

Challenges on the Ocean and the Future of the Law of the Sea: Environment, Security and Human Rights

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Structured Abstract

Article Type: Research Paper¹

Purpose—The UN Convention on the Law of the Sea (UNCLOS) is facing challenges concomitant with the seismic transformations of the world. This article examines how changes in the areas of environment, security and human rights would affect the UNCLOS system and the way we look at it.

Design, Methodology, Approach—This article will first survey the existing discourses on the challenges faced by the Convention, and move on to discuss the major changes and innovations of the world as they happen now. It will focus on climate change and the ensuing energy revolutions, international security and human rights concerns, and discuss—or ask—how they may affect the general direction of the future development of the law of the sea.

Findings: In regards to the environment, the international community is currently dealing with a new issue of marine biodiversity beyond national jurisdictions. The biggest challenge in the future will be climate change. As discussions on climate change issues progress and widen, the UNCLOS system will be required to play a more relevant role. In the area of international security, future challenges will involve the harmonization of international efforts to fight proliferation of passage rights and freedom of navigation. Also, new legal issues will be raised in terms of national

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security such as the status of unmanned vessels. As for human rights, it was asserted that UNCLOS would not play a central role in the future development of international human rights law. However, the impact of human rights will be felt in a more visible way as rights of individuals are increasingly identified in maritime activities. The law of the sea will be pressured to adopt a more integrated approach with international human rights law.

Practical Implications—To come up with proper responses to any future challenges, practitioners of international law of the sea need to stay abreast of important developments in other fields, since they will be increasingly required to keep UNCLOS relevant in this age of rapid transition.

Originality, Value—Imagining how the changes of the world we live in will inspire or disrupt the relatively stable system of international law governed by the Convention will be meaningful—not just for legal academics, but also for practitioners including those who represent the governments in law-making processes sponsored by UN or other international bodies.

Key words: boarding, climate change, energy revolutions,
flag state, freedom of navigation, human rights, marine biodiversity,
passage right, piracy, proliferation security initiative,
United Convention on the Law of the Sea

Introduction

When the third United Nations Conference on the law of the sea finally produced a legal framework regulating the use of the oceans in 1982, in the form of a comprehensive multilateral treaty entitled the UN Convention on the Law of the Sea (hereinafter Convention or UNCLOS), everyone knew it was imperfect. However, it was widely believed to be the best possible outcome at the time and to possess considerable durability.² More than twenty years have passed since it finally came into effect in 1994, and there is no denying that the Convention has become something of a Constitution for the oceans with most of its legal authority and relevance intact in a rapidly changing global legal and geopolitical environment.³ It is also true, however, that the Convention is facing serious challenges incidental to the ongoing seismic transformation of the world. When a society undergoes changes, its laws are likely to be pressured to change in one way or another. It is inevitable as well for such a grand normative system as the Convention.

The assessment of the Convention's resilience may depend on what kind of challenges we are discussing. For some challenges, the Convention is already well equipped with necessary legal or conceptual tools. Some of the complementary agreements made under the Convention on specific fields such as distant-water fishing helped strengthen the capabilities of the Convention to deal with emerging problems.⁴ For others, there exist some gaps or lacunae, as shown in frequent debates on breakthroughs in marine technology and climate change.⁵

