

Unconventional Lawmaking in the Law of the Sea

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Unconventional Law for Unconventional Ships? The Role of Informal Law in the International Maritime Organization's Quest to Regulate Maritime Autonomous Surface Ships

Anna Petrig

7.1 Introduction

New technologies have regularly been triggers for the creation of new rules, or the amendment of existing rules, by the International Maritime Organization (IMO or the Organization),¹ which is the UN specialized agency in the field of shipping.² Maritime Autonomous Surface Ships (MASS)—the term used by the Organization to denote ships ‘which, to a varying degree, can operate independent of human interaction’³—are not novel in this respect. All the same, MASS stand out from previous technological inventions in various respects, notably because their construction and operation involves not one but several emerging technologies, each of which is, in itself, complex, inchoate, and developing at an unprecedented pace. As a result, their regulation poses exceptional challenges, not only in terms of the content of rules, but also as regards the regulatory techniques to be deployed to achieve ‘the safe, secure and environmentally sound operation’⁴ of this new type of vessel.

The IMO's interest in autonomous ships and their regulation is relatively recent, but has experienced exponential growth of late. In the span of only half a decade, ‘autonomous ships have turned from a non-issue to one of the main regulatory topics’ dealt with by the IMO.⁵ So far, the main focus of the debate has been on substantive law, while the question of which regulatory techniques are most suitable for integrating MASS into the IMO's legal framework has only been considered at the fringes. The academic debate accompanying the Organization's efforts to regulate MASS in a proactive fashion has, thus far, equally centred around the content of rules, while possible modes of governance have only been discussed

* Developments up until 31 March 2021 have been taken into account.

¹ Aldo Chircop, ‘Testing International Legal Regimes: The Advent of Automated Commercial Vessels’ (2017) 60 *Germ Yrbk Intl L* 1, 1.

² Convention on the International Maritime Organization (adopted 6 March 1948, entered into force 17 March 1958) 289 UNTS 3 (hereafter ‘IMO Convention’), art 64.

³ IMO, ‘Report of the LEG Working Group on MASS’ (29 March 2019) IMO Doc LEG 106/WP.5, Annex, para 3.

⁴ IMO, ‘Report of the Maritime Safety Committee on its Ninety-Eight Session’ (28 June 2017) IMO Doc MSC 98/23, para 20.1

⁵ Henrik Ringbom, Erik Røsæg, and Trond Solvang, ‘Introduction’ in Henrik Ringbom, Erik Røsæg, and Trond Solvang (eds), *Autonomous Ships and the Law* (Routledge 2021) 3.

tangentially.⁶ Yet, as '[i]n an age of constant, complex and disruptive technological innovation, knowing what, when, and how to structure regulatory interventions has become more difficult,'⁷ the question of how to regulate MASS deserves more attention.⁸ This is where the present chapter comes in. It probes the normative techniques that seem suitable in the context of MASS by concentrating on the role informal law could play in the IMO's quest to regulate this novel type of vessel—or, in more sloganesque words, and in allusion to the title of this book, it explores the (potential) role of unconventional law for unconventional ships.

First, section 7.2 provides a brief overview as to why MASS differ, as a regulatory object, from previous technologies that have been the drivers for the adoption of new rules under the auspices of the IMO. This discussion is followed by an account, in section 7.3, of the steps undertaken by the IMO so far to bring MASS within its regulatory framework. Section 7.4 demonstrates that the IMO's engagement with informal law is far from novel; rather, informal law has played 'an extremely important part in the functioning of the organization and in the regulation of international shipping' since its inception.⁹ The core of this chapter, section 7.5, enquires into the role that informal law could play in the interpretation of existing treaties, with a view to their application to MASS, and in the amendment or creation of new rules governing MASS. The IMO's engagement with informal law, considered alongside the advantages ascribed to informal law in the regulation of emerging technologies,¹⁰ and the fact that the 'age of treaties'¹¹ is said to be over,¹² suggests that informal law could take centre stage in the IMO's efforts to bring MASS within its normative framework. Of course, as the process of regulating MASS is still in its infancy, nothing more than a forecast is possible at the current juncture.

7.2 MASS Posing Exceptional Regulatory Challenges

The world of shipping has experienced tremendous change since the IMO became operational in 1958.¹³ According to its self-perception, 'the Organization was kept busy from the start developing new conventions and ensuring that existing instruments kept pace with changes in shipping technology'.¹⁴ As such, the fact that new technologies function as

⁶ Scholarship discussing regulatory techniques for emerging technologies in general, or with regard to specific technologies other than MASS, is abundant: see, eg Gary E Marchant, Braden R Allenby, and Joseph R Herkert (eds), *The Growing Gap between Emerging Technologies and Legal-ethical Oversight: The Pacing Problem* (Springer 2011); Gary E Marchant, Kenneth W Abbott, and Braden Allenby (eds), *Innovative Governance Models for Emerging Technologies* (Edward Elgar 2013).

⁷ Mark Fenwick, Wulf A Kaal, and Erik P M Vermeulen, 'Regulation Tomorrow: What Happens When Technology Is Faster Than the Law?' (2016) 6(3) AUBLR 561, 561.

⁸ Admittedly, a discussion of suitable regulatory techniques presupposes a certain understanding of the nature and scope of the substantive issues to be regulated.

⁹ Frederic L Kirgis, 'Shipping' in Oscar Schachter and Christopher C Joyner (eds), *United Nations Legal Order*, vol 2 (CUP 1995) 732.

¹⁰ See, eg Ryan Hagemann, Jennifer Huddleston Skees, and Adam Thierer, 'Soft Law for Hard Problems: The Governance of Emerging Technologies in an Uncertain Future' (2018) 17(1) CTLJ 37.

¹¹ An allusion to the (then apposite) opening sentence of Ulf Linderfalk, *On the Interpretation of Treaties* (Springer 2007) 1: 'We live in the age of treaties.'

¹² On the prevailing 'treaty fatigue', see Joost Pauwelyn, Ramses A Wessel, and Jan Wouters, 'When Structures Become Shackles: Stagnation and Dynamics in International Lawmaking' (2014) 25(3) EJIL 733, 739.

¹³ Dorota Lost-Sieminska, 'The International Maritime Organization' in Michael Bowman and Dino Kritsiotis (eds), *Conceptual and Contextual Perspectives on the Modern Law of Treaties* (CUP 2018) 909.

¹⁴ IMO, 'Conventions' <www.imo.org/en/About/Conventions/Pages/Default.aspx> accessed 1 April 2021.

an incubator for the amendment of existing rules, or the adoption of entirely new rules, is not novel. As Chircop notes, '[t]he history of international maritime law is punctuated by game-changing technological milestones,'¹⁵ and '[t]he technology of shipping has driven much of the *opus* of the ... [IMO]'¹⁶. Yet, MASS, when looked at from a regulator's perspective, arguably differ from past technological innovations, and even those deemed 'revolutionary' at the time of their introduction, such as containers.

First of all, the advent of MASS amounts to a foundational change for the more than fifty treaties for which the IMO is responsible,¹⁷ as it challenges a basic assumption on which they rest: that ships have an onboard crew responsible for the ship's operation and mission.¹⁸ Ship automation technology, which heralds a shift towards ships with a reduced crew or, in the more distant future, no onboard crew, thus strikes at the heart of these rules.¹⁹ In quantitative terms, this shift implies that the introduction of MASS affects almost every IMO treaty in one way or another.²⁰ In qualitative terms, the legal issues to be addressed due to the advent of MASS are extremely diverse, given the IMO's regulatory reach, which ranges from maritime safety and security, and the prevention of marine pollution, to liability and compensation arising from shipping operations.²¹ On top of this, autonomous ships will raise entirely new legal issues that the Organization has not regulated before.²² Overall, the normative challenges arising from the introduction of MASS are 'expected to be wide-ranging and far-reaching'.²³

Second, MASS, as a technology, seem to differ from previous maritime technological inventions. To begin with, MASS are considered a technology that will have a transformative impact on shipping.²⁴ The view is held that the 'Fourth Industrial Revolution' will 'change the maritime industry as a whole',²⁵ and that MASS specifically 'require a fundamental "re-think" of shipping in all its aspects', including its regulation.²⁶ It is true that, throughout the existence of the IMO, new technologies, hailed as 'revolutionary' at the time of their introduction, have surfaced in the maritime world. Think of the introduction in the 1950s and

¹⁵ Chircop, 'Testing International Legal Regimes' (n 1) 3.

¹⁶ *ibid* 3–4.

¹⁷ IMO, 'Conventions' (n 14).

¹⁸ See, eg IMO, 'Summary of Results of the LEG Regulatory Scoping Exercise for the International Convention on Liability and Compensation for Damage in Connection with the Carriage of Hazardous and Noxious Substances by Sea, 2010' (10 January 2020) IMO Doc LEG 107/8/15, para 17.

¹⁹ See, eg IMO, 'Summary of Results of the Second Step and Conclusion of the RSE for the International Regulations for Preventing Collisions at Sea 1972' (6 February 2020) IMO Doc MSC 102/5/3, para 31.

²⁰ Henrik Ringbom, 'Developments, Challenges, and Prospects at the IMO' in Henrik Ringbom, Erik Røsæg, and Trond Solvang (eds), *Autonomous Ships and the Law* (Routledge 2021) 63.

²¹ For the IMO's mandate, see IMO Convention (n 2), art 2.

²² Måns Jacobsson, 'What Challenges Lie Ahead for Maritime Law?' in Proshanto K Mukherjee, Maximo Q Mejia, and Jingjing Xu (eds), *Maritime Law in Motion* (Springer 2020) 281. For concrete examples, see IMO, 'Summary of Results of Analysis of IMO Instruments Under the Purview of the Legal Committee' (13 December 2019) IMO Doc LEG 107/8, para 30.

²³ Cleopatra Doumbia-Henry (President, World Maritime University (WMU)), 'Maritime Trade and Transport—An Outlook on the Issues and a Reflection on the Implications for Education and Research' in UNCTAD, *50 Years of Review of Maritime Transport, 1968–2018: Reflecting on the Past, Exploring the Future* (United Nations, 2018) 52.

²⁴ Donald Liu, 'Autonomous Vessel Technology, Safety, and Ocean Impact' in Dirk Werle and others (eds), *The Future of Ocean Governance and Capacity Development: Essays in Honor of Elisabeth Mann Borgese (1918–2002)* (Brill Nijhoff 2018) 490.

²⁵ Doumbia-Henry (n 23) 52.

²⁶ Frank Smeele, 'Switching Off Regulatory Requirements: Flag State Exemptions as a Tool to Facilitate Experiments with Highly Automated Vessels and their Operational Implementation' in Henrik Ringbom, Erik Røsæg, and Trond Solvang (eds), *Autonomous Ships and the Law* (Routledge 2021) 69.

1960s of radar to avoid collisions, automatic identification systems, refrigeration on board vessels and, most importantly, containers.²⁷ Yet, MASS differ in several respects when compared with, say, containerization, which was certainly the technological invention of the twentieth century that yielded the biggest transformative effect on shipping (and beyond).²⁸

One hallmark of MASS is that their construction and operation does not involve one single, relatively simple technology, but several. Artificial intelligence, robotics, and information technology are just three tech buzzwords commonly associated with MASS, each of which covers a myriad of technologies.²⁹ Furthermore, these technologies are more complex than earlier innovations. While everyone can imagine what a container is (essentially a standardized metal box),³⁰ the concept of 'autonomy' and the various 'levels of autonomy' remain elusive, against the backdrop of differing interpretations and understandings proposed by doctrine and practice at the current juncture, even when solely considering *maritime* systems.³¹ Grasping how MASS will ultimately be designed and operated is further complicated by the fact that various applications allowing for increased ship automation are still in the development phase.³² MASS, thus, involve technologies that may be qualified as 'inchoate': that is, belonging to those that 'are far from completely developed', which 'differentiates them from more stable ones'.³³ In this regard, MASS differ decisively from containers, which have not significantly changed since their introduction in the 1950s, and for which the current prediction is that '[b]ox sizes will be stable at today's standard' for the next twenty-five years³⁴ (this is barely surprising as the very concept of containerization is based on standardization).

