designed to promote only the knowledge that promoted and profited Eurocentrism" (Chilisa, 2017, p. 814, 2020).

To initiate this unlearning, we suggest the following actions; (a) Critically consider suggestions for knowledge integration in ocean governance processes, actively questioning and addressing what "knowledge" is being integrated into what "knowledge-framework," and whether this is possible without reinforcing coloniality of knowledge and recognitional injustice; and (b) To the extent possible, continuously unveil existing structural processes that uphold and perpetuate knowledge othering, such as the push for one-size-fits-all or nation-wide ocean governance processes that are not adapted to context, are tokenistic or lack representation of various knowledge systems in ocean governance processes, or pay inadequate attention to existing power asymmetries between knowledge systems. This work includes making visible "racial injustice, climate colonialism, capitalist extractivism, and multispecies extinction with material consequences" (Lobo & Parsons, 2023, p. 130) present in current ocean governance processes and regimes.

Ideally, we do not need to frame any knowledge as "other," and we should rather promote equal, or equitable, knowledge valuation. This could be advanced by embracing pluriversality, which is the dismissal of universal or objective knowledge, and the celebration of the diversity of ways of knowing and understanding the world. It can be understood as a process of "deconstructing the myth of universality" (Gwaravanda & Ndofirepi, 2021, p. 57), by recognising that all knowledges are underpinned by different cultures that are neither universal nor hegemonic (Mignolo, 2000). Pluriversality is often traced to the Zapatista movement in Mexico, calling for "a world in which many worlds would coexist" (Mignolo, 2018, p. IX), and to better advance ocean pluriversality we suggest that we, as marine researchers, should be guided by a "desire to produce waves of more diverse citational politics that privilege Indigenous, Black, Brown, and Southern-led ontologies of the ocean" (Lobo & Parsons, 2023, p. 130). We should be scrutinising our own citation biases and practices, and rather actively citing and elevating formerly and currently silenced voices and narratives in our ocean governance research, engagements, and recommendations.

3. Case Studies

3.1. Integrating Knowledge in South Africa's MSP Process

MSP refers to an approach to ocean governance and the ways in which a country or entity decides to plan, organise, and manage marine spaces. MSP approaches have often been celebrated for their role in promoting sustainable blue development by recognising and integrating multi-sectoral interests (Flannery et al., 2019), but a growing body of research criticises MSP for inadequately incorporating and recognising Indigenous and local knowledge systems, from planning to implementation (Kidd & Shaw, 2014; Okafor-Yarwood et al., 2020; Saunders et al., 2020).

In the South African context, the government is currently in the process of implementing an MSP framework that aims to recognise social, economic, as well as ecological needs and priorities, and integrate various knowledge systems to achieve a "sustainable blue economy" (Department of Environmental Affairs, 2017). MSP was initiated in 2014 with the launch of Operation Phakisa (*phakisa* meaning "hurry up" in Sesotho), with a focus on "unlocking" the economic potential of the ocean. MSP was seen as a key component of this goal by providing an "integrated governance framework" (Dorrington et al., 2018). The MSP Act (Republic of South Africa, 2019) was signed into operation in April 2021, and it states that future marine area plans should consider "the community and cultural values," "shared economic, cultural, social and environmental values," and "the current and future needs and related priorities" (Republic of South Africa, 2019, pp. 8–10).

Despite this recognition of integrating various knowledge systems and accounting for community values into the MSP process, Indigenous knowledge holders continue to express that they have been excluded from ocean decision-making in the country (Rivers et al., 2023; Strand et al., 2022). Both the MSP process and other area-based ocean management approaches have, instead, been characterised by top-down decision-making and tick-box stakeholder engagement, without meaningfully engaging with Indigenous peoples and local communities to include their priorities, knowledge systems, and ocean connections (Rivers et al., 2023; Sowman & Sunde, 2018). It is important to note that the reference to Indigenous and local knowledge systems and knowledge holders in South Africa is to recognise that in many local contexts, such as in Algoa Bay, there has been "a blending or merging of cultural values, kinship and practices between Indigenous Khoi and San, the amaXhosa, amaZulu, and other ethnic groups of South Africa such as the Cape Malay, Indian, Dutch, Afrikaans and English communities", where the latter have been settling in the area since the early 1500s (Strand et al., 2022, p. 3).

