

Ocean Floor Grab: International Law and the Making of an Extractive Imaginary

Surabhi Ranganathan*

Abstract

In this article, I argue for a critical recognition of the law of the sea, as it developed from the post-War period, as fostering a 'grab' of the ocean floor, via national jurisdiction and international administration. I discuss why we should view what might be discussed otherwise as an 'enclosure' or 'incorporation' of the ocean floor within the state system at its grab. I then trace the grounds on which the ocean was brought within national and international regimes: the ocean floor's geography and economic value. Both were asserted as givens, that is, as purely factual, but they were, in fact, reified through law. The article thus calls attention to the law's constitutive effects. I examine the making of this law, showing that law-making by governments was influenced by acts of representation and narrative-creation by many non-state actors. It was informed by both economic and non-economic influences, including political solidarity and suspicion, and parochial as well as cosmopolitan urges. Moreover, the law did not develop gradually or consistently. In exploring its development, I bring into focus the role played by one influential group of actors—international lawyers themselves.

I. Introduction

In recent years, newspapers have carried stories about the 'Ocean Spiral' project of the Shimizu Corporation of Japan.¹ The project, undertaken in cooperation with the Japan Agency for Marine-Earth Science and Technology, aims to build a mini-city inside an ocean-floating sphere connected to the seabed via a long spiral stem.² With a hoped-for completion date of 2030, the sphere will house 5000 residents. It will bob 'like a spaceship' just beneath the sea's surface, protected from 'typhoons or earthquakes'. It will have a sea-facing 'Casual Zone'; a central 'Business Zone'; and residences, research laboratories, and retail and convention facilities. The spiral stem, dotted with smaller monitoring stations, will provide a pathway for transporting people and resources, to and from the ocean floor. The base, planted three or four

* University Lecturer and Fellow of King's College, University of Cambridge. I am grateful to many friends and colleagues for their comments on this article.

¹ E.g. McCurry, 'Ocean Spiral: Japanese firm plans underwater city powered by seabed', *The Guardian*, 20 November 2014.

² Shimizu Corporation, 'A New Interface between Humankind and the Deep Sea' (undated), available at <https://www.shimz.co.jp/en/topics/dream/content01/pdf/oceanspiral.pdf>.

kilometres below the ocean surface, will serve as an ‘Earth Factory’ for storage and reuse of carbon dioxide, and cultivation of deep-sea resources, biological —‘branded seafood’—and mineral. The whole will be powered by the ocean’s thermal energy.

This seemingly fantastic proposal is but the latest in a line of architectural designs for human occupation of the sea. Many such emerged in the long 1960s: years in which decolonization-linked anxieties about overpopulation, resource-erosion and environmental degeneration on land, met a growing intimacy with the sea, as ‘a territory that could be scouted, explored, mapped, colonised and connected to the land and its economies.’³

This intimacy owed partly to the Cold War, with submarine deterrence forming a major component of the military strategies of both blocs. Military planning also catalysed the United States’ ‘Man-in-the-Sea’ program, which aimed to place human beings in the ocean depths for sustained periods of time to facilitate espionage and recovery of military hardware.⁴ Much like the International Space Station today, deep-submerged ‘SeaLabs’ were to provide the residential base from which ‘aquanauts’ could conduct their activities.

Commercial interests and techno-scientific progress also contributed to a view of the sea as something more than a navigational surface or fishing commons—as containing *places*, in fact, for fixed capital investment.⁵ This understanding speedily took root with respect to coastal fisheries and oil reserves of the continental shelf (i.e. the shallow seabed contiguous to the coast) in the post-War period. Improvements in technology made it possible to drill the continental shelf at increasing depths, farther from the coastline. By the early 1960s, mining for hard minerals—diamonds off the Namibian coast, tin off Thailand, zirconium off Australia, and gold off Alaska—followed.⁶

³ Kaji-o'grady and Raisbeck, ‘Prototype cities in the sea’, 10 *Journal of Architecture* (2005) 443, at 444-445. As to literature reflective of the anxieties of the time see for instance: G. Hardin (ed.), *Population, Evolution and Birth Control: A collage of controversial readings* (2nd ed., 1969); P.B. Ehrlich, *The Population Bomb* (1968); R. Carson, *Silent Spring* (1962); and especially Hardin, ‘The Tragedy of the Commons’, 162 *Science* (1968) 1243. For a broad overview of post-War and Cold War food, population and energy concerns see A. Bashford, *Global Population: History, Geopolitics, and Life on Earth* (2014) 267ff. On the links with decolonization, see also Ranganathan, ‘Global Commons’, 27 *European Journal of International Law* (2016) 693.

⁴ J.P. Craven, *The Silent War: The Cold War Battle beneath the Sea* (2001), at 143ff. Craven was the Chief Scientist of the US Navy’s Special Projects Office during the Cold War, responsible for the design of nuclear submarines and espionage technologies. A detailed account is also offered in B. Hellwarth, *Sealab: America’s Forgotten Quest to Live and Work on the Ocean Floor* (2012).

⁵ P. Steinberg, *The Social Construction of the Ocean* (2001), at 180ff.

⁶ W.J. Broad, *The Universe Below: Discovering the Secrets of the Deep Sea* (1997), at 255.

Moreover, the late 1950s, including the first ever ‘International Geophysical Year’, and 1960s, were a time of rapid advancement in knowledge about the deep ocean floor. Researchers at the Lamont Geological Observatory, New York (now the Lamont-Doherty Earth Observatory), produced the first physio-geographic maps of its topography.⁷ Others, from the Scripps Institution of Oceanography, California and the US Office of Naval Research, inaugurated an ambitious project to drill all the way through its crust to the Earth’s mantle, catalysing rapid development of deep-sea drilling capabilities.⁸ Not coincidentally, it was discovered that the deep seabed too contained major mineral reserves, in the form of polymetallic nodules containing manganese, copper, cobalt, nickel and iron.⁹ These metals were then in uncertain supply on land, both for political reasons, and due to their erosion. The mining industry began to germinate plans for their extraction on a commercial scale.¹⁰ Amidst the increasing fascination with the oceans, then, the seabed emerged as an area of importance.

Until the 1940s, the principle of the freedom of the seas had provided the underpinnings of the largely uncoded international law of the sea. While the ‘cannon-shot rule’ had gradually formalized into a rule permitting coastal states to exercise sovereign control over a stretch (usually 3M) of the waters and seabed adjacent to the coast, the rest had remained open for fishing and navigation.¹¹ But much broader national claims were made in the years after the Second World War. The two Truman Proclamations of 1945 were the critical event in this regard: one asserted US jurisdiction over resources of the continental shelf; the other established zones in which fisheries would be subject to US regulation.¹² Claims by other states followed; and a series of developments in the law culminating in the 1982 UN Convention on the Law of the Sea (LOSC),¹³ resulted in ‘forty percent or more of ocean space’ becoming

⁷ D. Lawrence, *Upheaval from the Abyss: Ocean Floor Mapping and the Earth Science Revolution* (2002), at 234ff.

⁸ K.J. Hsü, *Challenger at Sea: A Ship that Revolutionized Earth Science* (1992), at 11ff. Novelist John Steinbeck chronicled the conduct of ‘Project Mohole’ (as it was called) from on-board the drilling ship: ‘High Drama of Bold Thrust through the Ocean Floor’, *Life Magazine*, 14 April 1961, at 111.

⁹ The nodules had been first found decades before, by the famous Challenger Expedition of 1872-76, but forgotten, there being no practical possibility of their large-scale recovery at that time.

¹⁰ The International Nickel Company (INCO) was one of the first to engage in this endeavour: see Shaw, ‘Nodule Mining – Three Miles Deep!’, 11 *Marine Georesources and Geotechnology* (1993) 181. Shaw headed INCO’s nodule mining initiative.

¹¹ Crawford and Viles, ‘International Law on a Given Day’, in J. Crawford, *International Law as an Open system: Selected Essays* (2002) 69, at 75-76. As the authors point out, before World War II, all states agreed on the three-mile limit, but for some it represented a minimum claim.

¹² Proclamation 2668-Policy of the United States with respect to Coastal Fisheries in Certain Areas of the High Seas; and Proclamation 2667-Policy of the United States with respect to the Natural Resources of the Subsoil and Sea Bed of the Continental Shelf, 28 September 1945.

¹³ United Nations Convention on the Law of the Sea (1982) 1833 UNTS 3.

subject to assertions of national jurisdiction.¹⁴ The LOSC also limited access to some spaces beyond national jurisdiction: it placed the deep seabed under the exclusive administration of an International Seabed Authority (ISA), whose permission is essential for exploration and exploitation of that area's mineral resources.

Thus, within a span of half a century, the seabed passed from a space governed by the principle of freedom to one enclosed within national or international regimes. I trace that transition in this article, exploring the grounds on which this enclosure was achieved. These grounds included the ocean floor's geography and economic value. Both were asserted as givens, i.e. as purely factual, although they were, in fact, reified through law. The article thus calls attention to the law's constitutive effects, showing that it fostered an extractive imaginary of the ocean floor. I examine how this law was formed, showing that law-making by governments was influenced by acts of representation and narrative-creation by many non-state actors. Apart from economic interests, it was also fed by several non-economic influences: political solidarity and suspicion, parochial as well as cosmopolitan urges. Moreover, this law did not develop gradually or consistently. In exploring its development, I further seek to bring into focus the role played by one particularly influential group of actors—international lawyers themselves, practitioners as well as academics.

I do not claim to offer a comprehensive treatment of the above points; that would rightly entail a book-length analysis. I hope, however, to urge us toward a critical recognition of the law of the sea, as it developed from the post-War period, as fostering a grab of the ocean (floor), via national jurisdiction and international administration. And, simultaneously, I seek to contextualise this outcome, calling attention to the factors shaping the choices made.¹⁵ The driver of this article should be obvious: that increasing concerns about the health of the oceans—articulated for example at the UN Ocean Conference of 2017—tend to pinpoint international law as purely the source of *solutions* to these concerns, ignoring that it may have also contributed to the problem.¹⁶ The implication is that the very initiatives that call for new

¹⁴ Pardo, 'Before and After', 46 *Law and Contemporary Problems* (1983) 95, at 101. While forty per cent was Pardo's estimate, others, like Churchill and Lowe, cite a figure of 36 per cent: R. Churchill and A.V. Lowe, *The Law of the Sea* (3rd edn, 1999), at 162; this figure, based on the universal establishment of exclusive economic zones, assumes claims up to 200 miles only, and thus excludes claims over the extended continental shelf.