A further difference to past innovations is that today's emerging technologies 'are racing forward at a pace of technology development that has never before been experienced in human history'.³⁵ Indeed, when addressing the significant transformation expected in maritime transport, the acting IMO Secretary-General stated that '[t]he next 10 or 20 years will see as much change as we have experienced in the past 100 years'.³⁶ These ever-shorter

²⁷ Aldo Chircop and Desai Shan, 'Governance of International Shipping in the Era of Decarbonisation: New Challenges for the IMO?' in Proshanto K Mukherjee, Maximo Q Mejia, and Jingjing Xu (eds), *Maritime Law in Motion* (Springer 2020) 101.

²⁸ On how containerization upended the maritime world, see Michael B Miller, *Europe and the Maritime World: A Twentieth-Century History* (CUP 2012) 320 (overview), and ch 9, entitled 'Transformation'.

²⁹ For anecdotal evidence on the number of technologies involved in MASS, see Kevin Heffner and Ørnulf Jan Rodseth, 'Enabling Technologies for Maritime Autonomous Surface Ships' (2019) 1357 J Phys Conf Ser 1, 1.

³⁰ Despite being 'so simple a concept', containers triggered tremendous change, as 'every other facet of the transport chain was systematically calibrated to handle them': Miller (n 28) 333.

³¹ For an overview of various definitions, see, eg Bradley Martin and others, *Advancing Autonomous Systems: An Analysis of Current and Future Technology for Unmanned Maritime Vehicles* (Rand Corporation 2019) 5–7.

³² Carmen Kooij, Alina P Colling, and Christopher L Benson, 'When Will Autonomous Ships Arrive? A Technology Forecasting Perspective' (Proceedings of the 14th International Naval Engineering Conference & Exhibition, October 2018) 1.

³³ Daniel Gervais, 'The Regulation of Inchoate Technologies' (2010) 47(3) Hous L R 665, 671: inchoate technologies are generally new ones; yet there are indicators next to time, notably that their future use is unpredictable, that social norms in relation to them are in flux and rapidly evolving, that they are not developed by existing firms as part of existing product lines, and that their regulation bears certain risks (ibid 672–74).

³⁴ Charles Fenton and others, *Brave New World? Container Transport in 2043* (Report by TT Club and McKinsey & Company 2018) 13 and 32.

³⁵ Gary E Marchant, 'Addressing the Pacing Problem' in Gary E Marchant, Braden R Allenby, and Joseph R Herkert (eds), *The Growing Gap between Emerging Technologies and Legal-ethical Oversight: The Pacing Problem* (Springer 2011) 199; see also IMO, 'Strategic Plan for the Organization for the Six-year Period 2018 to 2023' (8 December 2017) IMO Doc A 30/Res. 1110, para 17.

³⁶ Kitack Lim (Secretary-General, International Maritime Organization (IMO)), 'Future Developments in Maritime Transport' in UNCTAD (n 23) 37.

innovation cycles,³⁷ in turn, accelerate the ‘pacing problem’,³⁸ which denotes the phenomenon that law usually trails behind technological development.³⁹ The statement that ‘autonomous technology for ships will mature much faster than the development of sufficient . . . regulations’⁴⁰ is to be viewed against this background.

All things considered, despite the fact that delegations to the IMO are generally composed of persons with advanced technical knowledge, and that non-governmental organizations (NGOs) and intergovernmental organizations (IOs) add expertise,⁴¹ it seems more challenging to identify the technology to be regulated, and to discern the regulatory object, in the context of MASS than has been the case for previous technological innovations.⁴²

7.3 The IMO’s Efforts to Integrate MASS in its Regulatory Framework

While, today, the IMO invests significant resources in analysing how MASS could be integrated into its legal framework, the idea that this new type of vessel is a regulatory object to be dealt with by the Organization is a rather recent one. Ringbom identifies as the ‘first trace’ of such understanding an information paper on ‘The IMO Regulatory Framework and its Application to Marine Autonomous Systems’, which was submitted by the United Kingdom and two NGOs in 2015—a démarche that, however, ‘passed largely unnoticed’.⁴³ Just a year later, the idea was already gaining more traction when various states suggested the inclusion of autonomous ships in the ‘Trends, Developments and Challenges’ paper.⁴⁴ This document, in turn, informed the IMO’s strategic plan for the 2018 to 2023 period, which was adopted in 2017, and which included a strategic direction to ‘[i]ntegrate new and advancing technologies in the regulatory framework’.⁴⁵ At present, this strategic direction is mainly implemented through a so-called regulatory scoping exercise (RSE).

The RSE goes back to a proposal submitted by nine states to the Maritime Safety Committee (MSC), in 2017, to ‘undertake a regulatory scoping exercise to establish the extent of the need to amend the regulatory framework to enable the safe, secure and environmental operation’ of MASS.⁴⁶ This proposal was adopted the same year.⁴⁷ The Legal Committee (LEG) followed suit in 2018, as did the Facilitation Committee (FAL) in 2019, when they included in their respective agendas a similar output for the treaties coming

³⁷ Fenwick, Kaal, and Vermeulen (n 7) 562.

³⁸ Hagemann, Huddleston Skees, and Thierer (n 10) 58.

³⁹ Wendell Wallach, *A Dangerous Master: How to Keep Technology from Slipping beyond our Control* (Basic Books 2015) 251.

⁴⁰ Liu (n 24) 493.

⁴¹ Rosalie P Balkin, ‘The IMO and Global Ocean Governance: Past, Present, and Future’ in David J Attard, Rosalie P Balkin, and Donald W Greig (eds), *The IMLI Treatise on Global Ocean Governance, Volume III: The IMO and Global Ocean Governance* (OUP 2018) 24.

⁴² See Fenwick, Kaal, and Vermeulen (n 7) 571.

⁴³ Ringbom, ‘Developments, Challenges, and Prospects at the IMO’ (n 20) 57–58.

⁴⁴ IMO, ‘Inputs from Member States, IGOs and NGOs to the Development of the Trends, Developments and Challenges’ (8 April 2016) IMO Doc SF-WG 2/INF.2.

⁴⁵ IMO Doc A 30/Res 1110 (n 35), paras 17–19.

⁴⁶ IMO, ‘Maritime Autonomous Surface Ships: Proposal for a Regulatory Scoping Exercise’ (27 February 2017) IMO Doc MSC 98/20/2, para 1.

⁴⁷ IMO Doc MSC 98/23 (n 4), para 20.2.

under their purview.⁴⁸ The objective of the exercise, which today extends to more than forty conventions and protocols,⁴⁹ is to better understand whether existing law can accommodate MASS.⁵⁰ It is purely 'exploratory' in nature and does not include any drafting exercises.⁵¹ At the time of writing, the RSE is ongoing. As the outbreak of the COVID-19 pandemic brought the work to an abrupt halt, the (ambitious) target completion date of 2020 for the RSE conducted within the MSC and FAL⁵² could not be realized.⁵³ The same is likely to be the case for the 2022 target date set by the LEG,⁵⁴ given that it adjusts its timetable to the work of the MSC.⁵⁵

All three committees follow a very similar methodology when conducting the RSE,⁵⁶ and this methodology foresees a two-step approach. The first phase involves a provision-by-provision review of each of the selected treaties. The goal is to assess, for each provision, whether it prevents the operation of MASS, and, if not, whether it can be applied without further ado to MASS, or whether it needs to be clarified, amended, or complemented.⁵⁷ Thereby, a distinction is drawn between four degrees of autonomy: ships with automated processes and decision support having a crew on board, remotely controlled ships having seafarers on board, remotely controlled ships without onboard crew, and fully autonomous ships.⁵⁸ While the focus of this first step is on the substance of the individual rules, the second step considers the instruments as a whole, and pertains to the question of how to address the regulatory needs identified during the first phase. Thereby, the choice is limited to four options: (1) the development of interpretations; (2) the amendment of existing instruments; (3) the creation of new instruments; or (4) none of these options.⁵⁹ To keep the exercise manageable, the two-step analysis is undertaken by volunteering member states, acting either individually or as a group. Yet, all IMO member states, NGOs with consultative status, and IOs with observer status are able to comment upon their findings.⁶⁰ Since the current chapter focuses on possible regulatory techniques to integrate MASS into the IMO's legal framework, the second step of the RSE is of primary interest. The chapter will, therefore, turn to this issue after an analysis of the role that informal law has played in the IMO so far.

⁴⁸ IMO, 'Report of the Legal Committee on the Work of its 105th Session' (1 May 2018) IMO Doc LEG 105/14, para 11.8; IMO, 'Report of the Facilitation Committee on its Forty-third Session' (23 April 2019) IMO Doc FAL 43/20, para 19.9.

⁴⁹ Ringbom, 'Developments, Challenges, and Prospects at the IMO' (n 20) 58–59.

⁵⁰ See, eg IMO Doc LEG 106/WP.5 (n 3), Annex, para 2.

⁵¹ Bureau Veritas, *Guidelines for Autonomous Shipping* (October 2019), s 3.3.1.

⁵² IMO Doc MSC 98/23 (n 4), para 20.2.11; IMO Doc FAL 43/20 (n 48), para 19.9.1.

⁵³ IMO, 'Report of the Maritime Safety Committee on its 102nd Session' (30 November 2020) IMO Doc MSC 102/24, para 5.1.

⁵⁴ IMO Doc LEG 105/14 (n 48), para 11.11.

⁵⁵ IMO, 'Draft Report of the Legal Committee on the Work of its 107th Session' (1 December 2020) IMO Doc LEG 107/WP.1, para 8.7.

⁵⁶ See IMO, 'Report of the Legal Committee on the Work of its 106th Session' (13 May 2019) IMO Doc LEG 106/16, para 8.5, and IMO Doc FAL 43/20 (n 48), para 19.9.2, reporting the decisions to apply the methodology developed by the MSC. For the sake of brevity, only the LEG methodology is referenced in the following text.

⁵⁷ IMO Doc LEG 106/WP.5 (n 3), Annex, para 8.

⁵⁸ *ibid.*, para 4.

⁵⁹ *ibid.*, para 10.

⁶⁰ *ibid.*, app 3.

7.4 IMO and Informal Law

Absent a hard and fast definition of 'informal law', and in light of differing understandings of what the concept—often inadequately referred to as 'soft law'⁶¹—covers,⁶² it is necessary to briefly outline how the term is used in the present chapter. Informal law denotes instruments that fulfil four criteria. First, from the qualifier 'informal' (or 'soft'), it follows that the instrument does not belong to a recognized source of international law⁶³ from which 'formal' (or 'hard') norms emanate. Second, as the word 'law' indicates, only 'normatively worded instruments'⁶⁴—those having a regulatory character—amount to informal law as defined here:⁶⁵ that is, instruments governing persons, facts, or situations in a general and abstract way ('general-abstract').⁶⁶ Excluded from this definition are, thus, instruments resulting from, or involving, an application of norms to a specific case.⁶⁷ Third, despite being informal, these general-abstract norms possess, to varying degrees, normative implications—also termed 'normative effect',⁶⁸ 'normative value',⁶⁹ 'normative force',⁷⁰ 'quasi-legal effect',⁷¹ or 'law-like consequences'⁷²—as they 'channel the conduct'⁷³ or curtail the freedom of the respective addressees. Fourth, states or IOs are either the creators of the instruments, or they 'endorse' instruments elaborated by private actors⁷⁴ without public authority involvement.⁷⁵ The term 'endorsement' is used here to denote acts of states or IOs that express their approval of a given set of norms resulting from exclusively private cooperation, and by which the public instrument becomes clothed with a certain degree of public authority. Such 'endorsement' can take various forms—it can, for instance, consist of the issuance of a (non-binding) resolution underlying a commitment to implement a private

⁶¹ What follows underlines the finding in Joost Pauwelyn, Ramses A Wessel, and Jan Wouters, 'Informal International Lawmaking: An Assessment and Template to Keep It Both Effective and Accountable' in Joost Pauwelyn, Ramses A Wessel, and Jan Wouters (eds), *Informal International Lawmaking* (OUP 2012) 534 that there is nothing 'soft' in many norms belonging to informal law.