One way to understand weaknesses and strengths of the UNCLOS system is to pay attention to the fact that, just like most laws, it is the product of the prevailing worldviews of the time of its making. International law is said to reflect the conflicting pressures of the time,⁶ and it is highly plausible that the 1982 Convention can be explained or defined in terms of certain specific characteristics of the world as reflected in the early 1980s. The world was still experiencing the Cold War at the time, hence the same political restraints that applied to inter-state relations between the two big ideological camps might have defined the scope of the UNCLOS. Furthermore, the Convention was negotiated when climate change was not a key issue within the environmental agenda, although there was already full-scale discussion going on about the various aspects of environmental protection including marine pollution and ecosystems and endangered species.⁷ Also, no one ever dared to predict the possibility of energy revolutions in 1982. Does that allow the Convention to be characterized as a relic of the fossil-fuel economy? It might be that the founders of the Convention did not fully understand the universal value of human rights since the real Big Bang of the global human rights discourse—circa 1977—had come only a couple of years before the conclusion of the Convention.⁸ And, of course, no delegation at the third UN Conference went extra miles to persuade other participants to adapt the new treaty to the imminent rise of China. The list may go on: there could be hundreds of ways to describe fundamental differences between the world in the year 1982 and the current one. Some are relevant, others just theoretical. It might be argued, however, that the Convention has included everything in it with which to address major challenges generated by such transformations of the world. After all, the Convention is part of a myriad of international legal systems, which are firmly rooted in the practice of the actual subjects of the law, that is, sovereign states. Even the United States, probably the single most influential player in the global law making process and one of the most powerful coastal states, is avowedly observant of the principles and rules reflected in the Convention even though it officially remains outside the Convention due to some domestic reasons.⁹ This says a lot about the resilience of the Convention. It does not necessarily follow, however, that it is impervious to every major challenge of the world.

In fact, the discussion on the challenges faced by the global framework of the law of the sea is not something new. The traditional areas of discussion include the rights of passage, management of the use of living resources in the high seas, environmental protection, dispute settlement, international security and terrorism. Many are overlapping and inter-related. For example, the management of living resources in the high seas has been discussed as part of broader issues of oceans environment¹⁰; responses to terrorism and piracy inevitably involve examination of possible restrictions on the traditional right of navigation and passage.¹¹ Some writers listed major challenges for the 21st century especially in terms of wider acceptance of existing regimes, working out complexities of myriad binding instruments and resolving disputes over navigational rights and freedoms.¹²

Although it will be interesting and necessary to study what kinds of challenges will affect the relevance and resilience of the Convention as a general rule, this article

is not intended to provide some daring prediction into the unforeseeable future: instead, it will focus on a couple of aspects of the most talked-about changes of the world and think about how they could affect the specific area of international law, that is, the UNCLOS system and the way we look at it. The question of how the changes of the world affect law in general is an extremely broad one. How they affect international law is a little more specific, but this still has a broad and somewhat abstract tone to it. How they affect the Convention is quite a concrete question, but it necessarily involves a series of presumptions and a great deal of guesswork. After all, we are not still fully grasping the seriousness of many of the changes and challenges facing the world and poorly prepared to think and act accordingly. Still, trying to imagine how the changes of the world we live in will inspire or disrupt the relatively stable system of international law governed by the Convention will be meaningful—not just for legal academics, but also for practitioners including those who represent the governments in law-making processes sponsored by UN or other international bodies.

This article will first survey the existing discourses on the challenges faced by the Convention, and move on to discuss the major changes and innovations of the world as they happen now. It will focus on climate change and the ensuing energy revolutions, international security and human rights concerns, and discuss—or ask—how they may affect the general direction of the future development of the law of the sea.

Challenges and Responses So Far

It is suggested that, despite the original intent of the Convention to maintain a reasonable balance between the zonal management of the sea by the coastal states and the public interest of the international community as a whole, the tendency of states toward a greater degree of sovereignty undermines the aspect of the common interest.¹³ It is also said that the “territorial temptation” of the sovereign states in their dealing with the oceans constitutes considerable pressure on the existing regime of the law of the sea.¹⁴ In particular, it is notable that the zoning of the sea based on distance from the coastal states cannot completely represent the fluidity and dynamics of actual marine ecology.¹⁵ Nature with all the living resources in it does not care about how far international law allows for sovereignty of the coastal states. This way, however, the Convention was able to establish the basic jurisdictional framework for conducting maritime activities and the rights and duties of states in each maritime area.¹⁶