¹⁵ In which regard, see especially Marks, 'False Contingency' 62 *Current Legal Problems* (2009) 1.

¹⁶ See e.g. the Outcome Document of the UN Ocean Conference: 'Our Ocean, Our future: call for action', GA Res. 71/312, 6 July 2017. The Resolution provides: 'We affirm the need to enhance the conservation and sustainable use of oceans and their resources by implementing international law as reflected in the United Nations Convention on the Law of the Sea, which provides the legal framework for the conservation and sustainable use of oceans and their resources...' (Annex, Para 11).

legal responses caution that these should not undermine the existing regimes.¹⁷ While understandable, this caution is also a constraint on what these legal responses need to do: i.e. overcome not just given facts but rather an imaginary of law's own creation. That imaginary, privileging extraction, meanwhile continues to flourish and be extended through such initiatives as the above-described Ocean Spiral project.

II. Why call it a 'grab'?

I would like to begin with the question that might arise at this point: why characterise the enclosure of the seabed as its 'grab'? It is worth recalling that that term and its equivalents were employed to describe various jurisdictional assertions at their times. The Truman Proclamation on the Continental Shelf was called a land grab, as were the responses to it from Latin American states, which made more extensive claims, encompassing 200M of the seabed and waters.¹⁸ The definition of the continental shelf under the 1958 Convention on the Continental Shelf (CCS), adopted to settle these claims, was regarded as paving the way for land grab.¹⁹ Maltese Ambassador Arvid Pardo's landmark speech to the United Nations—which catalysed negotiation of the LOSC—described a colonial-era style 'scramble' as the imminent future to be feared for the deep seabed.²⁰ US President Richard Nixon's suggestion, in response, for the creation of a seabed 'trusteeship zone' was decried as land grab by developing states.²¹ And, while all of these referred to the incorporation of the seabed within national jurisdiction, the language of grab was also used vis-à-vis the placement of the deep seabed under international administration: the LOSC seabed regime was described by its critics as the greatest land grab of all, that threatened commercial enterprise by vesting control of the seabed in 'a kind of supergovernment answerable to no one'.²²

¹⁷ The same paragraph provides: 'We emphasize that our actions to implement Goal 14 should be in accordance with, reinforce and not duplicate or undermine existing legal instruments, arrangements, processes, mechanisms or entities.' *Id.*

¹⁸ E.g. Waldock, 'The Legal Basis of Claims to the Continental Shelf', 36 *Transactions of the Grotius Society (TGS)* (1950) 115; Ratiner, 'United States Oceans Policy: An Analysis', 2 *Journal of Maritime Law and Commerce* (1971) 225, at 227.

¹⁹ 499 UNTS 311; e.g. Friedmann, 'The North Sea Continental Shelf Cases -A Critique', 64 *American Journal of International Law (AJIL)* (1970) 229, at 240; RP Anand, *Legal Regime of the Sea-Bed and the Developing Countries* (1976), at 119ff

²⁰ UN General Assembly, First Committee Debate, UN Docs. A/C.1/PV.1515–1516, 1 November 1967, para 56ff. Pardo also used the term grab in his writings on the issue at the time: e.g. Pardo, 'Who will control the seabed', 47 *Foreign Affairs* (1968-1969) 123, at 133.

²¹ See papers on the *Pacem in Maribus* conference in Malta (1970), FCO 76/161, UK National Archives, London.

²² E.g. Ely, 'One OPEC is Enough!', 5 *Regulation* (1981) 19.

But I do not use the term merely for sake of fidelity with these utterances. Rather, the term brings into view two related points: Firstly, and to put it in plain terms, the extensions of national and international jurisdiction have configured the ocean floor into a series of extraction sites principally for the benefit of a few states and corporations.²³ Secondly, this configuration has relied on – and continues to draw legitimacy from – a construction of the seabed as socio-culturally, economically and ecologically disembedded, i.e., as remote, insulated, and lacking local constituencies or pre-existing ‘systems of meaning and practice’ that would be ousted by the ‘narrow predication of “universal interest”’ on its mining potential.²⁴ This allows the extension of national and international jurisdiction to be discussed viewed as the ‘inclusion’ or ‘incorporation’ of the ocean floor within international law – terms that signify changes of status, but play down the effects of those changes. In contrast, the term ‘grab’ has an obviously relational character, signifying that allocating mining rights to companies or (nominally) to mankind entailed, and will further entail, dispossessions of various kinds.²⁵

Indeed, the view of the seabed as disembedded does not enjoy much stability in practice. Operations on the continental shelf are axes of tension in many parts of the world. Consider only the example of New Zealand, where proposed projects of sand dredging and mineral extraction are being resisted by the activist initiative Kiwis Against Seabed Mining (KASM), with the slogan ‘Don’t steel our sand’.²⁶ The projects represent threats to the way of life of the state’s various coastal communities, especially indigenous ones. In relation to an application by Trans-Tasman Resources Ltd to mine iron-sands off the South Taranaki coast, New Zealand’s Environmental Protection Agency received 13,733 submissions, of which only *one* favoured the project. Several were from Maori *iwi* worried about the project’s economic and cultural impacts, since it threatened their customary fisheries and environmental stewardship. Other submissions, from a variety of groups including fishers and environmentalists further

²³ On the point of who benefits by seabed mining, see Isabel Feichtner’s contribution to this symposium.

²⁴ Ince, ‘Primitive Accumulation, New Enclosures, and Global Land Grabs: A Theoretical Intervention’, 79 *Rural Sociology* (2014) 104, at 127.

²⁵ I follow here Susan Marks’ suggestion for the use of transitive concepts such as exploitation and displacement, that express direct actions on people and things, and call attention to the relational character of social phenomena such as deprivation and privilege: Marks, ‘Human Rights and Root Causes’, 74 *Modern Law Review* (2011) 57, at 76; see also, and importantly, Marks, ‘Exploitation as an International Legal Concept’ in S. Marks (ed.) *International Law on the Left: Re-examining Marxist Legacies* (2008), at 281.

²⁶ What is KASM, available at <http://kasm.org.nz/inside-kasm/about/>.

pointed out the threats to the waters, commercial fisheries, human health, the ecosystem, coastal seabirds, and tourism, from the proposed mining project.²⁷

What about the deep seabed? While its depth and distance may feed the perception that it is disconnected from coastal political economies, the fact is that deep seabed mining will not take place in isolation from land-based processing and transportation; and will influence the development of new coastal economies.²⁸ Moreover, past practice shows that there are few parts of the seabed so distant that some community will not declare ‘local’ interest in it. In 1974, in response to a CIA venture to recover a sunken Soviet submarine from the Pacific seabed under the cover story that a private corporation was engaging in seabed mining, Hawaiian officials and local industry—taken in by the cover story—expressed concern that the corporation would extract all the minerals from that area. They regarded these minerals, which they had no independent capability to exploit (and which were located 1560M northwest of Hawaii, beyond claimable national jurisdiction) as *their* local resources.²⁹ Even setting aside such direct claims, the prospect of seabed mining has consistently generated fears of *in situ* dispossession amongst land-based producers—many of them industries in developing states—of cobalt, nickel, and manganese. During the LOSC negotiations, these states had thus pressed for production limitations on seabed minerals. Constructions of the deep seabed as remote also neglect the widespread ecological implications of seabed mining.³⁰ The example of French nuclear tests in the Pacific lagoons and the later discovery of threats of contamination for states like New Zealand—at a distance of 2590M—should caution against presumptions that parts of the ocean are far enough away.³¹

There may be, however, at least two objections to my suggestion that the extension of national and international jurisdiction over the seabed should be regarded as its grab. Firstly, that in doing so, I draw too great a contrast with the law that preceded the post-War developments.

²⁷ Analysis of submissions report: Trans-Tasman Resources, February 2017, available at <https://www.epa.govt.nz/assets/Uploads/Documents/Marine-Activities-EEZ/Activities/TTRL-AOS.pdf>. The EPA’s decision to grant consent to the project was quashed on appeal by the High Court in August 2018; proceedings are now pending before the Court of Appeal.

²⁸ For a related account of how the laying of submarine communications cables have shaped coastal economies, see N. Starosielski, *The Undersea Network* (2015).

²⁹ R. Varner and W. Collier, *A Matter of Risk* (1978), at 188. Collier was part of the CIA mission. For further information on the mission, see ‘Project Azorian – The Story of the Hughes Glomar Explorer’, declassified by the CIA on 1 January 2010, available at <http://nsarchive.gwu.edu/nukevault/ebb305/doc01.pdf>.

³⁰ Wedding et al., ‘Managing mining of the deep seabed’, 349 *Science* (2015) 144.

³¹ See Application Instituting Proceedings, *Request for an Examination of the Situation in Accordance with Paragraph 63 of the Court’s Judgment of 20 December 1974 in the Nuclear Tests (New Zealand v France)* paras. 19-20 (Int’l Ct. Justice Aug. 21, 1995).

Was not the ‘old’ law of the sea equally oriented towards the exploitation of the sea’s resources? Secondly, that my characterization obscures real differences between the current seabed regimes, and reductively places all of them within the same rubric.

As to the first objection, it is true: the old law of the sea, i.e. the principle of freedom, favoured certain economic uses and users. Intellectual histories of Grotius’s *Mare Liberum* have shown that it was written in accordance with the Dutch East India Company’s interests in navigation to and trade with the East Indies; it argued freedom against Portuguese claims of exclusive right.³² Grotius further emphasized the freedom to fish in support of the Dutch herring industry, against objections that the Scottish coastal seas should be closed to foreign fishing operations.³³ Dutch maritime superiority provided the context for these arguments; the Dutch would soon be making their own arguments for the sea’s enclosure against other users.³⁴ Assertions of the sea’s freedom and enclosure have thus obviously had a material basis, and in this respect the post-War legal developments continue a longer theme. But, the significance of these post-War developments should not be discounted. The form of exploitation that they permit, i.e. large-scale mining operations, and the types of social, economic and ecological dispossessions that these threaten, would not be possible without the security of tenure over parts of the seabed that the ‘new’ law of the sea permits states and the ISA to grant to corporations.