⁶² Alan Boyle, 'Soft Law in International Law-making' in Malcolm D Evans (ed), *International Law* (5th edn, OUP 2018) 121.

⁶³ See, eg Anthea Roberts and Sandesh Sivakumaran, 'The Theory and Reality of the Sources of International Law' in Malcolm D Evans (ed), *International Law* (5th edn, OUP 2018) 89–118.

⁶⁴ Term borrowed from Boyle, 'Soft Law in International Law-making' (n 62) 121.

⁶⁵ This second criterion is necessary since the first one—that 'informal law' must not belong to a source of international law—is insufficient, because treaties may govern a specific situation resulting from the application of the law (eg a border treaty).

⁶⁶ For an incisive description of the elements 'general' and 'abstract', see Edward Yemin, *Legislative Powers in the United Nations and Specialized Agencies* (AW Sijthoff 1996) 5–6.

⁶⁷ Dinah Shelton, 'Soft Law' in David Armstrong (ed), *Routledge Handbook of International Law* (Routledge 2009) 70 denotes this type of informal instruments as 'secondary soft law'.

⁶⁸ Klein, in Chapter 1 of this volume.

⁶⁹ *Legality of the Threat or Use of Nuclear Weapons* (Advisory Opinion) [1996] ICJ Rep 254, para 70.

⁷⁰ Thomas Gammeltoft-Hansen, 'The Normative Impact of the Global Compact on Refugees' (2018) 30(4) *IJRL* 605, 607.

⁷¹ Frederic L Kirgis, 'Specialized Law-making Processes' in Oscar Schachter and Christopher C Joyner (eds), *United Nations Legal Order*, vol 1 (CUP 1995) 159.

⁷² Shelton (n 67) 68.

⁷³ Kirgis, 'Specialized Law-Making Processes' (n 71) 109.

⁷⁴ In international law, the divide between 'public' and 'private' is less clear than in the domestic sphere. Here, the term 'private actors' is used to refer to actors other than states and IOs.

⁷⁵ The definition is, thus, broader than the one by Joost Pauwelyn, 'Informal International Lawmaking: Framing the Concept and Research Questions' in Joost Pauwelyn, Ramses A Wessel, and Jan Wouters (eds), *Informal International Lawmaking* (OUP 2012) 19, which requires 'public authority involvement'.

standard⁷⁶—and some endorsements considerably enhance the normative effects of these instruments.⁷⁷

The IMO, which is, at times, dubbed a ‘standard-setting organization’,⁷⁸ definitely engages in ‘informal lawmaking’ as just defined. As regards the first criterion, Henry writes that the ‘IMO’s legislative instruments can be classified into two broad categories: those of a formal nature and those which are less formal ... [t]he former category includes treaties, the latter recommendations.’⁷⁹ She continues by stating that, actually, the only kind of instruments that can be issued by the IMO itself are recommendations.⁸⁰ Indeed, even though treaties are facilitated by the Organization, they are ultimately adopted by the member states and are, thus, not attributable to the IMO.⁸¹ By contrast, as per its founding treaty, the IMO is competent to issue recommendations.⁸² In theory, a clear dividing line can, thus, be drawn between formal instruments (in IMO parlance, ‘mandatory’) and informal instruments⁸³ (in IMO argot, ‘recommendatory’ or ‘not ... mandatory instruments for treaty purposes’⁸⁴). Yet, in practice, which of these two ‘boxes’ a given instrument falls into—and thus its legal status—has not always been readily determinable.⁸⁵

The term ‘recommendations’ in Article 2 of the IMO Convention does not refer to a specific type of unilateral act adopted by an organ of the IMO, but, rather, delineates the Organization’s powers.⁸⁶ Indeed, recommendations—which come under a variety of names,⁸⁷ such as guidelines, guidance, regulations, or codes, to name but a few—are issued through different types of unilateral acts, most notably resolutions and circulars.⁸⁸ Generally, recommendations are included as an annex to the respective unilateral act.⁸⁹ In terms of content, not every recommendatory unilateral act of the IMO possesses the ‘lawmaking’ characteristics necessary to fulfil the second criterion of our ‘informal law’

⁷⁶ Eg, the (informal) ‘Copenhagen Declaration on Anti-doping in Sport’, by which the 193 signatory states ‘signalled their intention to formally recognize and implement the World Anti-doping Code’ elaborated by private actors: WADA, ‘Governments’ <www.wada-ama.org/en/who-we-are/anti-doping-community/governments#CopenhagenDeclaration> accessed 1 April 2021.

⁷⁷ See text below, accompanying nn 128–3.

⁷⁸ See, eg Balkin (n 41) 10.

⁷⁹ Cleopatra Elmira Henry, *The Carriage of Dangerous Goods by Sea: The Role of the International Maritime Organization in International Legislation* (Frances Pinter 1985) 58.

⁸⁰ *ibid.*

⁸¹ See IMO Convention (n 2), art 2(b). Various IMO treaties foresee an accelerated amendment procedure (the so-called ‘tacit acceptance procedure’), whereby the amendments are adopted by the competent IMO organ, and are deemed to be accepted after the expiry of a certain period of time, unless a predefined number of states parties objected. States, thus, accept the amendments through tacit consent (that is, by not opting out): see Doris König, ‘Tacit Consent/Opting Out Procedure’ (last updated January 2013) in Anne Peters (ed), *Max Planck Encyclopaedia of Public International Law*, online edition <<https://opil.ouplaw.com/home/mpil>>, paras 1 and 9–10.

⁸² IMO Convention (n 2), art 2(a).

⁸³ But see Wilhelm H Lampe, ‘The “New” International Maritime Organization and its Place in Development of International Maritime Law’ (1983) 14(3) *J Mar L & Com* 305, 318, questioning the binary approach by arguing that IMO Codes ‘rank somewhere in between’ binding and advisory; similarly, Hélène Lefebvre-Chalain, *La stratégie normative de l’Organisation maritime internationale (OMI)* (Presses universitaires d’Aix-Marseille 2012) 174.

⁸⁴ IMO, ‘Uniform Wording for Referencing IMO Instruments’ (22 January 2002) IMO Doc A 22/Res.911, pre-ambular paras 1–2.

⁸⁵ Such difficulty arises, for instance, when informal law is referenced in IMO treaties. To clarify the effect of such references on the legal status of informal law (whether they become part of the treaty or not), the IMO adopted the ‘Guidelines on Methods for Making Reference to IMO and Other Instruments in IMO Conventions and Other Mandatory Instruments’ IMO Doc A 22/Res.911 (n 84) Annex.

⁸⁶ Lefebvre-Chalain (n 83) 171.

⁸⁷ Henry (n 79) 73.

⁸⁸ Thomas A Mensah and Christoph H Zimmerli, ‘L’activité réglementaire de l’OMCI’ in Société Française pour le Droit International (ed), *L’élaboration du droit international public* (Éditions A Pedone 1975) 45.

⁸⁹ See, eg IMO, ‘Interim Guidelines for MASS Trials’ (14 June 2019) IMO Doc MSC.1/Circ.1604.

definition. Rather, unilateral acts may serve other purposes, such as coordinating state action, supporting the implementation of treaties, or governing a specific situation.⁹⁰

As regards the third criterion, it would be an exaggeration to state that all IMO recommendations have normative effect.⁹¹ Still, many feature ‘more than hortatory design and effect’,⁹² and some may even possess ‘normative significance bordering on authoritative command’,⁹³ with an impact ‘virtually equal to . . . that of treaty obligations.’⁹⁴ At times, even draft recommendations feature normative effects.⁹⁵ Explanations provided in doctrine for the (sometimes high) degree of normative force of IMO recommendations can be categorized, roughly, as those relating to the issuer, the process of their adoption, or their content.

In terms of the issuer, it is argued that recommendations of the IMO carry ‘great weight since no other organization has authority in this field’,⁹⁶ and that their legal force is due to the ‘*autorité morale de son auteur*’.⁹⁷ It is further held that they ‘command respect’ because UN specialized agencies, such as the IMO, are ‘recognized as legitimate by the members.’⁹⁸ As will be seen later, norms elaborated by private actors—notably by classification societies—play an (increasingly) important role in the IMO’s ocean governance model.⁹⁹ It is through various ‘endorsement’ techniques deployed by the Organization—to which this chapter will turn later¹⁰⁰—that norms issued through purely private cooperation become clothed with the authority of the IMO, which is essential for their normative effects.

The effectiveness of IMO recommendations is further explained by the characteristics of the process through which they are adopted.¹⁰¹ Indeed, various commentators stress the ‘inclusive approach to regulation-making’ pursued by the IMO:¹⁰² that is, that norms are issued in a procedure that provides members with ‘a meaningful opportunity to participate.’¹⁰³ It is highlighted that IMO organs participating in informal lawmaking meet at regular intervals, and follow well-structured work programmes and agendas published in due time, which enable states to make written submissions and prepare their delegations.¹⁰⁴ Moreover, emphasis is put on the fact that IMO organs competent to adopt recommendations are open to all member states.¹⁰⁵ Indeed, membership of the IMO is almost universal, in the sense that the 174 member states,¹⁰⁶ which include all major maritime

⁹⁰ Henry (n 79) 5.

⁹¹ Henrik Ringbom, *The EU Maritime Safety Policy and International Law* (Martinus Nijhoff 2008) 24.

⁹² Kirgis, ‘Specialized Law-making Processes’ (n 71) 157; see also *ibid* 146, where Kirgis terms those informal instruments ‘super-recommendations’, and provides, as an example, the IDG Code.

⁹³ Kirgis, ‘Shipping’ (n 9) 732.

⁹⁴ Kirgis, ‘Specialized Law-making Processes’ (n 71) 154.

⁹⁵ *ibid* 158 (providing the example of draft recommendations for the removal of disused offshore platforms).

⁹⁶ Patricia Birnie, ‘The Status of Environmental “Soft Law”: Trends and Examples with Special Focus on IMO Norms’ in Henrik Ringbom (ed), *Competing Norms in the Law of Marine Environmental Protection—Focus on Ship Safety and Pollution Prevention* (Kluwer Law International 1997) 48.

⁹⁷ Lefebvre-Chalain (n 83) 174 (‘moral authority of its author’).

⁹⁸ Kirgis, ‘Specialized Law-making Processes’ (n 71) 109.

⁹⁹ See text accompanying n 132.

¹⁰⁰ See text accompanying nn 128–34.

¹⁰¹ See Obinna Okere, ‘The Technique of International Maritime Legislation’ (1981) 30 ICLQ 513, 531.

¹⁰² Balkin (n 41) 25.

¹⁰³ Kirgis, ‘Specialized Law-making Processes’ (n 71) 159.

¹⁰⁴ Balkin (n 41) 25–26.

¹⁰⁵ Gaetano Librando, ‘The International Maritime Organization and the Law of the Sea’ in David J Attard, Malgosia Fitzmaurice, and Norman A Martínez Gutiérrez (eds), *The IMLI Manual on International Maritime Law, Volume I: The Law of the Sea* (OUP 2014) 582.