Looking back at the history of the making of the Convention would make it easy to identify fundamental issues the law of the sea has had to deal with. International law of the sea had been relatively simple and stable up to the early 20th century: The oceans were conveniently divided into the three-mile belt along the coasts and the high seas beyond such national belt; customary international law provided the majority of the necessary rules based on the practice of the states; there was no global body dedicated to the issues related to the use of the oceans.¹⁷ As the demand for

resources increased, along with the growing realization of the enormous economic potential of the oceans, however, so did the necessity felt by the states to impose their sovereignty over larger sea area. This ultimately led to a transformation of the law of the sea from “the law of movement” with focus on the freedom of the sea to a “law of territory and appropriation.”¹⁸

As a matter of fact, the third UN Conference which resulted in the UNCLOS was a remarkable success in many aspects: intellectual and political leadership was prominent, and constructive ambiguity found itself in right places of the text of the Convention, complementing inherent limits of international law making process with essential insights. For example, the delimitation of continental shelf and exclusive economic zones (EEZ) was a subject of endless debates between two apparently irreconcilable positions: the principle of equidistance/median rooted in the Convention on Continental Shelf of 1958 and the equitable principle inspired by the North Sea Continental Shelf Case of the International Court of Justice (ICJ).¹⁹ The final, and somewhat abrupt, compromise made possible by some of the leading figures based on the phrase “in order to achieve an equitable solution” was definitely susceptible to criticism for its very ambiguity. Despite such ambiguity, the successful trajectory of the jurisprudence on the three-step approach nurtured by international tribunals including the ICJ seems to confirm the wisdom of the participants of the third UN Conference.

Environment and Biodiversity

The Convention came into effect 12 years after its adoption in 1982, and the main hurdle was the controversy on the seabed area that was determined to be the common heritage of mankind.²⁰ This shows that the issues of sovereignty and resources were the major challenges facing the law of the sea at the time. Industrialized countries refused to ratify the Convention in their objection to Part XI concerning the seabed and ocean floor and subsoil thereof beyond the limits of national jurisdiction—simply called “Area” in the Convention. Only after the new implementing agreement revising Part XI was concluded in 1994 did the Convention come into effect as *the* instrument governing the law of the sea.

The making of the UN Fish Stocks Agreement of 1995 was in parallel with the tumultuous process by which the Convention was put into effect.²¹ The FAO adopted the text of the Fish Stocks Agreement intended to implement provisions of the UNCLOS relating to the conservation and management of straddling fish stocks and highly migratory ones in 1993. The international community managed to focus its attention on the issues of management of living resources of the oceans, with the hard-won consensus that the freedom of the high seas is insufficient and inadequate to address the important issue of conservation and management of the certain types of fish stocks moving across the lines of national jurisdiction. The Agreement of 1995 was, therefore, rightly regarded as a praiseworthy attempt to address the need for global management of exhaustible living resources in the high seas (Shearer, 2003).²² As the second implementing agreement was put in place to support the Con-

vention, this Agreement identifies specific measures to be taken by the states within the boundaries determined by the Convention, operationalizes regional or subregional organizations, and specifies precautionary principles and ecosystem approaches.²³ The overall process of drafting and implementing the Convention and the two implementing Agreements might be said to represent some kind of standard path of creation, codification and modification of the multilateral regulatory system in public international law. It is also possible to maintain, however, that the doctrine of the freedom of the seas has continuously been taken over by the regulatory framework.

Another noticeable trend was the shifting of weight from the doctrine of freedom of the sea to the doctrine of national authority. From the 1950s, states began to assert extensive sovereignty over their adjacent water beyond what was permitted by the existing law of the sea, a wave of changes initiated by the United States in the form of the so-called Truman Proclamation.²⁴ The Republic of Korea lost no time in joining this global trend by enacting the Fishery Resources Protection Act of 1953, which defined what was commonly known as the “peace line” in the East Sea area.²⁵ This new trend was transformed into a set of legal norms supported by an increasing number of states. The most dramatic changes resulting from the third UN Conference included the adoption of the 200 NM limits of continental shelf and EEZ. International law has talked of the rule that the land dominates the sea, but this rule has never been so far-reaching. Now the land dominates the sea possibly in the strongest sense of the word.