The second objection is also pertinent. The legal regimes that enclose the seabed certainly differ from each other in the limits and costs they impose upon mining companies. The regime administered by the ISA includes a redistributive component, on the principle that the deep seabed is the ‘common heritage of mankind’ (CHM).³⁵ Meanwhile, national regimes for the use of the continental shelf vary; some may be more socially inclusive and ecologically sensitive than others. (Sceptical views as well as undoubting ones have sought to account for this.³⁶) I will return to these issues in section IV; however, that some regimes might be ‘better’ than others does not undo the key point that the law has reified an extractive imaginary of the

³² Grotius, ‘The Free Sea’ ([1609] R. Hakluyt trans.), reprinted in D. Armitage (ed.) *The Free Sea* (2004), at 1. For contextualisations of Grotius’s work, see, e.g., Armitage, *The Free Sea*, *ibid.*, at xi; M. van Ittersum, *Profit and Principle: Hugo Grotius Natural Rights Theories and the Rise of Dutch Power in the East Indies (1595-1615)* (2006).

³³ See Welwod, *Of the Community and Propriety of the Seas* [1613], reprinted in Armitage, *The Free Sea*, *ibid.*, at 63; Grotius, ‘Defense of Chapter V of the *Mare Liberum*’, reprinted in Armitage, *The Free Sea*, *ibid.*, at 75.

³⁴ Armitage, Introduction, *ibid.*, at xx.

³⁵ The seabed beyond national jurisdiction is designated as such in Art 136, LOSC and the Declaration of Principles Governing the Seabed and Ocean Floor, GA Res. 2749 (XXV), 12 December 1970.

³⁶ See e.g. Ramesh and Rai, ‘Trading on conservation: A marine protected area as an ecological fix’, 82 *Marine Policy* (2017) 25.

ocean floor that now shapes the fate of the ocean and constrains any search for ‘solutions’ to problems of inequality and environmental harm.

III. Legal Developments

Let us now trace the grab of the ocean floor, starting with the Truman Proclamation on the Continental Shelf and culminating with the adoption of the LOSC—the so called ‘constitution of the oceans’—which entered into force in 1994 in amended form.³⁷ While necessarily brief, this account offers a snapshot of the intersecting interests, events and interventions that fed law-making on this issue.

The Truman Proclamation asserted that the United States ‘regards the natural resources of the ... continental shelf beneath the high seas but contiguous to [its] coasts ... as appertaining to the United States, subject to its jurisdiction and control.’ The claim was limited to the seabed; ‘[t]he character as high seas of the waters above ... [was] in no way thus affected’. Moreover, the claim was not of sovereignty over the territory, but of right to its resources. The US stressed this distinction in response to the ensuing claims of other states. An accompanying statement further indicated that the claim was limited to resources of ‘land ... covered by no more than 100 fathoms (600 feet) of water’.³⁸

The Proclamation was actuated by the discovery of petroleum and minerals off the US Atlantic coast. The text asserted that, in the face of growing worldwide need, jurisdiction over these resources was necessary for their ‘conservation and prudent utilization’. And, it was ‘reasonable and just’ for the US to exercise such jurisdiction. For, a continental shelf could be regarded as a natural extension of a coastal state’s territory. There was also often a natural connection between territorial and shelf resources, with the latter constituting a seaward extension of the former. The coastal state was also the best situated from a practical perspective: the effectiveness of use or conservation measures would depend upon its cooperation; and its own security interests demanded that it supervise extractive activity proximate to its shores.

The Proclamation based itself on reason and justice, not law. But it met with no resistance. In fact, corresponding claims from other states followed.³⁹ Many of these were far more extensive,

³⁷ Agreement on the Implementation of Part XI, 1836 UNTS 3 (1994).

³⁸ ‘Proclamations concerning United States jurisdiction over Natural Resources in Coastal Areas and the High Seas’ (1945) 13 Department of State Bulletin 484 (September 30).

³⁹ Discussed in Crawford and Viles, *International Law on a Given Day*, *supra* note 11, at 87-89.

prompting debate over what should be the appropriate legal grounds, and scope, of such claims. Per some commentators, the critical factor was the natural appurtenance of the shelf to the territory of the coastal state.⁴⁰ Several states asserted rights on this basis; some going further to claim not just jurisdiction over resources but also sovereignty over the terrain, and—applying the *jusque ad coelum* maxim—over the waters and air-space above it.⁴¹ Other commentators, however, insisted that the essential element was not appurtenance but rather that, via drilling and other activities, the US could reasonably claim to have ‘effectively occupied’ the shelf (with other states’ lack of protest signifying their acquiescence).⁴²

Land grab was the concern at the heart of this opposition of views. Commentators relying on the effective occupation thesis were concerned about the expansive claims citing natural appurtenance that had followed the Truman proclamation and that threatened to place large parts of the seabed and waters out of reach of other states. The US itself protested these claims. Meanwhile, for those relying on the natural appurtenance thesis, the object was to preserve coastal states’ rights over their adjacent continental shelves till such time as they acquired the capacity to exploit the resources. They wanted to forestall claims to effective occupation that might otherwise be made by more technologically-advanced states.

Curiously, neither view offered a sufficient account of the extent of the seabed which could be claimed. Actual geology did not furnish a limit for claims based on the natural appurtenance thesis—Latin American states claiming 200M shelves had much narrower ones in fact. And actual activity was not the precondition for the effective occupation thesis: the authors of that thesis supported claims based on minimal physical presence in the area, or even—and only—plausible claim to *potential* physical activity.⁴³

The legal basis for claims to the shelf and its extent remained debated in the years that followed, as the International Law Commission (ILC) took up the task of drafting relevant rules. The 1958 CCS, the outcome of its work, expressed a dual formula:

⁴⁰ E.g. Lauterpacht, ‘Sovereignty over Submerged Areas’, 27 *British Yearbook of International Law* (1950) 376, at 423ff.

⁴¹ Chile, Argentina, Costa Rica, Ecuador, Peru, El Salvador, Mexico, Panama, Iceland and South Korea: Johnson, ‘Legal Status of the Sea-bed and Subsoil’, 16 *Zeitschrift für Ausländisches Öffentliches Recht und Völkerrecht* (1956) 451, 479.

⁴² E.g. Waldock, Claims to the Continental Shelf, *supra* note 18, at 128. ‘Occupation’ (of *terrae nullius*) and ‘prescription’ (occupation with others’ acquiescence of lands under individual or communal sovereignty) were accepted legal grounds for claims over territory.

⁴³ Waldock’s arguments are instructive in this regard, excluding only ‘purely paper claims’: *ibid.*, at 141ff.

... ‘continental shelf’ is used as referring ... to the seabed ... adjacent to the coast ... to a depth of 200 metres or, beyond that limit, to where the depth of the superjacent waters admits of the exploitation of the natural resources....⁴⁴

While this definition clarified that each coastal state had the right to appurtenant areas up to a specified depth,⁴⁵ the criterion for more extended claims was amazingly vague. The provision did not specify that the claimant state should be exploiting the seabed at those greater depths already, nor even that it should individually have the capacity to exploit; merely, such capacity should exist in some more general sense.⁴⁶

Moreover, although the ILC insisted that the word ‘adjacent’ placed a ‘very clear limitation on the submarine areas covered ... [the] adjacent areas ended where the slope down to the ocean bed began, which was not more than 25 miles from the coast’;⁴⁷ this limitation was progressively disregarded. Over the course of the 1960s, interested actors sought extension of national jurisdiction over larger and larger areas of the seabed. The US National Petroleum Council (USNPC), for instance, saw no need to restrict its activities to the geological continental shelf, advising the US government to claim a much greater expanse of territory including the shelf, the slope and the continental rise beyond (on which concepts see section III).⁴⁸ As one of the architects of the USNPC’s position noted, the CCS’s exploitability criterion provided a feasible legal basis for such assertions.⁴⁹

Such assertions also provided the context for Ambassador Pardo’s agenda-defining UN speech in November 1967. Pardo highlighted the immense resource potential of the seabed, while cautioning that its total grab was already underway. Relying on a reading of the CCS by Shigeru Oda (later a World Court judge), he argued that it permitted the whole seabed, shallow and deep, to be regarded as the continental shelf.⁵⁰ Any coastal state, citing exploitability, could claim the ocean floor ‘up to the midway point between it and the coastal state opposite’.⁵¹ Technologically-advanced states were already making claims that would result in ‘a

⁴⁴ Article 1, CCS.

⁴⁵ Further clarified in Article 2, CCS.

⁴⁶ Young, ‘The Geneva Convention on the Continental Shelf: A First Impression’, 52 *AJIL* (1958) 733, at 735.

⁴⁷ Statement of ILC Chairman Garcia Amador, *Yearbook of the International Law Commission (ILC Ybk)* Vol. I (1956) 135, cited in Henkin, ‘International Law and “the interests”: the Law of the Seabed’, 63 *AJIL* (1969) 504, at 507.

⁴⁸ Henkin, International law and the interests, *ibid.*, at 506.

⁴⁹ Finlay, ‘The Outer Limit of the Continental Shelf: A rejoinder to Louis Henkin’, 64 *AJIL* (1970) 42.

⁵⁰ Oda, ‘Some Observations on the International Law of the Sea’, 11 *Japanese Annual of International Law* (1967) 37, 39-40.

⁵¹ UN Doc. A/C.1/PV.1515, para. 67.

competitive scramble ... surpassing in magnitude and in its implication last century's colonial scramble for territory in Asia and Africa.'⁵² Moreover, division of the seabed would be followed by claims to the waters above; thus the ocean would be partitioned into 'national lakes'.⁵³ Pardo insisted that it was essential to avoid these grave outcomes. He called upon the UN General Assembly to designate the largest possible area of the seabed as the CHM: immune from national appropriation and administered by an international body to ensure that its resources were exploited for the benefit of all states, especially developing ones.⁵⁴

Now, although some actors were indeed claiming extensive zones of national jurisdiction, Oda's view of total partition was a minority one. It was generally understood that there had to be some outer limit to a continental shelf; the whole of the seabed could not be characterized as such. The *North Sea Continental Shelf* cases, decided in 1969, reflected this position. The World Court indicated 'natural prolongation of the land' as the basis for claims.⁵⁵ While not specifying whether the continental slope or rise could be considered part of this natural prolongation (as the USNPC had asserted), the Court noted the distinctive nature of 'ocean depths'.⁵⁶ On their view, as Robert Jennings (another later World Court judge) observed, the 'abyssal plain'—i.e. the deep seabed—was 'certainly beyond national jurisdiction'.⁵⁷ Nevertheless, once mainstreamed by Pardo, the fear of a seabed 'scramble' took hold amongst developing states, forging solidarity and catalysing their support for the CHM idea.