¹⁰⁶ IMO, ‘Status of Conventions’ <<https://wwwcdn.imo.org/localresources/en/About/Conventions/StatusOfConventions/StatusOfTreaties.pdf>> accessed 1 April 2021.

nations,¹⁰⁷ represent 97.36 % of the world merchant shipping tonnage.¹⁰⁸ Furthermore, recommendations are, as a general rule, adopted by consensus, and thus reflect broad agreement between the member states.¹⁰⁹ The fact that IOs and NGOs—notably representing the shipping sector and environmental interests—actively and successfully¹¹⁰ participate in the lawmaking process¹¹¹ is further said to lead to ‘regulations that are balanced, pragmatic, and affordable, making member states in turn more inclined to accept and to implement them’.¹¹² Overall, this approach echoes the view that the key ‘to effective norm-promulgation by codes and guidelines [is] the care with which they are prepared’.¹¹³

Lastly, the effectiveness of informal law is considered to be higher if it relates to subject matters in which some type of international regulation is largely considered important.¹¹⁴ As regards IMO recommendations, they have been perceived as ‘necessary’,¹¹⁵ or even ‘indispensable’,¹¹⁶ by the international community, for ensuring safe, secure, and environmentally sound shipping operations. In light of the international dimension of shipping, ‘the need for conformity and unity in standards’ was recognized early on by the industry,¹¹⁷ not only to ‘maintain a sound image’ and ‘create a level playing field’,¹¹⁸ but also because of a potential ‘sanction of non-participation’, such as insurers denying coverage to non-compliant vessels or increasing premiums.¹¹⁹ More broadly, it is argued that non-mandatory IMO instruments are adopted for their ‘practical utility’,¹²⁰ and that conformity with them is ‘motivated not by compulsion but by the idea of mutual benefit’.¹²¹

In addition to these explanations, it seems possible to argue that effectiveness is enhanced in cases where a link between informal and formal law is established, for example through references to informal law in treaties. Such references do not include incorporation by reference: that is, references in IMO treaties to informal law through which the latter becomes part of the treaty.¹²² Rather, certain types of references to informal law in IMO treaties—for instance, in footnotes—do not alter the legal status of the informal instrument. They are generally included with the aim of substantiating a treaty obligation in a specific way. Hence, such references have an impact on the treaty, but also a ripple effect on the informal instrument, as its normative force is increased through the linkage with formal law. This effect is described well in the following quotation stemming from IMO guidelines on methods of referencing recommendatory instruments in IMO treaties:

¹⁰⁷ Harilaos N Psaraftis and Christos A Kontovas, ‘Influence and Transparency at the IMO: The Name of the Game’ (2020) 22 Mar Econ Logist 151, 154.

¹⁰⁸ See IMO, ‘Status of Conventions’ (n 106).

¹⁰⁹ Ringbom, *The EU Maritime Safety Policy and International Law* (n 91) 23; similarly, Librando (n 105) 582.

¹¹⁰ Especially NGOs representing business interests: see Aldo Chircop, ‘The International Maritime Organization’ in Donald R Rothwell, Alex G Oude Elferink, Karen N Scott, and Tim Stephens (eds), *The Oxford Handbook of the Law of the Sea* (OUP 2015) 426–27.

¹¹¹ For an overview of participating IOs and NGOs, see Psaraftis and Kontovas (n 107) 154–55.

¹¹² Balkin (n 41) 26.

¹¹³ Kirgis, ‘Specialized Law-making Processes’ (n 71) 154.

¹¹⁴ *ibid* 159.

¹¹⁵ Balkin (n 41) 26.

¹¹⁶ Kirgis, ‘Shipping’ (n 9) 732.

¹¹⁷ Lost-Sieminska (n 13) 907.

¹¹⁸ Birnie (n 96) 48.

¹¹⁹ Wolfgang Graf Vitzthum, ‘Schiffsicherheit: Die EG als potentieller Durchsetzungsdegen der IMO’ (2002) 62 Heidelberg JIL 163, 166.

¹²⁰ Okere (n 101) 530.

¹²¹ David J Padwa, ‘The Curriculum of IMCO’ (1960) 14(4) Int Org 524, 534.

¹²² This type of reference is described in IMO Doc A 22/Res.911 (n 84), Annex, paras 2–5.

Such standards and specifications [IMO recommendations] referred to in the footnotes [of IMO treaties] are *not regarded as mandatory instruments for treaty purposes*, since they do not appear in the authentic text of the parent convention and can be updated by the Secretariat as necessary; hence, they do not constitute an integral part of the parent convention. *Nevertheless*, Contracting Governments or Parties to the parent conventions are *obliged to establish national standards not inferior, or at least equivalent, to those developed by the Organization*.¹²³

References of this type may also relate to external informal law, that is instruments developed outside the IMO by private actors, such as the International Organization for Standardization, the International Electrotechnical Commission, and, most importantly, the International Association of Classification Societies (IACS).¹²⁴

This brings us to the last element of the informal law definition, which pertains to the actors issuing the instruments in question. While some commentators exclude norms adopted without public authority involvement from informal law,¹²⁵ the definition proposed in this chapter includes them, provided that states or IOs 'endorse' them. To disregard norms elaborated by private actors would provide an incomplete picture of the normative framework governing the world of shipping. Historically speaking, the improvement of safety at sea was long considered to be a private matter, and it was only during the mid-nineteenth century that governments, progressively, became involved.¹²⁶ This legacy still resonates in the IMO, where private normative instruments continue to form an important complement to regulations elaborated by the Organization itself.¹²⁷

Within the IMO, various types of 'endorsement' of private instruments can be observed. References in treaties to informal law that do not change the legal status of the latter have already been mentioned. Another type of endorsement is the verification of conformity process, in the context of the so-called goal-based standards (GBS). As the name indicates, GBS do not set out detailed prescriptive rules at the level of the treaty, but only the goal to be attained and the criteria (so-called 'functional requirements') to be satisfied in order to achieve it.¹²⁸ The detailed regulations necessary to implement the GBS, in turn, are developed outside the treaty and, to a certain extent, even outside the IMO, notably through private actors such as classification societies or the industry (for instance, shipbuilders).¹²⁹ Yet, in a verification of conformity process, the IMO assesses whether these private rule sets are in line with the goals and functional requirements defined at the level of the treaty.¹³⁰

¹²³ IMO Doc A 22/Res.911 (n 84), Annex, para 6 (emphasis added).

¹²⁴ *ibid*, para 18.

¹²⁵ See Pauwelyn (n 75).

¹²⁶ Philippe Boisson, 'Law of Maritime Safety' in David J Attard, Malgosia Fitzmaurice, Norman A Martínez Gutiérrez, and Elda Belja (eds), *The IMLI Manual on International Maritime Law, Volume II: Shipping Law* (OUP 2016) 180.

¹²⁷ *ibid* 184.

¹²⁸ The first GBS were adopted in the SOLAS Convention: see Chapter II-1, reg 3-10, which sets the goal regarding the design and construction of bulk carriers and oil tankers (IMO, 'Report of the Maritime Safety Committee on its Eighty-seventh Session' (30 June 2010) IMO Doc MSC 87/26/Add.1, Annex 4). The functional requirements were defined in a resolution of the MSC (see *ibid*, Annex 1), which became mandatory through a reference in the aforementioned SOLAS regulation.

¹²⁹ See IMO, 'Generic Guidelines for Developing IMO Goal-based Standards' (14 June 2011) IMO Doc MSC.1/Circ.1394, Annex, paras 17-18.

¹³⁰ *ibid*, paras 13-16.

Those deemed to be in conformity are published by the IMO,¹³¹ and therewith become an indispensable part of the GBS framework. It is, arguably, no exaggeration to state that those private informal law instruments that get the ‘IMO seal’ feature normative effects similar to those of formal law.¹³² Yet another type of ‘endorsement’ is the adoption of unified interpretations (UIs) by the competent IMO organ,¹³³ which are based on interpretations previously developed by the IACS.¹³⁴

The analysis above has defined the concept of ‘informal law’, and applied it to instruments issued or ‘endorsed’ by the IMO. An analysis of informal lawmaking focusing solely on the output would, however, be incomplete, as informality can also sit with the actors and/or the process.¹³⁵ As far as IMO recommendations are concerned, there is little informality with regard to either. Indeed, actors and processes are the same for recommendations and treaties, in terms of the submission of a proposal, assessment of the need for a respective outcome, assignment of the task to a body, and elaboration of the text. Only in the final phase—where a decision must be taken whether the text is submitted to a diplomatic conference (treaty) or the competent IMO organ (recommendation) for adoption—does the process start to bifurcate.¹³⁶ Private instruments, by contrast, may have been elaborated by actors and in processes featuring a high degree of informality. However, the various ‘endorsement’ techniques applied by the IMO are standardized to a great extent through non-mandatory IMO instruments, such as the guidelines on referencing informal law in IMO treaties¹³⁷ or the verification of GBS.¹³⁸ Overall, actor and process informality are not at all pronounced in IMO informal lawmaking, thus distinguishing this form of informal lawmaking from endeavours where actors and processes are (deliberately) not predefined, and are only specified as the project unfolds (‘wait-and-see approach’).¹³⁹

To date, the IMO has adopted over 1,000 recommendations covering the entire spectrum of the Organization’s mandate.¹⁴⁰ It is, thus, certainly apposite to argue that the IMO has exploited its recommendatory competence to its maximum,¹⁴¹ and that it participates in the broader trend of international organizations increasingly relying on informal rather than

¹³¹ See, eg IMO, ‘Promulgation of Rules for the Design and Construction of Bulk Carriers and Oil Tankers Confirmed by the Maritime Safety Committee to be in Conformity with the Goal-based Ship Construction Standards for Bulk Carriers and Oil Tankers’ (4 December 2018) IMO Doc MSC.1/Circ.1518/Rev.1, Annex.

¹³² As the IACS is a prime norm-submitter, it will ‘play an even more significant role’ in IMO lawmaking: Ismael Cobos Delgado, ‘The Role of the Classification Societies in Promoting Global Ocean Governance’ in David J Attard, Rosalie P Balkin, and Donald W Greig (eds), *The IMLI Treatise on Global Ocean Governance, Volume III: The IMO and Global Ocean Governance* (OUP 2018) 274.

¹³³ On Uis, see text accompanying n 169 ff.

¹³⁴ For a recent example, see DNV, ‘IMO Maritime Safety Committee’ (11 November 2020) <www.dnv.com/news/imo-maritime-safety-committee-189482> accessed 1 April 2021, as per which the Uis adopted by the IMO were based on unified interpretations elaborated by IACS.

¹³⁵ See, eg definition by Pauwelyn (n 75) 22.

¹³⁶ Henry (n 79) 84; for an overview on the procedure, see *ibid* 59–60.

¹³⁷ See n 85.

¹³⁸ See IMO, ‘Revised Guidelines for Verification of Conformity with Goal-based Ship Construction Standards for Bulk Carriers and Oil Tankers’, Annex 3 to IMO, ‘Report of the Maritime Safety Committee on its One-hundredth Session’ (12 December 2018) IMO Doc MSC 100/20/Add.1.

¹³⁹ Anna Petrig, ‘Democratic Participation in International Lawmaking in Switzerland after the “Age of Treaties”’ in Helmut P Aust and Thomas Kleinlein (eds), *Encounters between Foreign Relations Law and International Law: Bridges and Boundaries* (CUP 2021) 209.

¹⁴⁰ IMO, ‘IMO—What It Is, OMI—Ce qu’elle est, OMI—Qué es’, 4 <www.imo.org/en/About/Pages/Default.aspx> accessed 15 February 2021.