As a researcher that has personally been part of the calling for better knowledge integration in the MSP process (Rivers et al., 2023), I (Mia Strand) am now reflecting on my implication in inadequately considering aspects of knowledge othering, representative injustice, and pluriversality in these processes.

Firstly, we, therefore, question the overarching oceans economy approach to MSP in South Africa, and how the proposed work of "integrating" various knowledge systems into this paradigm may be perpetuating recognitional injustice and reinforcing othering of knowledge systems that embrace a greater, interdependent systems approach to coexisting with the ocean. For example, the ahistorical characterisation of blue economic opportunities underlying the MSP process naturalises the difference between people benefitting and people not benefitting from ocean governance processes. As pointed out by Erwin et al. (2022, p. 384): "In the blind rush for the dream of GDP growth, policy and governance frameworks may exacerbate historic and contemporary socio-economic exclusions. In South Africa capitalist and environmental conservation endeavours can, and have, caused harm for already marginalised people."

By inadequately acknowledging, and addressing, colonial and apartheid legacies on the current ways in which people disproportionately enjoy benefits from and inclusion in the ocean's economy (Clark & Cisneros-Montemayor, 2024), particularly in a South African context (Erwin et al., 2022; Sowman & Sunde, 2018; Strand et al., 2022), we justify and legitimise these inequitable governance processes by arguing that we should "integrate" Indigenous knowledge systems into MSP instead of re-imagining or co-creating new South African ocean paradigms altogether. In the context of Indigenous histories and knowledges, Bam and Muthien (2021, p. 4) argue that the task of attaining cognitive and restorative justice in South Africa includes

"to know the truth of over 300 years of colonial oppression, enslavement, land dispossession, economic exploitation, violence and consequent losses over deep time." Without recognising these truths and historical impacts on what is now portrayed as integrated ocean governance, will the project of "integrating" Indigenous knowledge systems not become extractive instead of inclusive?

Secondly, we attempt to unveil the structural exclusion of ocean knowledges being reinforced through the current MSP process. Instead of seeing MSP as the problem, we can, through greater scrutiny of the underlying processes underpinning MSP, rather emphasise that this approach to ocean governance is a vehicle through which this knowledge othering is perpetuated. The continued exclusion of Indigenous and local knowledge systems in the MSP process also contributes to the silencing and discrediting of lived experiences and knowledge systems alongside the perpetuation of Minority World hegemony. By failing to ensure that Indigenous knowledge systems are directly informing what ocean governance processes look like, how we are defining "sustainable blue development," or why we are prioritising marine protected areas for ocean conservation, MSP processes are effectively devaluing South African knowledges, traditions, and cultures through their "integrated" ocean governance processes (Strand et al., 2022). This is particularly true when Indigenous knowledge systems are portrayed as something that can be extracted from its particular context without considering how these knowledge systems can only enjoy equitable representation through meaningful involvement of Indigenous knowledge holders. The journey towards recognitional and cognitive justice therefore needs to actively recognise and elevate people, ocean knowledges and ocean cultures that have not as yet been part of developing the current MSP narrative.

3.2. The Mining Code of the International Seabed Authority

Moving to a global context, here we think about the International Seabed Authority's creation of a regulatory framework to mine polymetallic nodules in the Clarion-Clipperton Zone. This framework, also called "the mining code" (shorthand used hereafter), organises and codifies how the activity of DSM will take place. The negotiations for this framework take place during the council meetings of the Authority, which happen between 2 to 3 times a year in its headquarters in Kingston, Jamaica. Only countries who are signatories to the UNCLOS have decision-making powers in these negotiations, though other countries, such as the US, and many inter- or non-governmental organisations are allowed to make interventions as "observers" (see International Seabed Authority, n.d.-a, n.d.-b, for more details about signatory nations and observers). Because the Authority is negotiating the mining code, mining cannot yet take place at an industrial scale and companies, sponsored by countries, can only apply for exploration licences. Currently, 32 countries have declared their support for either a precautionary pause, a moratorium, or a ban on DSM; this means that they believe that the process should either be slowed down, for science to provide more evidence on the environmental impact of DSM, or that they are opposing DSM in different forms (see Deep Sea Conservation Coalition, n.d.). The International Seabed Authority as a body, and the negotiation process, are very complex and technical, which means that countries, NGOs, and different actors involved need to bear in mind many issues that cannot be detailed exhaustively in the scope of this article (see Morgera, 2024, for more on the Authority workings and Indigenous communities' participation).