But this fear also led developing states to summarily dismiss initiatives which might have accorded with their interests, such as a proposal by President Nixon. Nixon, acting contrarily to the entreaties of the USNPC, proposed that national jurisdiction be limited to depths of 200 meters (cutting back from the CCS's exploitability definition). The remainder of the seabed would constitute the CHM, divided into an intermediate 'trusteeship zone'—comprising the remaining continental shelf, the slope and the margin—and an 'international area' (the deep seabed).⁵⁸ Coastal states would administer resource exploitation in the trusteeship zone, and ensure that a portion of the revenue generated was transferred to an international authority, for

⁵² *Ibid.*, para. 91.

⁵³ *Ibid.*, para. 72.

⁵⁴ UN Doc. A/C.1/PV.1516, para. 10.

⁵⁵ *North Sea Continental Shelf* (Germany/Denmark; Germany/Netherlands), judgment of 20 February 1969, ICJ Rep (1969) 3, para. 19.

⁵⁶ *Ibid.*, para. 41.

⁵⁷ Jennings, 'The Limits of Continental Shelf Jurisdiction: Some Possible Implications of the North Sea Case Judgment', 18 *International and Comparative Law Quarterly* (1969) 819, 827.

⁵⁸ Draft UN Convention on the International Seabed Area, 3 August 1970, UN Doc. A/AC.138/25, 9 ILM 1046.

distribution to developing states.⁵⁹ The international authority would also administer resource exploitation in the international area.

This proposal would have brought some fossil fuels within the trusteeship area; and thus, some revenue from their exploitation into the common pot. (The regime later agreed places them wholly within national jurisdiction).⁶⁰ Nevertheless, meeting at the inaugural *Pacem in Maribus* conference convened by Pardo in Malta in 1970, developing states expressed disapproval. To them, the trusteeship concept carried neo-colonial undertones.⁶¹ They argued, moreover, that the proposal mainly benefitted the United States, its corporations, and other developed states. This was true, but only in part. The proposal *did* benefit the United States, whose eastern continental shelf remains above the 200-meter depth for miles; the depth criterion would have brought an area of 845,000 sq. M within its jurisdiction.⁶² States with steeply plunging shelves, including many Latin American ones, would not have equally benefitted. Even so, the proposal did not allocate benefits and costs wholly along Global North/South lines: not all developed states were similarly situated, and some developing ones would have gained much. Indeed, in the view of the US oil companies, the proposal had been a massive—and eccentric—giveaway on part of the US President.

In fact, the proposal reflected the simultaneous flourishing of a conflicting, Cold War, imaginary of the ocean as a site of warfare. In this imaginary, the principle of the freedom of the sea was paramount: the United States as well as the erstwhile Soviet Union were concerned to ensure that their naval submarines and espionage equipment could operate close to foreign coasts. Nixon made his proposal for limiting national jurisdiction in consultation with US defence interests: as a CIA-produced ‘scare map’ showed, these interests feared that national claims to the seabed would catalyse corollary claims to the waters above, partitioning the ocean and hampering navigation.⁶³ Eventually, pressure from the USNPC together with the cool international reception of the Nixon proposal led to a change in the US position towards favouring extended national jurisdiction.

⁵⁹ Article 27, Draft UN Convention, *ibid*.

⁶⁰ Art 82, LOSC provides for the sharing of revenue from a small part of the area under national jurisdiction.

⁶¹ FCO 76/161, *supra* note 21.

⁶² Payne, ‘Transnational Petroleum Companies and New Developments in Sea Law’, 20 *Howard Law Journal* (1977) 444.

⁶³ Steinberg, The Social Construction of the Ocean, *supra* note 5, at 175. Matthew Craven’s contribution to this symposium traces the simultaneous flourishing of two imaginaries of outer space.

The above episode reveals several aspects of international law-making at the time: The United States' inconsistent positions were the result of internal squabbles between its defence and resource interests. Meanwhile, several factors accounted for the position taken by developing states: group solidarity as well as shrewd appreciation of the importance of a common stance; resentment at the neo-colonial undertones of a suggested resource allocation scheme as well as suspicion that it was an attempt to deflect the CHM principle. These factors continued to guide developing states during the LOSC negotiations. For instance, it was noted that states like Tanzania and Sri Lanka changed their initial positions on the criteria for delimitation of the continental shelf, and India even decided to act against its own interest, out of solidarity with other developing states: all came to support the 200M limit favoured by Latin American states.⁶⁴ Moreover—in a telling illustration of the role that suspicion played—developing states refused to accept the downward-revised estimates of the deep seabed's mineral wealth and of available mining technology that emerged in the later years. Markus Schmidt recalls, '[d]elegates who tried to inject a note of caution into the debates were told by others that all the optimistic figures were in print, which seemed to imply that they *had* to be correct.'⁶⁵ Thus, they continued to participate vigorously in the undoubtedly financially burdensome negotiations, and to push for an elaborate CHM regime.

While Pardo's CHM idea was popular as a means of facilitating distribution of the benefits of seabed resources alongside their exploitation, it was also in tension with many coastal states' (including developing states') interests in extending national jurisdiction over large swathes of the seabed and waters. Thus in 1970, when the UN General Assembly declared the 'international' seabed as the CHM, it could not indicate its precise boundaries; only that it lay 'beyond the limits of national jurisdiction, the precise limits of which are yet to be determined.'⁶⁶ The Assembly looked to an international conference to identify a solution that would satisfy both those interested in extended national jurisdiction and those interested in maximising the international resource base.

The Third UN Conference on the Law of the Sea (UNCLOS III) convened in 1973 as a mammoth gathering of states, many newly independent. It was, in design, a departure from the usual format of international law-making, where a small expert body—like the ILC—was

⁶⁴ Per correspondence between J. Blair (Shell) and D. A. Campbell (Foreign Office) (1971), in FCO 76/328, UK National Archives.

⁶⁵ M. Schmidt, *Common Heritage or Common Burden? The United States Position on the Development of a Regime for Deep Sea-bed Mining in the Law of the Sea Convention* (1989) 16

⁶⁶ GA Res. 2749, *supra* note 35.

delegated the task of formulating appropriate provisions. Rather, all states were to participate in open negotiations.⁶⁷ The Conference addressed the conundrum of extended national jurisdiction or large international resource-base by splitting the question between different committees: one was tasked with identifying the limits of national jurisdiction, another with formulating an international regime based on the CHM principle.

After years of (tedious and repetitive) debate, the Conference finally agreed on a distance criterion to delimit zones of national jurisdiction. Thus, under the LOSC, 200M of the seabed, measured from a coastal baseline is denoted as the ‘continental shelf’—regardless of its depth; and regardless also of whether there is a shelf at all in geological terms. But geology is not immaterial, for the treaty permits a further extension of national jurisdiction if the physical shelf, slope, or relevant portion of continental rise, continue beyond 200M. In consultation with a ‘Commission on Continental Shelf Limits’, coastal states may thus claim jurisdiction over terrain up to 350M from the coast, or 100M from a 2500-meter depth line.⁶⁸ Here, they have the same rights to extract (or license extraction of) minerals and other non-living resources, and sedentary living organisms as they do in the 200M zone, but must transfer a portion of the revenue to the ISA.⁶⁹ The LOSC also requires them to adopt measures to limit pollution of the marine environment due to extractive activities in either zone.⁷⁰

As mentioned earlier, the ISA is further tasked with administering access to, and extraction of, the mineral resources of the international area of the seabed. Exploration and exploitation activities cannot take place without an ISA license—at least as far as member states to the LOSC are concerned; the United States’ non-party status and its considerable presence in resource rich areas of the international seabed complicates matters.⁷¹ The ISA grants its licenses upon the fulfilment of certain conditions: some concerned with protecting the marine environment, others oriented towards redistribution of the benefits from seabed mining to developing states.⁷² Thus, as in the case of the international law on the continental shelf, the

⁶⁷ The experience of the negotiations was rather the opposite—secret meetings, closed-door bargains, and abounding fears of conspiracy.

⁶⁸ Article 76, LOSC.

⁶⁹ Article 82, LOSC.

⁷⁰ Article 208, LOSC.

⁷¹ The Clarion-Clipperton zone in the Pacific Ocean is one example: for an account of the contestations over mining sites in this zone, see S. Ranganathan, *Strategically Created Treaty Conflicts and the Politics of International Law* (2014), at 161-187. At present, US claims are accorded recognition on a bilateral level by most other states with mining interests in the zone.

⁷² The conditions governing the grant of exploration licenses are indicated in the regulations issued by the ISA vis-à-vis various types of mineral deposits: e.g. Regulations on Prospecting and Exploration for Polymetallic Nodules in the Area, adopted 2000 (amended 2013), annex, ISBA Doc. ISBA/ 19/ C/ 17 (22 July 2013). The ISA

regime for the deep seabed recognises and addresses some of the challenges that might arise vis-à-vis the extraction of the seabed's resources. I will return to this point in Section IV.

IV. Key grounds

This section will tease out two key grounds which facilitated the legal developments described above: the geography of the ocean floor, and the economic value of its resources. I will show that while both had some basis in fact, they were also reified by law, together reconstituting ocean space into a distinctive legal imaginary.