¹⁴¹ Lefebvre-Chalain (n 83) 173.

formal law.¹⁴² This begs the question of what role informal law could play in the context of regulating MASS, to which we now turn.

7.5 Informal Law and MASS

The RSE, which is, currently, the IMO's main effort in assessing the need to amend the regulatory framework in order to enable the safe, secure, and environmentally responsible operation of MASS, takes as a starting point the treaties for which the Organization is responsible.¹⁴³ Against this backdrop, it seems fitting to discuss the potential role of informal law alongside its various functions in relation to treaties. As Boyle stresses, the relationship of informal law to treaties is 'both subtle and diverse'.¹⁴⁴ Indeed, a distinction can be drawn between its post-law, pre-law, and para-law functions,¹⁴⁵ depending on whether the informal instrument in question is intended to complement, prepare, or replace formal law.¹⁴⁶

First, this section explores the post-law function of informal law, that is its potential role and value in the process of interpreting existing treaties in light of MASS. Second, the section sketches how informal law may pave the way for the enactment of new treaty rules (pre-law function), and to what extent it may replace them altogether (para-law function). In doing so, reference is made to views that have been expressed by states and other entities in the course of the RSE. Yet, these must only be understood as exemplary and preliminary, as the RSE is ongoing. Moreover, at times, views on the appropriate path forward diverge,¹⁴⁷ or making a choice is deemed either premature¹⁴⁸ or requiring a preceding policy decision.¹⁴⁹

7.5.1 Post-law Function of Informal Law: Informing the Interpretation of Treaties

The interim results of the RSE indicate that the integration of MASS into the existing legal framework raises a significant number of legal issues. Some relate to concepts that appear in specific conventions only,¹⁵⁰ while others pertain to terms or elements featuring in several IMO treaties.¹⁵¹ In the latter category, the concept of the 'master' figures prominently,¹⁵² in relation to which, simply put, clarification is needed as to who performs this role, and its

¹⁴² *ibid* 236.

¹⁴³ See section 7.3 above.

¹⁴⁴ Alan E Boyle, 'Some Reflections on the Relationship of Treaties and Soft Law' (1999) 48 ICLQ 901, 913.

¹⁴⁵ Linda Senden, *Soft Law in European Community Law* (Hart 2004) 120.

¹⁴⁶ *ibid* 31.

¹⁴⁷ See, eg IMO Doc MSC 102/5/3 (n 19), paras 16–17 (charts providing overview on chosen options).

¹⁴⁸ See, eg IMO, 'Summary of Results of the Second Step of the RSE for SOLAS Chapter II-2 and Associated Codes' (17 February 2020) IMO Doc MSC 102/5/19, para 5.

¹⁴⁹ See, eg IMO, 'Summary of Results of the LEG Regulatory Scoping Exercise for the International Convention on Civil Liability for Oil Pollution Damage, 1992 (1992 CLC)' (8 January 2020) IMO Doc LEG 107/8/2, para 11.

¹⁵⁰ See list in IMO Doc LEG 107/8 (n 22), paras 13–26.

¹⁵¹ *ibid*, para 5.

¹⁵² See, eg IMO, 'Summary of Results of the First and Second Steps of the RSE for the Nairobi International Convention on the Removal of Wrecks, 2007' (20 December 2019) IMO Doc LEG 107/8/1, para 8; IMO Doc MSC 102/5/3 (n 19), Annex 4, 1; IMO, 'Summary of Results of the Second Step of the RSE for SAR 1979 Convention' (11 February 2020) IMO Doc MSC 102/5/13, paras 20.

functions, if the vessel is without on-board crew.¹⁵³ Another cross-cutting issue pertains to the certificates that ships must carry, according to various IMO instruments: notably, how these could be requested and produced, absent seafarers aboard vessels, and what format they could take.¹⁵⁴ Horizontal issues also appear in provisions governing liability: for example, it is unclear what provisions referring to the mental states of human beings who engage in specific conduct (such as 'negligence' or 'intention') imply, if a machine rather than a person is acting.¹⁵⁵

Deliberations by the competent IMO committees on the most appropriate way forward to address these and further issues have yet to take place.¹⁵⁶ Nevertheless, some lines of convergence and divergence can already be discerned at this stage. First of all, interpretation is considered a suitable approach for a great deal of issues,¹⁵⁷ and is generally deemed a 'lighter' response than amendments¹⁵⁸ 'to accommodate newly developed technologies and increasing automation' in IMO treaties.¹⁵⁹ An exception to this approach can, however, be found in the (seemingly rare) instances where existing provisions prevent the operation of MASS altogether. Solving such hard conflicts appears to require amendment of rules, or the creation of new ones.¹⁶⁰ Even where tensions are less pronounced, some participants have expressed a preference for amendment over interpretation, for the sake of legal certainty,¹⁶¹ especially where such provisions 'impose obligations on a person'.¹⁶² Views also differ on how to proceed in relation to horizontal issues. Some have cautiously suggested that the IMO could pursue an 'overriding' approach to interpretation or amendment,¹⁶³ while others have expressed reluctance to do so, as the same term may carry different meanings and functions in different treaties, or even in the distinctive provisions of the same treaty.¹⁶⁴

The RSE methodology does not provide any further specification regarding the option of 'developing interpretations'.¹⁶⁵ From the interim results of the RSE, the option is understood to entail only interpretations undertaken at the international level, and not interpretations at the domestic level by individual (flag) states.¹⁶⁶ Yet, so far, it has not crystallized from

¹⁵³ IMO Doc LEG 107/8 (n 22), para 7.

¹⁵⁴ See, eg *ibid* para 12; IMO, 'Summary of Results of the LEG Regulatory Scoping Exercise for the Athens Convention Relating to the Carriage of Passengers and their Luggage by Sea, 2002' (10 January 2020) IMO Doc LEG 107/8/13, para 9.5.

¹⁵⁵ IMO Doc LEG 107/8 (n 22), para 8.1.

¹⁵⁶ On the schedule of the RSE, see text accompanying nn 52–55.

¹⁵⁷ See, eg IMO Doc MSC 102/5/3 (n 19), para 21; IMO, 'Summary of Results of the LEG Regulatory Scoping Exercise of the International Convention on Salvage, 1989' (10 January 2020) IMO Doc LEG 107/8/11, paras 7.4–7.5; IMO, 'Summary of Results of the LEG Regulatory Scoping Exercise for the Athens Convention Relating to the Carriage of Passengers and their Luggage by Sea, 1974' (10 January 2020) IMO Doc LEG 107/8/12, para 7; IMO, 'Summary of Results of the Second Step of the Regulatory Scoping Exercise for the International Convention on Tonnage Measurement of Ships, 1969 (TONNAGE 1969)' (10 February 2020) IMO Doc MSC 102/5/8, para 8.

¹⁵⁸ IMO Doc LEG 107/8 (n 22), para 28.

¹⁵⁹ IMO Doc MSC 102/5/3 (n 19), para 21.

¹⁶⁰ See, eg IMO Doc LEG 107/8 (n 22), para 27.

¹⁶¹ See, eg IMO Doc LEG 107/8/1 (n 152), para 7.4.

¹⁶² See, eg IMO Doc MSC 102/5/19 (n 148), para 10.

¹⁶³ See, eg IMO Doc LEG 107/8 (n 22), para 5; see IMO Doc LEG 107/8/13 (n 154), para 9.5.

¹⁶⁴ See, eg IMO, 'Summary of the Results of the Second Step of the RSE for SOLAS Chapter VI and Associated Codes' (17 February 2020) IMO Doc MSC 102/5/20, para 8.

¹⁶⁵ See IMO Doc LEG 106/WP.5 (n 3), Annex, para 8.

¹⁶⁶ See, eg IMO, 'Summary of Results of the LEG Regulatory Scoping Exercise for the Convention for the Suppression of Unlawful Acts Against the Safety of Maritime Navigation, 1988' (9 January 2020) IMO Doc LEG 107/8/5, para 9, where the suggestion 'that any issues requiring legal interpretation can be made in *domestic* legal systems' (emphasis added) was not made under option one ('developing interpretations') but, rather, option four ('none of the above as a result of the analysis') of the RSE methodology.

the RSE whether interpretations will be provided by IMO organs¹⁶⁷ or, rather, by the states parties to the respective treaties.¹⁶⁸ In terms of tools deployed to achieve a uniform interpretation, reference was made, in the course of the RSE, to means applied by the IMO in the past, and which could apply in the context of MASS too, notably to UIs¹⁶⁹ and guidelines issued by the competent IMO committees.¹⁷⁰ As regards interpretations adopted by the IMO, two questions are of particular interest in the present context: first, whether these amount to informal law, as defined earlier; and, second, what their potential interpretative function and value could be.

As regards the informal law definition,¹⁷¹ the first criterion—that the instrument must not belong to a formal source of international law—is clearly fulfilled, as IMO organs only possess recommendatory powers.¹⁷² For UIs specifically, their non-mandatory character is underlined in a note by the secretariat, according to which the circulars containing them are ‘inviting Member Governments to apply the UIs as appropriate or to use them as guidance and to bring them to the attention of all Parties concerned.’¹⁷³ True, consolidated versions of IMO treaties published by the Organization may comprise relevant UIs, but they clearly do not form part of the treaties.¹⁷⁴ Despite being informal, commentators attest that interpretations have certain normative force, as required by the third criterion of our informal law definition. Kirgis, for instance, states that IMO members ‘treat committee interpretations as authoritative’, and, in cases of disagreement, members would generally request their modification rather than simply flout them.¹⁷⁵ Explanations for the normative effects of IMO interpretative acts echo those provided for IMO recommendations in general. It is, for instance, argued that UIs ‘contain valuable explanatory elaborations of the highly technical regulations’ and are, therefore, of ‘great practical utility for professional users’ such as inspectors.¹⁷⁶ Further, with respect to MASS specifically, it is deemed possible to achieve ‘a fairly high degree of uniformity as regards the application of a large number of provisions’ through interpretative Assembly resolutions, because these are adopted by consensus.¹⁷⁷ Finally, the fourth criterion of the informal law definition—the need for public authority involvement—is undoubtedly also met, as IMO organs either issue the interpretations or ‘endorse’ private interpretations, for example by recasting unified interpretations developed by the IACS into UIs of the IMO.¹⁷⁸

The least evident criterion of our definition is the second one: that the instrument contains ‘law’ or, in other words, governs persons, facts, or situations in a general and abstract

¹⁶⁷ Suggested in, eg IMO, ‘Summary of Results of the LEG Regulatory Scoping Exercise for the Convention relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material, 1971’ submitted by Australia (9 January 2020) IMO Doc LEG 107/8/3, para 6.1; and IMO Doc LEG 107/8/11 (n 157), para 7.4.

¹⁶⁸ See, eg IMO Doc LEG 107/8 (n 22), para 28, vaguely referring to ‘joint interpretation’.

¹⁶⁹ See, eg IMO Doc MSC 102/5/19 (n 148), para 8; IMO Doc MSC 102/5/20 (n 164), para 8; and IMO Doc LEG 107/8/2 (n 149), para 8.

¹⁷⁰ See, eg IMO Doc LEG 107/8/2 (n 149), para 18.

¹⁷¹ See section 7.4 above.

¹⁷² As regards the powers of IMO organs, in the context of amendments adopted under the tacit acceptance procedure, see n 81 above.

¹⁷³ IMO, ‘Comments on Documents LEG 107/9, LEG 107/9/1 and LEG 197/INE.5’ (24 January 2020) IMO Doc LEG 107/9/2, para 16.

¹⁷⁴ Proshanto K Mukherjee and Mark Brownrigg, *Farthing on International Shipping* (4th edn, Springer 2013) 276.

¹⁷⁵ Kirgis, ‘Shipping’ (n 9) 742.