Here, we explore only one regulatory clause within the draft under negotiation at the Authority. We suggest that the legal language used in the mining code, itself building on UNCLOS, is embedded and underpinned by colonial and imperial histories and practices and thus does not permit any space for Indigenous knowledge

systems to be integrated into international governance. UNCLOS is a legal text that objectifies the ocean and codifies how we may extract and exploit it, and though it may require signatories to have some form of responsibility, many of these articles are ambiguous at best (Armstrong, 2022; Ranganathan, 2019).

Here the focus is on how "in/tangible" underwater cultural heritage is being mentioned and articulated within the mining code. This formulation has specific genealogies that need to be unpacked, and which themselves are grounded in western understandings of heritage and tangibility. Indeed, legally it is grounded in both the UNESCO 2001 Convention on the Protection of the Underwater Cultural Heritage and the UNESCO basic texts of the 2003 Convention for the Safeguarding of the Intangible Cultural Heritage (see Forrest, 2002; Khakzad, 2014; Perez-Alvaro, 2023). Indeed, the 2001 Convention does not include the terms "tangible" or "intangible," but the terminology "in/tangible" underwater cultural heritage is being used in International Seabed Authority negotiations. This is in part because under UNCLOS article 149 there is an obligation to protect archaeological and historical objects, and, because one of the Authority intersessional working groups was tasked in March 2023 to consider whether, and how, "in/tangible" underwater cultural heritage could be integrated within the mining code. Intersessional working groups meet remotely between Council and Assembly Meeting sessions, and this particular group is led by Clement Yow Mulalap, adviser to the Permanent Mission to the UN for the Federated States of Micronesia. Since the group first met, they have debated what "in/tangible" underwater cultural heritage might mean (International Seabed Authority, 2023) and whether it is indeed the burden of the mining code and the obligation of the Authority to protect it in the first place, given that the International Seabed Authority mandate is on mining, as the first article of UNCLOS reminds us (UNCLOS Article 1(1)). This has resulted in a rephrasing of "in/tangible" underwater cultural heritage into "human remains of an archaeological or historical nature, or any object or site of a similar nature" (International Seabed Authority, 2024). A formulation grounded in UNCLOS Article 149, as the term "heritage" in UNCLOS only appears as part of "common heritage of mankind", which has different meaning than the UNESCO's definition of cultural heritage. Though regulation 35.2 has kept a mention of "in/tangible" underwater cultural heritage as per the UNESCO definition.

On the one hand, the term "intangible" is problematic because it considers, from a Minority World perspective, certain elements of heritage as immaterial. Indeed, the term intangible automatically makes this heritage invisible and absent, and the Indigenous communities' representatives have raised this issue. On the other hand, this term has allowed for widening the scope of the mining code as its ambiguity and lack of clear legal definition permitted the knowledge and practices of Indigenous communities' representatives to be embedded within the mining code. Another set of issues, however, is the attempt to restrict the formulation of "in/tangible" underwater cultural heritage to refer only to material and tangible objects and sites. This limits ways to protect what pertains to Indigenous knowledge systems and practices and may be perceived as "intangible" from a Minority World perspective. Additionally, the deletion of the term "culture" further suggests that specific institutions—history and archaeology—have the tools to designate what is to be saved. It is worth noting that the term "culture" itself, stemming from a Minority World perspective, can be seen as problematic too given that culture is very much a construct that through binary thinking and othering has often been opposed to "nature" and communities who have been deemed uncultured or uncivilised. Moreover, these two disciplines, history and archaeology, and their frameworks have specific colonial entanglements (Satia, 2020) that underpin them today and this begs the question about the bias their practices may have in deciding what is an "object" and a "site," and whether we deem them "significant." To exclude different Indigenous communities' understandings of "culture" (whether tangible or intangible)

leads to recognitional injustice. As Solomon Kahoʻohalahala (26 July 2023), from the Maunalei Ahupuaʻa/Maui Nui Makai Network in Hawaiʻi has noted repeatedly, when taking the floor at International Seabed Authority Assembly and Council meeting sessions and intersessional working group meetings, there are problems in deleting the term intangible from the mining code, which would erase an albeit imperfect signifier holding a place in a regulatory framework for Pacific cultures:

> I challenge the perception that culture can only be tangible artefacts. As seafaring people, we have travelled across the vast Pacific, the largest ocean on earth. Our observations are intimate experiences and knowledge collected and committed to memory over generations…we are the culture of the people of the deep sea and our culture is intangible. The ocean is everything to us. It's what we connect to and depend upon for our sustenance and our survivability.