A. *Ocean floor geography*

Let me begin with the continental shelf. A consistent line of argument for extending national jurisdiction over the seabed stressed the physical connection between the shelf and coastal territory. In the *North Sea Continental Shelf* cases, the World Court concluded that 'the rights of the coastal State in respect of the area of continental shelf that constitutes a natural prolongation of its land territory into and under the sea exist *ipso facto* and *ab initio*, by virtue of its sovereignty over the land, and as an extension of it ...'⁷³ The LOSC similarly includes the idea of 'natural prolongation of ... land territory' in the definition of the continental shelf.⁷⁴ It also clarifies that the coastal state's rights over the shelf 'do not depend on occupation, effective or notional, or on any express proclamation.'⁷⁵

The description of the shelf as a natural prolongation of land territory does have some basis in fact. The law of the sea uses the term 'shelf' to connote the entire 'continental margin', which includes: the geological *continental shelf*, a relatively shallow and gently declining submarine ledge attached to the coast of all states, though to greater or lesser extents; the *continental slope*, a steeply declining terrain beyond the geological shelf; and the *continental rise*, a gentler gradient found at the bottom of the slope. This cumulative margin can be considered a prolongation of land in the sense that it is formed of the same—'continental'—crust as land. In contrast the deep sea floor is formed of different—'oceanic'—crust.

has not yet issued exploitation licenses; it is currently drafting regulations to that end: see Draft Regulations on the Exploitation of Minerals in the Area, ISBA Doc. ISBA/23/LTC/CRP.3* (8 August 2017).

⁷³ *North Sea Continental Shelf*, *supra* note 55, para. 19

⁷⁴ Article 76(1), LOSC.

⁷⁵ Article 77(3), LOSC.

Yet the law, although invoking the idea of prolongation, does not quite follow the facts of continental shelf geography: the shelf may not be a prolongation, or not necessarily in any smooth way. Seafloor topography is complex, shifting, and still lacking detailed mapping; but it is evident that shelves may be heavily fractured and discontinuous.⁷⁶ More importantly, the law does not follow the facts in what it identifies as the continental shelf. The criterion used for delimiting the shelf from the deep seabed is distance: in the usual case, 200M of the seafloor measured from a baseline. Yet, in several instances not only is the geological shelf exceeded at that distance, but also the entire continental margin.⁷⁷ This is the case for 34 states.⁷⁸ Included in their shelf, then, is also some part of the deep sea-floor. ‘Natural prolongation’ evidently does not delimit national jurisdiction, although it provides a basis for claims beyond 200M.

In the early years of shelf claims, assertions of natural appurtenance had proceeded in relative ignorance of the shelf’s actual geology. This state-of-the-field review from 1956 is illustrative:

Most geologists, apparently, consider the continents, the continental shelves and the sea-bed and subsoil lying beneath the deep oceans to be constituted fundamentally of the same material. But there are some theories according to which the continents and the continental shelves are made up of material different from that which constitutes the sea-bed and subsoil lying beneath the deep oceans. These theories do not appear to be generally accepted, but, even if they were, it is doubtful what practical or juridical conclusions, if any, should be drawn from them. It is not at all likely that any possible difference in the composition of the continental masses as compared with the ocean floor can compare in significance with the distinction, obvious to the layman, between land on the one hand and water on the other hand.⁷⁹

Not only does this passage assert the uniform composition of continental and oceanic crusts (in which mistake international lawyers would gradually correct themselves); it also rejects that a geological distinction between them could provide the decisive basis for delimitation of the shelf. Indeed—as we might remind ourselves—the CCS, adopted in 1958, instead stressed

⁷⁶ A good example is the Monterey canyon, off the coast of California, which serves as a fertile research site for the Monterey Bay Aquarium Research Institute: on this canyon and the institute, see S. Helmreich, *Alien Ocean* (2009).

⁷⁷ The subsumption of the whole continental margin under the rules fostering claims to the shelf did not pass without criticism: Friedman, ‘Selden Redivivus - Towards a Partition of the Seas?’, 65 *AJIL* (1971) 757. It is then even more of a stark exaggeration to place the deep seabed under national jurisdiction under the definition that it is the continental shelf.

⁷⁸ P. Cook and C. Carleton (eds.), *Continental Shelf Limits: The Legal and Scientific Interface* (2000), at 268.

⁷⁹ Johnson, Legal Status of the Seabed, *supra* note 41, at 461.

‘exploitability’ as the relevant criterion. Despite the World Court’s emphasis, the soon-following LOSC negotiations too did not place sole significance upon ‘natural prolongation’ as the basis for delimiting the continental shelf: as noted above, many factors shaped the positions taken by states on that issue.⁸⁰ Of course, amongst these, one important factor, shaping the concern of bodies such as the USNPC to ensure that the definition of the shelf would encompass the entire continental margin, was *oil*—found at greater and greater depths in the continental crust, but not in the oceanic crust.

Why then does the law of the sea invoke natural prolongation in explaining the concept of the shelf? One reason may be that, as mentioned earlier, those who articulated it as the basis for claims regarded the alternative—effective occupation—as raising the threat of extensive claims by states commanding advanced technology. While the natural appurtenance thesis (which underpinned arguments of natural prolongation) also had attendant dangers in the form of creeping claims to the waters as well as the seabed, these were more easily resolved. For creeping claims were simply forestalled by the law, which soon clarified that rights over the seabed would not generate corresponding claims over the above waters. Recollect that the Truman Proclamation had purported to leave unaffected the status of the waters above. Thereafter, the 1958 CCS also did not cover the waters; those were confirmed as remaining under the freedom of the seas.⁸¹ And the LOSC too maintains separate regimes for the shelf, deep seabed, and various sections of the waters.

In fact, the LOSC underlines the separate regimes for the seabed and seawaters in a particularly noteworthy way. On the one hand, it permits states to claim up to 200M of the waters and seabed as their exclusive economic zones (EEZs). This stretch of water and bed maps exactly on to a normal length continental shelf, and would suggest that for that stretch the bed/waters distinction might be immaterial. On the other hand, the LOSC limits the given rules for the use of the EEZ to the waters and their resources; the seabed and its resources remain subject to the continental shelf regime.⁸² The LOSC expressly excludes application of the EEZ provisions to them.⁸³ That is, in short, according to the LOSC, the seabed up to 200M may be both the continental shelf and the EEZ of a state; but is governed solely as the former. Furthermore,

⁸⁰ See text accompanying note 63. Records from UNCLOS III and the preceding UN Seabed Committee reveal a complex negotiating history in which states’ positions were shaped by many factors: good accounts include Anand, *Legal Regime of the Seabed*, *supra* note 19; S. Oda, *The Law of the Sea in Our Time* vols. 1 and 2 (1977).

⁸¹ Art 3, CCS.

⁸² The EEZ regime is set out in Arts 55-75, LOSC; the continental shelf regime in Arts 76-85.

⁸³ See Arts 56(3), 68, LOSC.

unlike in the case of the continental shelf, a state must expressly proclaim an EEZ.⁸⁴ Absent such a proclamation, the waters beyond the territorial seas are treated as the high seas; though the bed remains the continental shelf.

Indeed, and contrary to fears of creeping jurisdiction that had arisen, the idea of natural prolongation assists this different treatment of the seabed and waters. It allows jurisdictional claims to be represented as a reclamation of land (and land alone), rather than an enclosure of the sea, suggesting by implication that no restrictions need be made to the well-established principle of the freedom of the seas. In fact, in the early years of shelf claims, legal commentators had stressed the physical separation of land and water on such arguments as that an ‘infinitely thin’ membrane divided the subsoil of the seabed and the water column, and permitted the removal of resources which were then wholly those of the bed, not of the sea.⁸⁵ (Some further insisted that, as a corollary, the removal of these resources could only be via operations ‘begun on the coast ... and ... carried beneath the high seas wholly underground.’⁸⁶)

More practically-minded lawyers, however, made clear that it was simply more advantageous to embrace the separability of land and sea. Humphrey Waldock—later an ILC member and then a World Court judge—observed that treating the seabed as part of the sea would impede exclusive occupation for extended periods, and consequently impede its exploitation. On the other hand, not treating the seabed as part of the sea would mean that the principle of the freedom of the seas need not apply, and the seabed could be occupied for the periods necessary for its exploitation. Even where exploitation activities entailed some extrusions into the sea—mining platforms for instance—these could be more easily reconciled with the principle of freedom so long as states made the necessary efforts to ensure that they did not obstruct other uses of the sea, such as fishing, navigation and laying of cables.⁸⁷ Waldock described the perceptions of the seabed as either a part of the sea, or as a separate occupiable terrain, as evenly-weighted in juristic terms, and asserted that it was ‘legitimate to prefer that which admits of some exploitation of valuable resources’.⁸⁸

⁸⁴ Interestingly, the LOSC does not expressly spell out this proclamation requirement; on the other hand, it includes no language equivalent to Art 77(3), LOSC. In practice, states have acquired EEZs by proclamation: the UK only acquired its EEZ in 2014, by way of the Exclusive Economic Zone Order 2013, SI 2013/3161.

⁸⁵ See Johnson, *Legal Status of the Seabed*, *supra* note 41, at 462-463.

⁸⁶ Waldock, *Claims to the Continental Shelf*, *supra* note 18, at 117 (citing Gilbert Gidel, Pearce Higgins and John Colombos).

⁸⁷ *Ibid.*, 137.

⁸⁸ *Ibid.*, 136.

Later, Pardo too, in making his plea for the CHM, specifically restricted its application to the seabed. This, of course, had nothing to do with enabling sovereignty claims, but, as with the regime of the continental shelf, was intended to avoid entanglement with the principle of the freedom of the seas. Pardo thus acted contrary to some civil society initiatives to have the high seas as well as the international seabed designated as the CHM: The Commission to Study the Organisation of Peace and the World Peace Through Law Conference had submitted draft resolutions to that effect to the UN Secretary General just days after Malta requested a slot for Pardo's speech.⁸⁹ As Pardo later recalled, he limited his proposal to avoid 'the suspicion and opposition' that would follow if he was seen by major powers to be replacing the well-established principle of freedom with the CHM principle. Embracing the separability of bed and waters was a tactical move, for the seabed 'until then had aroused little interest in international lawyers and governments'.⁹⁰ This separability was quickly espoused. Even as it was agreed that negotiations over a new treaty should encompass all ocean space, and even as the extent of the international seabed area was hotly debated, it remained clear that the CHM principle would not extend to the waters.