¹⁷⁶ Mukherjee and Brownrigg (n 174) 276.

¹⁷⁷ Jacobsson (n 22) 282.

¹⁷⁸ See text accompanying n 134.

way. The International Law Commission (ILC) defines interpretation as 'the process by which the meaning of a treaty, including of one or more of its provisions, is clarified'.¹⁷⁹ Clarification of norms occurs, for example, in the process of applying the law to a specific case (interpretation *in concreto*). The content of instruments embodying such interpretation—say, a judgment or the view of a supervisory body—is not general-abstract, but instead could be considered individual-concrete. Thus, it is not 'law' as defined here.¹⁸⁰ Norms are, however, also interpreted in isolation from specific cases (interpretation in the *abstract*). If the result of this interpretative process is enshrined in an informal instrument directed at an indeterminate number of persons, and susceptible of repeated application—that is, one of a general-abstract character—it can be deemed to amount to 'law'.

UIs fall into the latter category of interpretation, as they are adopted 'to ensure uniform application of technical requirements containing vague expressions or other vague wording open to divergent interpretations, or to provide more specific guidance on certain provisions'¹⁸¹ absent any link with a concrete situation. Rather, they are 'normatively worded' and could, theoretically, form part of the treaty they complement. The description of UIs by Mukherjee and Brownrigg as 'detailed supplementary texts' that 'serve as an interpretive tool' for those tasked with applying relevant provisions of the Convention¹⁸² is, therefore, quite fitting.

The general-abstract character is even more pronounced when it comes to guidelines. Unlike UIs, these are usually not limited to the clarification of a specific treaty term. Rather, they are self-standing regulatory instruments that specify, or even develop, certain aspects or themes appearing in one or several treaties. Thus, for instance, the IMO Guidelines for the Use of Electronic Certificates,¹⁸³ which are referenced in the RSE as a regulatory model for addressing the horizontal issue of certificates in the context of MASS,¹⁸⁴ address the use of electronic certificates in a rather comprehensive fashion. After stating the purpose of the guidance and defining key terms, these guidelines stipulate rules on the features of electronic certificates and the verification of their content, as well as the notification and acceptance of their use. Since the concept of certificates appears in a range of IMO treaties,¹⁸⁵ the guidelines display their interpretative effect 'horizontally'. By contrast, UIs hone in on a very specific aspect of a treaty with the aim of clarifying and specifying it, and, thus, operate 'vertically'.

The MSC, FAL, and MEPC have approved a significant number of UIs in the past,¹⁸⁶ while the LEG has not yet done so.¹⁸⁷ However, the LEG has developed interpretations that were ultimately adopted in the form of Assembly resolutions.¹⁸⁸ It did so in cases where

¹⁷⁹ ILC, 'Draft Conclusions on Subsequent Agreements and Subsequent Practice in relation to the Interpretation of Treaties, With Commentaries' in *Yearbook of the International Law Commission*, vol II, pt 2 (2018) 43.

¹⁸⁰ See Shelton (n 67), and text of n 67, on 'secondary soft law', which is excluded from the definition used in this chapter.

¹⁸¹ IMO Doc LEG 107/9/2 (n 173), para 16.

¹⁸² Mukherjee and Brownrigg (n 174) 276.

¹⁸³ IMO, 'Guidelines for the Use of Electronic Certificates' (20 April 2016) IMO Doc FAL.5/Circ.39/Rev.2, Annex.

¹⁸⁴ IMO Doc LEG 107/8/2 (n 149), para 18.

¹⁸⁵ See IMO Doc FAL.5/Circ.39/Rev.2 (n 183), Annex, r 6, referring to three circulars listing the (many) certificates that ships must carry by virtue of different IMO treaties.

¹⁸⁶ IMO Doc LEG 107/9/2 (n 173), para 16.

¹⁸⁷ *ibid*, para 17.

¹⁸⁸ *ibid*.

'differing interpretations' existed in relation to a treaty¹⁸⁹ or a specific provision,¹⁹⁰ with the aim of 'remov[ing] ambiguity', and assisting states to apply the treaty 'in a uniform manner'.¹⁹¹ As per the IMO secretariat, 'these resolutions do not generally use declaratory interpretative language'.¹⁹² Indeed, in contrast to UIs and guidelines, not all recommendations comprised in this type of resolution are structured like 'law',¹⁹³ and some, instead, solicit conduct from state parties that furthers the correct implementation of the treaty.¹⁹⁴ Generally speaking,¹⁹⁵ both UIs and guidelines of the sort being considered here clearly fulfil the second criterion of our informal law definition—being 'law'—while interpretative Assembly resolutions may have a mixed character. In sum, all three IMO acts considered here—UIs, guidelines, and interpretative Assembly resolutions—may be characterized as informal law instruments. This conclusion broaches the subject of their potential function and weight in the interpretative process.

Articles 31 and 32 of the Vienna Convention on the Law of Treaties (VCLT)¹⁹⁶ do not expressly refer to informal law as a means of interpretation, yet doctrine and practice lend support to the idea that such law informs the interpretative process in a number of ways.¹⁹⁷ First of all, informal law instruments may embody 'a subsequent agreement between the parties regarding the interpretation of the treaty', in the sense of Article 31(3) (a) of the VCLT. In accordance with the ILC, such agreements 'contribute, in their interaction with other means of interpretation, to the clarification of the meaning of a treaty'.¹⁹⁸ Such clarification may, notably, consist of narrowing or widening the range of possible interpretations,¹⁹⁹ and indicating whether the parties intended to provide a given term with a meaning 'capable of evolving over time'.²⁰⁰ Since subsequent agreements are 'objective evidence of the understanding of the parties as to the meaning of the treaty',²⁰¹ they are considered to be authentic interpretations.²⁰² As a result, although not being conclusive, in the sense of overriding all other means of interpretation,²⁰³ they play an 'important role'²⁰⁴ and

¹⁸⁹ Eg, IMO, 'Issue of Bunkers Certificates to Ships that are also Required to Hold a CLC Certificate' (20 December 2011) IMO Doc A 27/Res.1055, preambular para 6.

¹⁹⁰ Eg, IMO, 'Issue of Bunkers Certificates to Bareboat-registered Vessels' (18 January 2010) IMO Doc A 26/Res. 1028.

¹⁹¹ *ibid*, preambular paras 4-6; IMO Doc A 27/Res.1055 (n 189), preambular para 7.

¹⁹² IMO Doc LEG 107/9/2 (n 173), para 17, referring, *inter alia*, to the instruments cited in nn 189 and 190.

¹⁹³ 'Law'-like is, eg IMO Doc A 27/Res.1055 (n 189), para 1.2, recommending that states parties 'require ships ... to be insured and to hold a bunkers certificate as prescribed by the Bunkers Convention even when the ships concerned already hold a CLC certificate'.

¹⁹⁴ See, eg IMO Doc A 27/Res.1055 (n 189), para 1.3, recommending that states parties 'avoid taking action that could cause unnecessary bureaucracy'.

¹⁹⁵ Ultimately, each instrument must be considered separately, to assess whether its content amounts to 'law'.

¹⁹⁶ Vienna Convention on the Law of Treaties (adopted 23 May 1969, entered into force 27 January 1980) 1155 UNTS 331 (hereafter 'VCLT').

¹⁹⁷ André Nollkaemper, 'The Distinction between Non-legal and Legal Norms in International Affairs: An Analysis with reference to International Policy for the Protection of the North Sea from Hazardous Substances' (1998) 13(3) *IJMCL* 355, 364.

¹⁹⁸ ILC, 'Draft Conclusions' (n 179) 51, Conclusion 7(1).

¹⁹⁹ *ibid*.

²⁰⁰ *Ibid* 64, Conclusion 8.

²⁰¹ *Ibid* 23, Conclusion 3.

²⁰² Robert Kolb, *The Law of Treaties* (Edward Elgar 2016) 130-31: authentic in the narrow sense, meaning interpretations adopted jointly by all parties to the treaty.

²⁰³ As per art 31(3) VCLT (n 196), they shall solely 'be taken into account' in the interpretation of the treaty, which consists of a 'single combined operation' with no hierarchy among the various means of interpretation mentioned in the provision: ILC, 'Draft Conclusions' (n 179) 17, Conclusion 2(5), 24-25, and 51.

²⁰⁴ ILC, 'Draft Conclusions' (n 179) 23.

'possess a specific authority' in discerning the meaning of the treaty.²⁰⁵ As a rule of thumb, the greater their clarity and specificity, the more interpretative weight they have.²⁰⁶

To determine whether UIs, guidelines, and interpretative Assembly resolutions qualify as subsequent agreements, three elements must be considered, which relate to the issuer, the agreement, and the time. As regards the latter, only 'subsequent' agreements fall under Article 31(3)(a) of the VCLT, that is those reached after the text of the treaty to be interpreted has been established as definitive.²⁰⁷ Since the RSE relates to treaties already adopted or in force, potential prospective interpretations clearly fulfil this temporal requirement. The crux, rather, lies in the issuer of the interpretations. The wording of Article 31(3)(a) of the VCLT indicates that the agreement must be reached between all the parties to the treaty in question,²⁰⁸ although the ILC acknowledges that decisions adopted by a conference of states parties—representing a 'particular form of action by States'²⁰⁹—may also embody a subsequent agreement.²¹⁰ Yet, only conferences where states act on their own behalf qualify, not conferences that are actually an organ of an IO in which states act in their capacity as members of that organ.²¹¹ Unlike other international institutions, where there is complete convergence between the members of the organ and the states parties to the treaty establishing the organ,²¹² the two circles do not overlap in this case, as none of the IMO treaties have been ratified by all 174 IMO members, and some by only a very small fraction of members.²¹³ Thus, the difference between the two potential adopters of interpretations not only exists conceptually, but materially as well. In IMO practice, UIs, guidelines, and Assembly resolutions are approved by the Organization's organs, and not by the states parties to the treaty subject to interpretation.²¹⁴ Thus, they cannot amount to subsequent agreements, in the sense of Article 31(3)(a) of the VCLT.²¹⁵ However, various treaties for which the IMO is responsible foresee conferences of the former type where states, in their capacity as parties to the relevant treaty, meet for purposes of its implementation and development.²¹⁶ Some conferences have issued interpretative resolutions in the past that the IMO secretariat qualified as subsequent agreements.²¹⁷ In a nutshell, to amount to a subsequent agreement, in the sense of Article 31(3)(a) of the VCLT, an interpretative resolution must be reached by the states parties of the treaty to be interpreted, rather than the IMO organ. However, to keep organizational efforts reasonable, such conferences of states parties

²⁰⁵ *ibid* 24.

²⁰⁶ *ibid* 70, Conclusion 9(1).

²⁰⁷ *ibid* 27; agreements concluded in close temporal connection with the treaty itself fall under art 31(2)(a) VCLT (n 196).

²⁰⁸ ILC, 'Draft Conclusions' (n 179) 28. On authentic interpretation being a prerogative of the parties to the treaty, see Oliver Dörr, 'Article 31' in Oliver Dörr and Kirsten Schmalenbach (eds), *Vienna Convention on the Law of Treaties: A Commentary* (2nd edn, Springer 2018) 570.

²⁰⁹ ILC, 'Draft Conclusions' (n 179) 82.

²¹⁰ *ibid*, Conclusion 11(2).

²¹¹ *ibid* 82–83.

²¹² Eg, the International Whaling Commission, which the ILC considers to be 'a borderline case' between the two categories of conferences explained earlier: *ibid* 83.

²¹³ Thus, eg only seventeen states are party to the Convention Relating to Civil Liability in the Field of Maritime Carriage of Nuclear Material: see IMO, 'Status of Conventions' (n 106).

²¹⁴ For UIs specifically, see IMO Doc LEG 107/9/2 (n 173), para 16.