Given the complicity of UNCLOS language with territorialisation and the spatial ordering of the ocean for exploitation, sustainable or otherwise, can this same language be the one through which we steward and protect the ocean in an integrated manner, one that includes "other" epistemes and formulations othered by Minority World understandings? What happens if we integrate Indigenous knowledge systems within a colonial framework that needs to be rewritten in the first place (see Ranganathan, 2019, 2023)? More work needs to be done to address these questions, but a short answer is that in order to achieve recognitional justice, integration is insufficient, and it instead undermines the whole process. What is needed is a rethinking of international governance given that, as Anghie (2004, p. 3) notes:

> Colonialism was central to the constitution of international law in that many of the basic doctrines of international law…were forged out of the attempt to create a legal system that could account for relations between the European and the non-European worlds in the colonial confrontation.

4. Conclusion

In this article, we have reiterated existing critiques of knowledge integration and posited these in the context of ocean governance processes. We have argued that, in some instances, we need to unlearn knowledge "integration" as otherwise this can lead to the othering of various ocean knowledges and perpetuate inequitable knowledge hierarchies. An important place to start is to interrogate who holds power in knowledge integration processes, and what knowledge or information is sought to be integrated and why. By discussing existing theories of othering, we consider how knowledge integration processes are in danger of perpetuating this practice. Instead of calling for the deconstruction and reinvention of hierarchical and colonial research methodologies and research approaches, knowledge integration tends to perpetuate and reinforce existing epistemologies and worldviews rooted in the Minority World. We, therefore, argue that knowledge integration in ocean governance is at risk of resulting in recognitional injustice, understood here as the unequal and inequitable realisation of people's rights, values, knowledge systems, worldviews, and lived experiences.

By centring processes of unlearning, understood as breaking free of what we may have been taught in our western academies and radically revising presumptions which underpin existing ocean governance processes (such as extractivist and blue economy paradigms), we have an opportunity to unmask and identify existing othering processes. For example, we suggest that we, as marine researchers, should critically consider

whether knowledge integration efforts are possible without reinforcing coloniality and making visible existing injustices in ocean governance processes, such as the continued exclusion of Indigenous peoples and Indigenous knowledge systems in ocean policies.

We have considered two ocean governance processes with which the authors have personal and professional experiences, namely the MSP process in South Africa and the mining code of the International Seabed Authority, and we have reflected on how we may be complicit in problematic knowledge integration processes. One of the key lessons emerging from reflections on both case studies is that irrespective of scale, the lack of meaningful representation of various knowledge holders in these processes is a significant barrier to recognitional justice and therefore to knowledge integration processes that do not perpetuate othering.

This article may have raised more questions than it has provided answers in its engagement with knowledge integration in ocean sciences and governance. It has partly unpacked the colonial, imperial, and othering underpinning both contexts, but also demonstrates how these pervade moves for integration, given that these instruments are grounded in Eurocentric and western scientific and legal frameworks. These need to be unlearned and decolonised in the first place if any meaningful integration is to take place and to avoid tokenistic subsumption of Indigenous knowledge systems and practices in ocean governance processes.

Conflict of Interests
The authors declare no conflict of interests.

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About the Authors

Giulia Champion is a research fellow (Anniversary Fellowship) at the University of Southampton. Her project investigates different communities' engagement with and representations of the seabed through culture, science, finance, and governance with a focus on the International Seabed Authority's creation of a regulatory framework for the deep-sea mining of polymetallic nodules. In 2022, she was a green transition fellow at the Greenhouse at the University of Stavanger.

Mia Strand is a Nippon Foundation Ocean Nexus postdoctoral research fellow at the Institute for Coastal and Marine Research at Nelson Mandela University. Her research centres around socio-cultural and equity dimensions of ocean governance, and she is particularly interested in arts-based participatory research methods to elevate and recognise excluded and silenced voices and narratives in ocean decision-making in South Africa.