The LOSC, therefore, consolidates the formal separation of the seabed from the waters. It further seeks to pre-empt complications arising from this separation, by allocating the ocean's living and non-living 'resources'⁹¹ to one or the other regime; although the rules by which it does so are vague and incoherent. Thus, alongside mineral and petroleum deposits, 'sedentary' living resources are placed within the continental shelf regime. These are explained to be organisms either immobile on or under the seabed, or unable to move except in constant physical contact with the seabed or the subsoil.⁹² They include bottom-dwelling creatures such as clams, oysters, sponges and corals; although such creatures live *in* the water as much as they do *on* the bed. Even more controversially, the regime is applied to crustaceans, such as shrimps, prawns, lobsters, and crabs—although these can swim.⁹³ Meanwhile, other bottom-dwelling

⁸⁹ Commission to Study the Organisation of Peace, Draft Resolution and Working Paper, 21 August 1967, S-0858-0005-03, UN Archives, New York; World Peace Through Law Conference, 'Resolution 15: Resources of the High Seas', Geneva, 13 July 1967, S-0442-0027-0003, UN Archives.

⁹⁰ Pardo, 'The Origins of the 1967 Maltese Initiative' 9 *International Insights* (1993) 65, at 66-67.

⁹¹ I use the term 'resources' here for convenience and for compatibility with the language of the LOSC which chooses to characterize the ocean's living occupants and non-living contents in this way.

⁹² Art 77(4), LOSC. For a contextual account of the inclusion of sedentary species within the continental shelf regime, see Scott, 'The Inclusion of Sedentary Fisheries within the Continental Shelf Doctrine', 41 *International and Comparative Law Quarterly* (1992) 788.

⁹³ See Kojima, 'Fisheries, Sedentary', Max Planck Encyclopaedia of Public International Law (2008), para. 2, <http://opil.ouplaw.com/view/10.1093/law:epil/9780199231690/law-9780199231690-e1163>.

fish, or fish that use the seabed as breeding grounds, are placed within the regimes pertaining to the waters (i.e. the EEZ, or high seas).

With respect to the deep ocean, polymetallic nodules—that form by the accretion of minerals around such fragments as shark teeth or clam shells—are placed within the CHM regime. So are other mineral resources, whether solid, liquid or gaseous.⁹⁴ However, all living resources—no distinction here between sedentary and non-sedentary organisms—are excluded from the CHM regime; they are allocated to the high seas regime. That is, they remain governed by the principle of freedom of use, as qualified by a patchwork of rules aimed at their conservation.⁹⁵

Apart from incoherence, such jurisdictional allocations also proceed in disregard of complex and symbiotic ecosystems within which such resources, both living and non-living, develop. This is perhaps most clearly seen in the example of hydrothermal chimneys, such as those of the ‘Lost City’ of the mid-Atlantic.⁹⁶ Chimneys develop from vents formed at sites of tectonic activity and can grow up to 60m in height. They release mineral-rich fluids (making vent sites attractive from a mining perspective), which provide a fertile breeding ground for chemical-harvesting, or ‘chemosynthetic’ microbes.⁹⁷ These microbes are the starting point of the ‘dark’ food chain (as distinguished from the sunlight-harvesting or ‘photosynthetic’ food chain that surface organisms, including us human beings are part of).⁹⁸ They have been speculated upon as the original life forms on Earth. Speaking not at all to the particular features of such sites, the law of the sea effectively places the chimney structures and their surrounding mineral concentrations under the seabed regimes of continental shelf, or CHM (depending on location); while the microbes and other marine life gathered at, even clinging to, these chimneys fall within the high seas regime. This aids mining activity: the ISA recently granted Poland a license to explore an area including the Lost City as a possible mining site, raising alarm amongst scientists of the possible threat of destruction that now faces its ecosystem.⁹⁹

⁹⁴ Art 133, LOSC.

⁹⁵ A new comprehensive treaty on the conservation and sustainable use of biodiversity beyond national jurisdiction is being negotiated under the auspices of the UN; it will be adopted as an instrument under the LOSC (like the Agreement on Part XI). See GA Res. 69/292 (19 June 2015) and GA Res. 72/249 (19 January 2018).

⁹⁶ See Kelley et al., ‘An off-axis hydrothermal vent field near the Mid-Atlantic Ridge at 30° N’, 412 *Nature* (2001) 145.

⁹⁷ These are also now the subject of industrial interest: see e.g. Broad, *The Universe Below*, *supra* note 6, at 276-284.

⁹⁸ *Ibid.*, at 108-109

⁹⁹ See e.g. Embury-Dennis, ‘Deep sea mining could destroy possible source of life on earth, warn scientists’, *The Independent*, 6 March 2018.

The point I have tried to make in this subsection is that although the law of the sea invokes the idea of the ocean's 'natural' geography as informing its division into national and international areas and into land and water regimes, the legal zones neither fully correspond to this natural geography nor comprehend the ecological connections that make the divisions problematic. Nevertheless, it is very easy to understand why we have these divisions: They reconcile the various interests of states and corporations in the ocean—protecting the freedom of use for navigation and (high seas) fisheries, while facilitating mining activities on the seabed. In the following sub-section, then, I examine some factors that placed seabed mining at the heart of the law's development.

B. Seabed resources

Thus far, the argument has taken the quest for seabed resources as the given factor determining the grab of the ocean floor, and this subsection will reinforce that. But, alongside, it will also scrutinize this quest for resources, to highlight how seabed resources were elevated into the deciding factor in constructing our present-day imaginary of the ocean. For, here too we have a story of reification: the seabed, undeniably, contains both oil and minerals, but their importance, and value, were consolidated through law.

Let us, again, trace this first with respect to the regime for the continental shelf. There, on the one hand, the announcement of new legal rules cited the essential need to secure these resources: for instance, the Truman Proclamation on the Continental Shelf noted the growing worldwide demand for petroleum. On the other hand, it was a stream of legal opinions that not only confirmed that this was an increasingly valuable resource, but also cemented the enclosure approach announced by the Proclamation.

Thus, Cecil Hurst, a former World Court president, told the Grotius Society that 'international lawyers must approach this subject ... on a realistic basis. It is useless to underestimate the need for petroleum in the modern world'.¹⁰⁰ International law (and lawyers) had a clear purpose in the face of this need: to overcome the difficulties in exploitation of the resource, adjusting 'old ideas about international law [which] may be found to be inadequate, or even unsatisfactory, in the light of modern requirements.'¹⁰¹ Other lawyers also hastened to advocate similar views: the report of the ILC to the UN General Assembly on its work in 1950 records

¹⁰⁰ Hurst, 'The Continental Shelf', 34 *TGS* (1948) 153, 158.

¹⁰¹ *Ibid.*

the common sense of the Commission that '[l]egal concepts should not impede' the exploitation of continental shelf resources.¹⁰²

The idea to be adjusted was of course the freedom of the seas. Though it had well served overseas commerce and fisheries, this freedom was not suited to the extraction of petroleum, or other non-renewable resources that require heavy and long-term investment into specific extraction sites. To make such investment, corporations needed assured tenure over these sites; correspondingly, states sought the authority to issue exclusive mining licenses. And hence the claims of national jurisdiction.

While I do not question the allure of oil in this period,¹⁰³ enclosure within national jurisdiction was not the only basis on which the extraction of petroleum and natural resources could have proceeded. Waldock, publishing in 1950, discussed other possibilities, including that oil exploitation could take place under international regulation. He noted that

An economic argument can be made for such a solution because many States have no oil at all and the practical result of the continental shelf doctrine will be to place most of the remaining oil resources of the world which are to be found under the sea, in the hands of the States which already control oil resources under dry land.¹⁰⁴

In other words, international regulation would be, in distributive terms, a superior economic solution. Nevertheless, it was not one that Waldock thought international lawyers could bring about: 'in the present condition of the United Nations a multilateral agreement for international regulation of exploitation does not seem to be feasible.'¹⁰⁵ Thus, as noted earlier, he counselled embrace of the separability thesis, which would allow the seabed to be excluded from the purview of the principle of freedom, and thus amenable to national enclosure.

Waldock here followed other members of the 'invisible college'.¹⁰⁶ Publishing in the same year, his predecessor on the ILC and the World Court, Hersch Lauterpacht, also counselled a

¹⁰² Report of the ILC on its Second Session to the UN General Assembly, UN Doc. A/1316, ILC Ybk Vol. II (1950) 364, at 384, para. 198.

¹⁰³ Some other resources, e.g. diamonds, were a different story: see e.g. Epstein, 'Have you ever tried to sell a diamond?' *The Atlantic*, February 1982.

¹⁰⁴ Waldock, *Claims to the Continental Shelf*, *supra* note 18, at 136.

¹⁰⁵ *Ibid.*

¹⁰⁶ The phrase was memorably applied to international lawyers in Schachter, 'The invisible college of international lawyers', 72 *Northwestern University Law Review* (1977-1978) 217. We might note here that, at the ILC discussions on (what would become) the CCS, one Commission member—Shuhsi Hsu of Taiwan—had suggested that the exploitation of continental shelf resources be entrusted to the international community, and carried out jointly: ILC, 2nd Sess., Summary Record of the 66th meeting, UN Doc. A/CN.4/SR.66, para 82. This suggestion

pragmatic approach. Lauterpacht argued that it was ‘unlikely that any purely doctrinal opposition of lawyers—even if otherwise well founded—would be able to stem the hitherto uniform progress of claims and developments, which are not intrinsically unreasonable, in the matter of the “continental shelf”.’¹⁰⁷ A rigid approach, which insisted upon the principle of the freedom of the seas, could foster disregard for that principle by states anxious to commence exploitation. However, if international lawyers adopted a more flexible approach, they might succeed in ‘containing [shelf-related claims and] developments within the channels of moderation and order.’¹⁰⁸

Lauterpacht’s writings are especially illuminating of the concerns that informed the attitudes of many (especially, but not only) British lawyers in the post-War era. The writings reflect a common sense of international law as a project as well as a practice; the goal of the project being to build respect for (the rule of) international law. This could not be achieved on the assertion of doctrinal verities, but rather by demonstrating the law’s adaptability to new conditions. Such demonstration—so the reasoning appeared to go—would foster engagement with and through law, rather than some other medium, permitting in turn the work of ‘gentle civilising’ to continue.¹⁰⁹ And, of course, international law did facilitate order with regard to states’ continental shelf claims: it established a definition to delimit these claims, and also provided the rules and mechanisms to resolve competing claims.