²¹⁵ *ibid*, para 18.

²¹⁶ See, eg art 18 of the 1996 Protocol to the Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter (opened for signature 7 November 1996, entered into force 24 March 2006) 36 ILM 1.

²¹⁷ Georg Nolte, 'Part 5: Reports for the ILC Study Group on Treaties over Time, Report 3: Subsequent Agreements and Subsequent Practice of States Outside of Judicial and Quasi-judicial Proceedings' in Georg Nolte (ed), *Treaties and Subsequent Practice* (OUP 2013) 370.

could be held in conjunction with a session of the IMO committee under the purview of which the respective treaty falls. Importantly, however, when adopting the respective decision in question, states must cast their vote as a member of the conference of states parties, rather than as a member of the respective IMO organ.²¹⁸

Leaving aside the question of the issuer, we briefly turn to the agreement itself. From a formal point of view, an agreement in the sense of Article 31(3)(a) of the VCLT 'may, but need not, be legally binding', and can, thus, be an informal law instrument.²¹⁹ However, such agreement must be reached, thus presupposing a 'deliberate common act'²²⁰ about which the parties are aware, and which they accept.²²¹ Importantly, consensus—the dominant decision-making mode in the IMO context²²²—only implies that the act was endorsed through non-objection, which does not necessarily mean that there is unanimity regarding its content.²²³ From a substantive point of view, the agreement must relate to the interpretation of the treaty,²²⁴ hence the parties must intend to clarify the meaning of a treaty.²²⁵ The closer an agreement is intertwined with a treaty—for instance, by a reference linking the two²²⁶—the easier it is to argue that it *relates* to the interpretation of a treaty, and the higher its interpretative weight.²²⁷ As regards UIs, in addition to their denomination pointing to their interpretative character, their title and introductory paragraphs generally mention the treaty (and at times even the provision) to which they relate and, moreover, indicate that the purpose of their approval is to provide guidance in the application of the respective provision.²²⁸ Assuming, *arguendo*, they are adopted by the states parties to the treaty in question, rather than by an IMO organ,²²⁹ they can be said to embody the 'common understanding regarding the interpretation of a treaty which the parties are aware of and accept.'²³⁰ Consequently, and not least because of their high degree of clarity and specificity, they would have considerable weight in the interpretative process. Guidelines of the sort discussed here, by contrast, generally do not interpret a specific provision or treaty term, but, rather, set out fine-grained rules on a specific problem. Thus, they do not, primarily, have a post-law function (let alone reach the status of subsequent agreements),²³¹ but, rather, a pre- or even para-law function.²³² Finally, interpretative Assembly resolutions clarify issues in relation to a specific treaty; yet, as per the IMO secretariat, they 'never clearly indicate that they express the agreement of the parties or that they are adopted by them.'²³³ Even

²¹⁸ IMO Doc LEG 107/9/2 (n 173), para 18.

²¹⁹ ILC, 'Draft Conclusions' (n 179) 75, Conclusion 10(1); see 92–93 with regard to interpretative resolutions by Conferences of States Parties specifically.

²²⁰ *ibid* 30.

²²¹ *ibid* 75, Conclusion 10(1).

²²² Henry (n 79) 18.

²²³ ILC, 'Draft Conclusions' (n 179) 90–1.

²²⁴ *ibid* 43, Conclusion 6(1).

²²⁵ *ibid* 30–31.

²²⁶ *ibid* 31.

²²⁷ *ibid* 45.

²²⁸ See, eg IMO, 'Unified Interpretations of the IGC Code (as Amended by Resolution MSC.370(93))' (28 November 2016) IMO Doc MSC.1/Circ.1559, para 1.

²²⁹ Currently, a discussion is taking place in the LEG as to whether a UI on the test for breaking the owner's right to limit liability should be adopted by the LEG, or by the states parties: see IMO Doc LEG 107/WP.1 (n 55), para 9.11–9.14.

²³⁰ ILC, 'Draft Conclusions' (n 179) 75, Conclusion 10(1).

²³¹ But see below on VCLT (n 196), art 31(3)(c).

²³² See, eg IMO Doc FAL.5/Circ.39/Rev.2 (n 183), Annex, r 2.

²³³ IMO Doc LEG 107/9/2 (n 173), para 17.

if, *arguendo*, the states parties to a treaty would have adopted them, rather than an IMO organ, their content has not been such, in the past, as to amount to a subsequent agreement in the sense of Article 31(3)(a) of the VCLT. Yet, they may, nevertheless, be considered in the interpretative process—notably as supplementary means in the sense of Article 32 of the VCLT—²³⁴ which the interpreter, however, is not obliged to take into account.²³⁵

Moreover, informal law instruments adopted by the IMO may enter the interpretative process through Article 31(3)(c) of the VCLT, which stipulates that ‘any relevant rules of international law applicable in relations between the parties’ shall be taken into account. This norm, which lays the groundwork for the systemic approach to interpretation by referring to the entire international legal system as part of the context,²³⁶ is construed very narrowly by some, and quite broadly by others. Understood in an orthodox fashion, the words ‘rules of international law’ refer only to formal sources of international law;²³⁷ by contrast, parts of the international judicial system²³⁸ and various commentators²³⁹ include informal law. It seems, though, that the word ‘rule’ in Article 31(3)(c) of the VCLT dictates that only instruments of general-abstract character that are self-standing, such as the IMO guidelines considered above, qualify. UIs and interpretative Assembly resolutions, however, are linked to the treaty to be interpreted and, therefore, do not amount to rules *external* to the treaty to be interpreted.

To conclude, it has been demonstrated that informal law instruments of the IMO—notably UIs, guidelines, and interpretative Assembly resolutions—inform the interpretative process in a number of ways and, thus, have an important post-law function. As the methodology of the RSE comprises, in addition to ‘developing interpretations’, the options of ‘amending existing instruments’ and ‘developing new instruments’ as possibilities for addressing legal issues raised by MASS, the following section now turns, as a final step, to this scenario. Concretely, it sketches the role informal law may play in paving the way for the enactment of new, formal rules (pre-law function), and to what extent it may even substitute formal law altogether (para-law function).

7.5.2 Pre- and Para-law Function of Informal Law: Paving the Way for, or even Replacing, Treaties

To overhaul the IMO’s legal framework in a timely and sensible fashion, as to accommodate the turn to MASS, is a daunting challenge.²⁴⁰ As demonstrated earlier, the regulation of MASS is far from obvious, as they involve not one, but several, emerging technologies, each of which features a high degree of complexity, is inchoate, and is moving through the various innovation stages at a fast pace.²⁴¹ As a consequence, determining what, when, and

²³⁴ ILC, ‘Draft Conclusions’ (n 179) 90.

²³⁵ See VCLT (n 196), art 32: ‘Recourse may be had . . .’

²³⁶ Dörr (n 208) 603.

²³⁷ See, eg Mark E Villiger, *Commentary on the 1969 Vienna Convention on the Law of Treaties* (Martinus Nijhoff Publishers 2009) 433.

²³⁸ For examples, see Dörr (n 208) 608.

²³⁹ See, eg Anne Peters, ‘The Refinement of International Law: From Fragmentation to Regime Interaction and Politicization’ (2017) 15(3) ICON 671, 693 (no conclusive stance).

²⁴⁰ Smeele (n 26) 70.

²⁴¹ See section 7.2 above.

how to regulate is formidably difficult.²⁴² Moreover, as ‘technological transition is going to be a permanent state in the age of disruptive innovation’,²⁴³ the law must also be updated continuously to keep abreast of change. This scenario seems to suggest that, at least to some extent, recourse is to be had to regulatory processes and techniques that are characterized by their speed, adaptability, and flexibility.

The identification of the technology to be regulated—the ‘what question’—is far from evident in the context of emerging technologies.²⁴⁴ For MASS specifically, it is too early, at the current juncture, for a reliable forecast about the ultimate results of the technological transition, notably as regards the level of autonomy and forms of MASS that will become the industry standard.²⁴⁵ Experience with this new kind of vessel is still very limited,²⁴⁶ as too is our imagination.²⁴⁷ As a result, it is hard to foresee the type and scope of issues that the construction and operation of MASS will ultimately raise.²⁴⁸ For the time being, it thus seems impossible to regulate MASS at the ‘front end’²⁴⁹ by pursuing a fully fact-based approach.²⁵⁰ This is also the case for other emerging technologies.

The next step, which is as difficult as the identification of the technology to be regulated, and is closely connected with it, is the determination of the timing of a regulatory intervention: the ‘when question.’²⁵¹ Premature regulation carries the risk of rules that are poorly aligned with the ultimate technology, and may ‘inappropriately “lock in” inferior technological choices.’²⁵² Moreover, the rules may already be ‘ossified’,²⁵³ and in need of an update at the very moment of their entry into force, as they relate to an anticipated rather than eventual result of a given technological transition.²⁵⁴ Smeele describes the problem by drawing on maritime metaphors, and writes that ‘[i]n the absence of the ... dot on the horizon to navigate toward, at present it seems premature to embark upon a comprehensive overhaul of maritime law.’²⁵⁵ Engaging in such an endeavour now may entail the risk that ‘the beacons are moved too early and will have to be moved again before long.’²⁵⁶ Timing is further complicated by the fact that regulation requires a certain sense of imminence. Sufficient support for regulation can usually only be garnered once the use of a given technology is considered to be forthcoming, and thus jolted ‘from the abstract into the concrete.’²⁵⁷ Yet, within the IMO, this sense of imminence may vary starkly between member states, and may explain why states at the helm of MASS development were among the first

²⁴² Fenwick, Kaal, and Vermeulen (n 7) 561.

²⁴³ *ibid* 573.

²⁴⁴ *ibid* 571.

²⁴⁵ Smeele (n 26) 70.

²⁴⁶ Jacobsson (n 22) 283.

²⁴⁷ Fenwick, Kaal, and Vermeulen (n 7) 574.

²⁴⁸ Smeele (n 26) 70.

²⁴⁹ See Marchant, ‘Addressing the Pacing Problem’ (n 35) 201.

²⁵⁰ See Fenwick, Kaal, and Vermeulen (n 7) 576–77.

²⁵¹ *ibid* 571–72.

²⁵² Gary E Marchant, ‘The Growing Gap between Emerging Technologies and the Law’ in Gary E Marchant, Braden R Allenby, and Joseph R Herkert (eds), *The Growing Gap between Emerging Technologies and Legal-ethical Oversight: The Pacing Problem* (Springer 2011) 27.

²⁵³ See *ibid* 24.

²⁵⁴ See Fenwick, Kaal, and Vermeulen (n 7) 572.

²⁵⁵ Smeele (n 26) 70.

²⁵⁶ *ibid*.