DHN Johnson, publishing a state of the field essay on the continental shelf in 1956, lauded the attitude of his colleagues in international law as ‘commendably quick’ and ‘remarkably constructive’.¹¹⁰ ‘Writers of very different outlooks and doctrinal positions’, he noted, ‘have hastened to give the assurance that no rules of international law stand between the world and the fulfilment of its needs.’¹¹¹ Johnson noted the critiques that had been made of the international law of the era before the first world war, i.e., that ‘it possessed an excessively formal and static character’, due to ‘the tendency of the international lawyers of the time to attach too much importance to the formal processes of the elaboration of the law and too little

had no uptake—as the ILC noted in its report to the UN General Assembly ‘the other members considered that there were insurmountable difficulties in the way of such internationalisation’: A/1316, *supra* note 102, at para. 198.

¹⁰⁷ Lauterpacht, Sovereignty over submerged areas, *supra* note 40, at 378.

¹⁰⁸ *Ibid.*

¹⁰⁹ These points are discussed in Ranganathan, Strategically Created Treaty Conflicts, *supra* note 71, at 31-41, 61-94. The phrase ‘gentle civilising’ is with reference to M. Koskenniemi, *The Gentle Civilizer of Nations* (2002), see esp. 401-406.

¹¹⁰ Johnson, Legal Status of the Seabed, *supra* note 41, at 452.

¹¹¹ *Ibid.*

to the ethical, political and social factors underlying the law.’¹¹² But this could not be said of ‘modern international law’:

The ... articles of Sir Cecil Hurst and Professor Lauterpacht ... are proof of the concern of leading international lawyers of the present time that, whatever the defects of modern international law, this particular charge shall not be levelled against it. These ... happen to be ... the works of English writers. But international lawyers the world over have shown the same concern...¹¹³

A certain pragmatism—laced with anxiety about what would otherwise be the fate of international law—thus informed the responses of international lawyers to the events triggered by the Truman Proclamation. It is striking to see how quickly, acting on this basis, they hypostatized the possibilities of oil extraction into given realities and applicable rules. Their intermediation contributed to deflecting both normative questions (what principles should underpin the law of the sea) and distributional ones (in whose interests should the ocean be used) on to the simpler terrain of technical detail (how much area was ‘exploitable’).¹¹⁴ While states may have led the process of making shelf claims, lawyers did much of the work of normalizing the model—exclusive national jurisdiction for sake of effective exploitation—which has characterised the law.

Turning now to the deep seabed, we see again the hypostatization of vague future possibilities of seabed mining into current urgency to design a legal regime. The difference is that the exaggeration here extended to the economic value of the resources, and the motivations at play were even more complicated than securing the place of international law. Pardo’s intervention, pivotal in placing the deep seabed on the UN’s law-making agenda, had overstated the promise of seabed minerals. He had relied on a scientific study, but had omitted to mention that study’s caution that only a fraction of the estimated wealth of the deep seabed would prove economic to mine. Instead, he described that study as offering a ‘conservative’ estimate. Pardo had also raised the spectre of a scramble for the ocean floor, tapping into the fresh memories of the newly independent states assembled to hear his speech. Ironically, he had used the fear as the

¹¹² Here Johnson cites former World Court judge, Charles de Visscher: C. de Visscher, *Theories et réalités en droit international public* (1953), at 72; *ibid.*, at 453-4. We might remind ourselves that Visscher’s views have been echoed also in the context of inter-war international law: e.g. Morgenthau, ‘Positivism, Functionalism and International Law’ 34 *AJIL* (1940) 260.

¹¹³ Johnson, *ibid.*, at 454.

¹¹⁴ It is possible to see this deflection take shape in the ILC’s discussions: see ILC, 2nd Sess., Summary Record of the 63rd, 66-69th meetings, UN Doc. A/CN.4/SR.63 & 66-69.

basis for a proposal that would secure developed states' right to rule the seabed by way of a special agency, arguing against oversight of seabed mining by a body like the UN General Assembly which accorded equal voting power to all states.¹¹⁵

None of this should be taken to suggest that Pardo's intervention deserves only criticism: in fact, it must be accorded credit both for highlighting the threats, including environmental, facing the ocean;¹¹⁶ and for emphasizing the redistribution of the benefits of seabed resources. These were important points to make, particularly together.¹¹⁷ Nevertheless, the intervention played a key role in promoting a view of the deep seabed as, foremost, a mining site. As discussed elsewhere, the factors that drove Pardo to make his proposal were complex, having to do as much—or more—with enhancing Malta's international standing.¹¹⁸

Even more complex, however, were the factors that kept the seabed mining issue at the forefront of the LOSC negotiations. For in fact, it need not have maintained its prominence: The expectation of demand for seabed minerals had peaked in the 1960s, and then declined with the discovery of new land deposits. There were also evident doubts about the availability of suitable mining technology. Yet the regime-making proceeded regardless of these facts, taking years and consuming significant financial and human resources of all states, especially developing ones. One explanation for this is that the seabed became one of the key arenas for the contest over the new international economic order (NIEO), in which the developing states were keen to reorient the fundamental *principles* governing international relations, even irrespective of actual economic gains.¹¹⁹ This explanation is certainly part of the story, but becomes problematic when extended to the claim that developing states were solely engaged in the pursuit of ideological dividends regardless of practicalities. For they had been given reasons to maintain belief in the relatively bright prospects of seabed mining. They saw reports about major industrial ventures, not least the false CIA story.¹²⁰ They were also given misinformation: even as developed states privately acknowledged that a very few mining sites would meet even future mineral demands (giving first movers an insurmountable advantage)

¹¹⁵ On these points, see Ranganathan, *Global Commons*, *supra* note 3, at 706-714.

¹¹⁶ On which point, see Karin Mickelson's contribution to this symposium.

¹¹⁷ Compare with others, like Garrett Hardin, who had cited ecological anxieties as an argument against redistribution: see Ranganathan, *Global Commons*, *supra* note 3, at 696-704.

¹¹⁸ *Ibid.*, at 708-709, 715.

¹¹⁹ Koskenniemi and Lehto, 'The Privilege of Universality: International Law, Economic Ideology and Seabed Resources', 65 *Nordic Journal of International Law* (1996) 533.

¹²⁰ On industrial ventures, see e.g. Shaw, *Nodule Mining*, *supra* note 10, at 183ff; on the CIA story see text accompanying note 29.

and high production costs would leave ‘insignificant’ funds for redistribution, they hesitated to reveal this to developing states,¹²¹ perhaps fearing that it would strengthen those states’ preference that mining be carried out exclusively by an ISA organ. Indeed, Henry Kissinger canvassed a ‘parallel’ system—in which both corporations and an ISA organ could conduct mining—on the assertion that there were ‘more than 100 valuable sites on which operations could be conducted at present’.¹²² Possibly, like developing states, developed states had multiple motives: to keep developing states invested in the seabed negotiations so that concessions in this respect could be traded off against other NIEO demands; but also to forestall a legal framework that might be too constraining in the future. Maintaining the stance that mining was a sufficiently economic activity promoted both ends.

In any event, the regime set out in the LOSC as adopted in 1982 does not convey the sense that seabed mining was regarded as an activity of doubtful promise. The provisions of ‘Part XI’—concerned with the deep seabed—were more detailed than those relating to any other part or use of the ocean. They designated the deep seabed and its resources as the CHM and emphasized the sharing of benefits.¹²³ While providing for a parallel system,¹²⁴ they also entailed the provision of various forms of assistance to the ISA mining organ and developing states to enable them too to engage in mining.¹²⁵ They further set out production quotas to prevent a glut on the market, and measures for compensating developing land-based producer states suffering loss of earnings due to seabed mining.¹²⁶ Largely unwelcome to developed states—many refused to sign the treaty—most measures of assistance and compensation were written out of the amended regime that entered into force in 1994.¹²⁷ Those amendments, seeking to base the mining regime squarely on commercial (rather than redistributive) principles, consolidated the extractive imaginary put in place by the 1982 regime.

V. Legal Imaginary of the Seabed

Viewed today from a legal perspective the seabed is, firstly, divided into zones—one placed under the national jurisdiction of states, the other placed under the ISA.¹²⁸ Secondly, it is

¹²¹ Five-Power Talks, January-July 1973, FCO 76/733, UK National Archives.

¹²² Meeting with Kenyan officials, 13 August 1976, KL/14/1, National Archives, Nairobi.

¹²³ Arts 136, 140, 160(2)(f) & (g), LOSC.

¹²⁴ Art 153, LOSC.

¹²⁵ Arts 144, 148, LOSC.

¹²⁶ Arts 151, 160(2)(l), LOSC.

¹²⁷ See Ranganathan, Strategically Created Treaty Conflicts, *supra* note 109, at 155-161, 171-174.

¹²⁸ The outer continental shelf remains the subject of pending claims, but the legal rights over it are clear.

juridically separated from the water column above; this is true even for the continental shelves encapsulated within proclaimed EEZs. Thirdly, its contents are selectively visibilized—and as resources. Legal rights to the continental shelf include rights to non-living resources and sedentary species, but not other bottom-dwelling ones. Legal rights to the deep seabed include rights to non-living resources; the deep seabed’s marine life is not comprehended within the CHM regime. These classifications make it possible to view the seabed as primarily a mining site. Obviously, the law recognises that the seabed can be put to other uses: for laying cables and pipelines, conducting scientific research, disposing wastes, and constructing artificial islands and other installations. It provides for these uses to be accommodated alongside mining activities;¹²⁹ in any event they reinforce, not dilute, the conclusion that the law turns the seabed over to the extractive interests of states and corporations. This is regardless of the specific jurisdictional allocation—whether to states or the ISA; both parts of the seabed must be recognised as grabbed.

Let me return to one of the challenges made to this representation of the law: that it is reductive to view all of the seabed as grabbed, for that elides the differences between regimes; some are more socially inclusive and ecologically sensitive than others. The CHM regime for instance requires the taking of measures for effective protection of the marine environment, and enjoins the ISA to adopt relevant rules, regulations and procedures to this end.¹³⁰ The ISA has been commendably active on this front, adopting regulations and recommendations in accordance with the state-of-the-art in environmental governance.¹³¹ Nevertheless, ameliorative efforts do not challenge the view of the ocean floor as principally a site of commercial mining activity, they may even reinforce it by operating as an ‘ecological fix’;¹³² the possibility of ‘better’ exploitation forestalling the question as to whether the seabed should be mined at all. This is a question that deserves greater prominence, with scientists pointing out the serious harms, including a net loss of marine biodiversity, which may be caused by seabed mining.¹³³ Yet, it

¹²⁹ Art 147, LOSC.