²⁵⁷ Neil C Renic, ‘Autonomous Weapons Systems: When is the Right Time to Regulate?’ (26 September 2019) Hum L & P <<https://blogs.icrc.org/law-and-policy/2019/09/26/autonomous-weapons-systems-right-time-regulation/>> accessed 1 April 2021.

to voice the need for timely regulation.²⁵⁸ All in all, it seems well advised for the IMO not to engage in any rash regulatory action. Yet, at the same time, a delayed regulatory response equally harbours risks. A 'Wild West' of regulatory uncertainty²⁵⁹ may notably impede research and hamper innovation,²⁶⁰ which, in turn, may delay or block new (beneficial) technologies.²⁶¹ Moreover, regulation currently in force may prohibit the introduction of a new technology altogether, though this seems to be rare with regard to IMO treaties.²⁶² Still, if there is no prospect for timely regulation, flag states leading the development of MASS may adopt their own guidelines,²⁶³ or partake in regional regulatory initiatives,²⁶⁴ which may jeopardize the leadership role of the IMO²⁶⁵ and the required harmonization of shipping regulation.²⁶⁶ In addition, the time necessary to integrate MASS into the IMO's legal framework—estimates range from eight to twenty years²⁶⁷—must also be factored in when discussing timing. There is, thus, much to suggest that there is no time to waste. To conclude, the IMO is—paradoxically—being advised, simultaneously, to wait and to hurry.²⁶⁸

Turning to the 'how question', the foregoing suggests that the governance of emerging technologies requires regulatory processes and tools that allow for permanent re-evaluation and revision, in order to integrate new facts and relevant experience.²⁶⁹ Formal lawmaking, which, in our context, means treaty-making by states that use the governance structures of the IMO is hardly suitable to ensure the 'adaptivity and responsiveness'²⁷⁰ of the law.²⁷¹ Rather, making and amending treaties is a notoriously slow and rigid process, which is no different for the IMO,²⁷² as has been highlighted in the context of MASS regulation specifically.²⁷³ By contrast, informal lawmaking is associated with the characteristics of adaptive governance,²⁷⁴ which also hold true for informal law of the IMO,²⁷⁵ despite its rather low degree of informality.²⁷⁶ Compared with formal law, its amendment is considered to be faster and easier, thus making it a suitable means for a 'continuing dialogue'.²⁷⁷ Such continuity is necessary if we subscribe to the ideas that technical transition will be a permanent state, and that MASS do not belong to those technologies that are stable and will not change considerably after their introduction to the market, such as, for instance, the 'game-changing' innovation of containers.²⁷⁸ Moreover, at times, the informal law instrument itself foresees

²⁵⁸ See, eg the states that proposed the RSE: IMO Doc MSC 98/20/2 (n 46).

²⁵⁹ Hagemann, Huddleston Skees, and Thierer (n 10) 96.

²⁶⁰ A concern expressed in IMO Doc MSC 98/20/2 (n 46), para 11.

²⁶¹ Marchant, 'The Growing Gap Between Emerging Technologies and the Law' (n 252) 25.

²⁶² See text accompanying n 160.

²⁶³ According to IMO Doc MSC 98/20/2 (n 46), para 9, this has already happened to some extent.

²⁶⁴ Henrik Ringbom, 'Legalizing Autonomous Ships' (2020) 34 Ocean YB 431, 447–48.

²⁶⁵ This role is stressed in, eg IMO Doc A 30/Res. 1110 (n 35), Annex, para 2.

²⁶⁶ See, eg IMO Doc MSC 98/20/2 (n 46), para 19.

²⁶⁷ Liu (n 24) 493; Smeele (n 26) 70.

²⁶⁸ Smeele (n 26) 70.

²⁶⁹ Marchant, 'Addressing the Pacing Problem' (n 35) 201–02.

²⁷⁰ *ibid* 200.

²⁷¹ See, eg Gregory C Shaffer and Mark A Pollack, 'Hard versus Soft Law in International Security' (2012) 52(4) BCL Rev 1147, 1163.

²⁷² Even though the tacit acceptance procedure (see n 81) has 'greatly sped up the amendment process': Lost-Sieminska (n 13) 917.

²⁷³ See, eg Robert Veal and Michael Tsimplis, 'The Integration of Unmanned Ships into the *Lex Maritima*' [2017] LMCLQ 303, 333; Chircop, 'Testing International Legal Regimes' (n 1) 31.

²⁷⁴ See, eg Shaffer and Pollack (n 271) 1163.

²⁷⁵ Lefebvre-Chalain (n 83) 235.

²⁷⁶ See text accompanying n 139.

²⁷⁷ Hagemann, Huddleston Skees, and Thierer (n 10) 104.

²⁷⁸ See text accompanying nn 30–34.

its own review: with this, the instrument is set in motion, allowing it to move forward along with the technological transition. Thus, for instance, the MSC agreed ‘to keep the Interim Guidelines under review and to amend them in view of the experience gained with their application.’²⁷⁹ In light of these characteristics, it is just a small step to conclude that ‘the age of “hard law” governance of new technologies will continue to wane, and soft law governance will become the new norm for many technologies,’²⁸⁰ or that ‘[t]he era of hard law governance appears to be fading and the age of soft law is firmly underway.’²⁸¹

Indeed, the characteristics ascribed to informal law make it a regulatory tool capable of mitigating—albeit not necessarily solving—problems associated with the regulation of emerging technologies. To begin with, an informal lawmaking process is a tool to get the normative ball rolling. As Boyle has noted, it provides an ‘effective starting point when States need reassurance before commencing novel and previously unregulated activities,’²⁸² as seems to be the case for the construction and operation of MASS.²⁸³ Moreover, informal law is praised as a means to ‘consolidate political opinion,’²⁸⁴ and find ‘common ground,’²⁸⁵ as regards the need for action in a new field.²⁸⁶ This may be necessary in the present context, since views among states about the need to establish new rules for MASS differ at times.²⁸⁷ In this vein, it has been argued that one of the benefits of the adoption of the IMO Interim Guidelines for MASS Trials, in June 2019, is that they impliedly recognize the advent of this new type of vessel, and that existing law does not fully accommodate them.²⁸⁸ By paving the way for a (thicker) normative framework applying to MASS, informal law emerges here in its pre-law function.

Further, informal law is a tool that allows experiences to be collected in a new field, which can later be used to adapt and enhance the regulatory framework accordingly. In the IMO context, specifically, informal instruments often serve as ‘testing grounds for regulatory concepts,’ which, if successful, may later be imported into formal law.²⁸⁹ In order to ensure this ‘feedback loop’ function of informal law, IMO instruments, at times, expressly invite relevant actors to report back ‘the results of the experience gained from the use’ of the respective instrument.²⁹⁰ Informal law, thus, has the potential to compensate, at least to some extent, for the lack of experience, both as regards the technology and the best way(s) to regulate it, and this is another facet of its pre-law function.

Informal law is, moreover, understood as a temporary solution until firmer commitment is possible,²⁹¹ be it in the form of more detailed informal law, or even formal law. Hence, for instance, in the process leading to the adoption of the Interim Guidelines for MASS Trials, it was argued that the instrument may amount to ‘a potential interim first step to new

²⁷⁹ IMO Doc MSC.1/Circ.1604 (n 89), para 2.

²⁸⁰ Hagemann, Huddleston Skees, and Thierer (n 10) 38; on the ‘governance shift,’ see also *ibid* 40–42.

²⁸¹ *ibid* 129.

²⁸² Boyle, ‘Soft Law in International Law-making’ (n 62) 130.

²⁸³ See IMO, ‘Comments and Proposals for Interim Guidelines for MASS Trials’ (28 February 2019) IMO Doc MSC 101/5/1, para 3.

²⁸⁴ Shelton (n 67) 72.

²⁸⁵ Lefebvre-Chalain (n 83) 240 (*‘terrain d’entente’*).

²⁸⁶ Birnie (n 96) 32.

²⁸⁷ See, eg IMO Doc LEG 107/8/5 (n 166), para 9.

²⁸⁸ Smeele (n 26) 73.

²⁸⁹ Lampe (n 83) 318.

²⁹⁰ See, eg IMO Doc FAL.5/Circ.39/Rev.2 (n 183), para 4.

²⁹¹ Lefebvre-Chalain (n 83) 240.

international regulations' in the field.²⁹² The preliminary results of the RSE equally demonstrate that informal instruments are, inter alia, perceived as an 'interim measure' on the path leading to a comprehensive and detailed regulation of MASS.²⁹³ Indeed, in the past, the IMO repeatedly relied on informal law to regulate, temporarily, new types of crafts not previously addressed by the Organization's legal framework, until the time for a treaty solution was ripe. This strategy pre-empted diverging flag state solutions,²⁹⁴ which is seen as a risk in the context of MASS, if the IMO does not regulate them in a timely fashion. Being a first step towards a bolstered legal framework, and in functioning as a placeholder, informal law not only has a pre- but also a para-law function.

However, relegating the para-law function of informal law to the role of providing solely temporary solutions seems mistaken. Rather, there are prospects that it will, to some extent, substitute formal law altogether, and take a firm place in the regulation of MASS. The RSE foreshadows various scenarios of how informal law could complement the body of IMO treaties, which seamlessly fit into the Organization's previous use of, and reliance on, internal and external informal law.²⁹⁵ For one, it is suggested to accommodate MASS through the development of non-mandatory instruments by the IMO itself, notably in the form of guidelines²⁹⁶ or codes.²⁹⁷ Yet, external informal instruments elaborated by private actors could play an equally important role, if not take centre stage entirely. As noted, the IMO deploys various 'endorsement' techniques to link private rules with its own rules, without changing their informal nature. While the inclusion of references in IMO treaties to external informal law is one option, the Organization has established a systematic relationship between its treaties and private informal law, through the GBS framework.²⁹⁸ With regard to MASS—as holds true for other emerging technologies²⁹⁹—high hopes are placed on a goal-based approach to regulation, which is deemed more likely to withstand the passage of time than prescriptive rules.³⁰⁰ Indeed, the Organization has been urged to develop a goal-based understanding of the main regulatory issues pertaining to MASS.³⁰¹ Classification societies are likely to be one of the main providers of rules, having been quick to embrace this new type of vessel, and they have already issued various sets of rules relating to MASS.³⁰² Increased reliance on GBS could give classification societies, including the IACS, considerable weight in the regulation of MASS.

²⁹² IMO Doc MSC 101/5/1 (n 283), para 3.

²⁹³ See, eg IMO Doc MSC 102/5/3 (n 19), para 36.3.

²⁹⁴ Henry (n 79) 76, providing the example of dynamically supported crafts.

²⁹⁵ See section 7.4 above.

²⁹⁶ See, eg IMO Doc LEG 107/8/2 (n 149), para 18.

²⁹⁷ See, eg IMO, 'Summary of the Results of the Second Step of the RSE for SOLAS chapter XII and Associated Standards' (17 February 2020) IMO Doc MSC 102/5/22, para 9.

²⁹⁸ See text accompanying nn 128–32.

²⁹⁹ See, eg Martin Ebers, 'Regulating AI and Robotics: Ethical and Legal Challenges' in Martin Ebers and Susana Navas (eds), *Algorithms and Law* (CUP 2020) 97.

³⁰⁰ IMO, 'Strategic Themes in MASS Perspective' (10 March 2020) IMO Doc MSC 102/INF.17, para 7.

³⁰¹ IMO, 'List of Common Potential Gaps/Themes Identified during the First Step of RSE for STCW Convention and Code, STCW-F, SOLAS, ISM Code, TONNAGE 1969, LL 1966, LL PROT 1988, IS Code, III Code, COLREG and SAR 1979' (10 February 2020) IMO Doc MSC 102/5/7, paras 11–12, 15, and 17.

³⁰² See, eg Class NK, *Guidelines for Automated/Autonomous Operation on Ships* (January 2020); Bureau Veritas, *Guidelines for Autonomous Shipping* (October 2019); China Classification Society, *Guidelines for Autonomous Cargo Ships* (October 2018); DNV GL, *Class Guideline: Autonomous and Remotely Operated Ships* (September 2018).

7.6 Conclusion

Given its characteristics, informal law seems, in various respects, suitable—often more so than formal law—to respond to legal issues raised by emerging technologies in general, and by MASS specifically. As demonstrated, beyond its potential to pave the way for a timely and sensible regulation of this new type of vessel in the long run, it is very likely that informal law will be a cornerstone of this legal framework. In addition, informal law informs the interpretative process in a number of ways, which is yet another approach for contributing to the quest of keeping IMO treaties abreast of new developments. All things considered, the answer to the question raised in the title of this chapter is somewhat self-evident: it is more than likely that unconventional law will play a key role in the regulation of unconventional ships, to which MASS certainly belong—at least for the time being.