¹³⁰ Art 145 LOSC; Annex, S.(1)(5)(g), 1994 Agreement.

¹³¹ See Mickelson’s contribution to this symposium; Jaeckel, ‘The Implementation of the Precautionary Approach by the International Seabed Authority’, ISA Discussion Paper No. 5 (March 2017), available at <https://www.isa.org.jm/files/documents/EN/Pubs/DPs/DP5.pdf>; Ranganathan, ‘Law of the Sea and Natural Resources’, in E. Benvenisti and G. Nolte (eds.), *Community Interests Across International Law* (2018) 121, 132-134.

¹³² Ramesh and Rai define an ecological fix as ‘a spatial strategy that serves to screen or partially solve an environmental problem that can become a barrier to industrial growth.’ They further note that ‘its value lies more in its political-economic function (i.e. its discursive contribution) rather than in its ability to actually protect or conserve some aspect of nature’: Ramesh and Rai, *Trading on Conservation*, *supra* note 36, at 26.

¹³³ See e.g. Niner et al., ‘Deep-Sea Mining With No Net Loss of Biodiversity—An Impossible Aim’, 5 *Frontiers in Marine Science* (2018) 1; Van Dover et al, ‘Biodiversity loss from deep sea mining’, 10 *Nature*

is not a question that the ISA was set up to ask, or will be encouraged to ask by states.¹³⁴ Of course we cannot prejudge its work: it may be that the ISA would block exploitation out of concern for the marine ecology. Thus far, however, its work has included the grant of several exploration licenses including for sites of great ecological significance, like the Lost City.¹³⁵

Similar points may be made about the provisions relating to the benefit of mankind. In the discussions of the 1950s and 60s, it was taken for granted that extracting seabed resources will be for the benefit of mankind. Redistribution was in fact regarded as only one possible mode by which to spread the benefit; other models assumed that the economic growth catalysed by these new resources was a benefit in itself—we might recall that ILC discussions on the continental shelf also spoke of the benefit of mankind, without linking the extension of national jurisdiction to any sharing of the resources or the revenue.¹³⁶ The benefit read in here was supply security—these seabed resources alleviated the scarcity of land resources.¹³⁷ However, by the time of the LOSC negotiations, the demand for deep seabed minerals had declined; and there was concern amongst land-based producers of the loss of their own mining revenue. At this time then, the benefit had to be recast: redistribution, the facilitation of developing states' entry into the seabed mining industry, and the argument that seabed mining entailed fewer adverse environmental implications than mining on land. But these 'benefits' too came into doubt. As mentioned earlier, it turned out that developed states had privately acknowledged that there would not be much profit to redistribute. The subsidies for developing states were also written out of the regime by way of the 1994 Agreement.¹³⁸ The claim of fewer ecological implications lacks scientific validation.

The key point here is that we need more critical inquiry into the idea of 'benefit of mankind', and whether, why and how it may be advanced by seabed mining.¹³⁹ Meanwhile, it is crucial

Geoscience (2017) 464; Jones et al., 'Biological responses to disturbance from simulated deep-sea polymetallic nodule mining', 12 *PLoS ONE* (2017) 1; Levin et al., 'Defining "serious harm" to the marine environment in the context of deep-seabed mining', 74 *Marine Policy* (2016) 245. One work explicitly raising the question is Kim, 'Should deep seabed mining be allowed?', 82 *Marine Policy* (2017) 134.

¹³⁴ As the President of the ISA Council asserted in words reproduced in an ISA press release, 'the exploitation of the mineral resources of the deep seabed was "the reason we are here"': Press Release SB/19/14, 22 July 2013, available at www.isa.org.jm/files/documents/EN/Press/Press13/SB-19-14.pdf.

¹³⁵ See Boetius and Haeckel, 'Mind the Seafloor', 359 *Science* (2018) 34.

¹³⁶ UN Doc. A/1316, *supra* note 102, para. 198.

¹³⁷ See Feichtner's contribution to this symposium.

¹³⁸ However, the current regime does afford opportunities to particular developing states—small states, like Nauru, have begun to capitalize on the opportunity to act as sponsor states for corporations interested in deep seabed mining: on this point, see Feichtner's contribution to this symposium.

¹³⁹ This point is also emphasized by Kim, Should deep seabed mining be allowed, *supra* note 133, at 134-136. See also Jaekel et al., 'Sharing benefits of the common heritage of mankind – Is the deep seabed mining regime ready?', 70 *Marine Policy* (2016) 198.

to recognise that notions of ‘better’ exploitation, or of (vaguely conceived) ‘benefits to mankind’—although manifesting as real differences between various seabed regimes—do not subvert the current legal imaginary in which the seabed serves the extractive interests of some states and corporations.

New designs for the use of the ocean, such as the Ocean Spiral project, which I mentioned at the outset, build on that imaginary, for a further grab of the seabed. That project too is explained in terms of benefits to humankind; the Shimizu Corporation explains—in words that recall earlier ocean fantasies—that the project ‘seeks to harness the power of the deep sea to renew the earth, with a deep sea city of the future serving as a base camp’.¹⁴⁰ As presented by the corporation, the Ocean Spiral will serve two purposes. Firstly, it will provide a new ‘city’ for up to 5000 inhabitants that will be ‘safer’, ‘more comfortable’ and healthier, with ‘higher concentrations of oxygen’ than cities on land.¹⁴¹ Secondly, it will cater to global needs in five areas—food security; energy security via conversion of the ocean’s thermal energy (although the plan speaks only of energy self-sufficiency for the project); water, via desalination of seawater (again, however self-sufficiency is presented as the goal); reducing carbon dioxide levels (nothing is indicated beyond the claim that the project will put carbon dioxide ‘to use’), and extraction of natural resources.¹⁴² The plan is claimed to ‘[b]reak[] free from past patterns of land development, which have focused mainly on efficiency’; rather, it will ‘promote true sustainability while maximizing use of the deep sea’s resources’.¹⁴³ It is not my purpose here to assess whether the project might meet its stated goals. Rather, I highlight the goals so that we might note their familiar structure: multiple rewards (new lifestyle, unlimited resources) for a few, leavened by the promise of some generically stated benefits for all. For those who would not qualify for the new weather-event-proof small gated communities of the Ocean Spiral(s) and who do not profit from its extractive activities, the benefits—as stated in the project materials—would appear to be two: the opportunity to buy its ‘branded seafood’;¹⁴⁴ and the opportunity to buy other products manufactured from its exploitation of seabed resources.

The project represents an escalated grab of the ocean in its legal aspects as well. The prospectus announces that its ‘large-scale concept seeks to take advantage of the limitless possibilities of

¹⁴⁰ Shimizu Corporation, A New Interface, *supra* note 2, at 4.

¹⁴¹ *Ibid.*, at 7.

¹⁴² *Ibid.*, at 15-16.

¹⁴³ *Ibid.*, at 2.

¹⁴⁴ *Ibid.*, at 17.

the deep sea by linking together vertically the air, sea surface, deep sea, and sea floor.’¹⁴⁵ This of course raises questions about where the company seeks to build these Ocean Spirals. To the extent that its activities are to be located within the EEZs of states they are at least within the licensing power of individual states, although we might note that in scale and scope the proposed structures represent a greater curtailment of the freedom of navigation. Moreover, they probably also better express the interconnected ‘land’ and ‘sea’ ecosystems of the zone. But, the plans as set out in the prospectus indicate that the abyssal plain is the preferred siting-ground for these spirals.¹⁴⁶ In that case, outside of the situations where the plain is legally within the 200M distance limit from the coasts, and thus within national jurisdiction, the Ocean Spiral(s) will be built on the international seabed area. And that—effectively the building of settlements on the seabed—represents an enclosure of a different kind from the grant of mining licenses. Will the ISA claim the authority to grant permission for such construction? What about the fact that these structures will project all the way to the surface from the depths, i.e. reside in the sea? For this, it is possible that the corporation might rely upon a sponsoring state’s high seas freedom to build artificial islands; which may be built so long as reasonable regard is maintained for other users of the high seas.¹⁴⁷ But consider the implications: perhaps a single structure might pass, but the network of structures proposed by the corporation,¹⁴⁸ effectively enclosing a large part of the high seas, surely would need more of a legal basis than the principle of freedom (at least if the principle is not to be reduced entirely to Orwellian double-speak). And so, will we see a further development of the law permitting the creation of luxury living spaces for some on the argument that they also generate some benefits for many? And, will it again be the lawyers that lead the development of this law, reifying the distant possibilities of what such a project might achieve into given realities?

These questions are asked by reference to the Ocean Spiral project, but not as particular to it. That project may never reach the point of practical implementation, but its design represents the new forms in which the grab of the ocean continues. These forms grow more sophisticated, co-opting arguments of ecological and social justice, as much as arguments of growth and profit. They ask more and more of the ocean, finding new ways of extracting value from it.

¹⁴⁵ *Ibid.*, at 2.

¹⁴⁶ *Ibid.*, figs. at 6, 25

¹⁴⁷ Art 87(1)(d), LOSC.

¹⁴⁸ Shimizu Corporation, A New Interface, *supra* note 2, at 25.

And they ask more and more of international law, to provide, as it has before, the conditions that facilitate these new forms of exploitation.

VI. Conclusion

How, then, will the law respond? The effort in this article has been to show that the current law of the sea owes both to contingency *and* false contingency for its development. While multiple factors—and many good intentions—have informed the present legal regimes for national and international jurisdiction, it is also the case that these regimes cater substantially to a few extractive interests: some mining corporations, and their sponsoring states. This is not to say that the law has no potential to be deployed against extractive interests; it has increasingly given articulation to ecological concerns, and—in peaks and troughs—to redistributive ones. And more complex developments are afoot, in the form of the ISA’s ongoing drafting of the mining code, and the negotiation of the agreement on biodiversity beyond national jurisdiction. But, for all that these new instruments might accomplish, there remain real and pertinent questions about the extent to which they can undo the primacy that the law currently accords to the exploitation of the ocean: can the law, as the medium that facilitated the grab of the ocean floor in fact also serve as the medium that returns it to the common benefit? There can be no conclusive answer to this question; but recognising that this is what the law has done, and further recognising how it came to develop, must constitute the first steps of any process to achieve that happy result.