In a word, the freedom of the high seas was replaced by the extension of regulations in the distant waters, and by the extension of national sovereignty in waters adjacent to the coasts. When we look into the current discussion on the law of the sea, it is clear that the trend of the extension of the regulatory framework is still on. It is to be noted that scholars often declare that current international law is not adequate to protect marine biological diversity outside national jurisdictions and that the 1992 Convention on Biological Diversity does little to help with the situation.²⁶ Now, the very first substantial issue mentioned by the 2015 resolution of the UN General Assembly on oceans and the law of the sea (A/Res/70/235, adopted on 23 December 2015, hereinafter resolution 235) in its preambulatory part is the marine biodiversity on the high seas; to be more exact, resolution 235 recalls a previous resolution on the development of an international legally binding instrument under the Convention on the conservation and sustainable use of marine biodiversity of areas beyond national jurisdiction, commonly referred to as BBNJ. The UN General Assembly adopts a resolution on the law of the sea every year, and the survey into such annual resolutions easily reveals the changing awareness of the international society on the challenges in the field of the law of the sea, along with the insight with which the states try to address them. It is safe to say, therefore, that BBNJ is one of the major issues the international community has begun to regard as crucial. So, it is necessary to watch closely the ongoing discussion under the auspices of the UN on BBNJ. The focus of the discussion is the possibility of creating a third implementing agreement for the Convention. Talks on BBNJ officially began in 2004 when the UN General Assembly adopted the Resolution on the law of the sea (A/RES/59/

24). High-level political determination was confirmed to tackle this issue at the UN Conference on Sustainable Development held in Brazil in 2012, which adopted the document title: “The future we want.” The discussion lasted for a decade in the setting of UN’s informal Working Group. Finally, the ninth Working Group meeting adopted recommendations for the General Assembly in early 2015. Among many things, the states agreed to make an international legally binding instrument under the Convention dedicated to the BBNJ agenda. To help reach consensus on a wide range of relevant issues, they agreed on the road map with a relatively short time frame: there will be four sessions of the preparatory committee from 2016 to 2017 to discuss elements of a draft text of the international legally binding instrument, and the committee will make substantive recommendations on those elements to the General Assembly by the end of 2017. The main agenda includes marine genetic resources, marine protected areas, environment impact assessment, and capacity building and transfer of technology. The final stage of the road map is to decide whether to hold an Intergovernmental Conference (IGC) by the end of the 72nd Session of the General Assembly in 2018. The IGC will be mandated to produce a draft text of the international legally binding instrument based on recommendations made by the preparatory committee.

In the context of BBNJ discussion, no issues are easy to solve: legal nature of marine genetic resources may involve quasi-philosophical debate on the basic concepts and definitions featured in the Convention including the Area; conceptual difficulty expected of the relationship between a new legally binding instrument and the existing law of the sea agreements will fundamentally restrict the scope of application of the new instrument. Appropriateness of establishment of marine protected areas, feasibility and cost-benefit efficiency of environment impact assessment, legal nature of transfer of marine technology also make it less easy to remain optimistic about the timely implementation of what is envisaged by the road map. When we have the adopted text of the international legally binding instrument through an IGC sometime after 2018, we will know more about the trend of national sovereignty and the regulatory aspect of the Convention.

Security

The majority of the above-mentioned resolution 235 addresses environmental issues such as marine biodiversity, capacity building, the Area, marine resources and regular process for global reporting and assessment of the state of the marine environment. But, another important part of the resolution is maritime safety and security. In its preambulatory section, immediately following a number of paragraphs on environment-related concerns, the resolution refers to the continuing problem of transnational organized crime at sea including illicit trafficking of narcotic drugs, the smuggling of migrants, human trafficking, illicit trafficking in firearms, as well as threats such as piracy and terrorist acts. This section highlights the current security challenges at sea.

The UN Convention against Transnational Organized Crime adopted in

Palermo in 2000 and three protocols thereafter (smuggling of migrants, trafficking in persons, and illicit trafficking in firearms) are not part of the law of the sea *per se*, but it is evident that the sea provides much of the routes of trafficking and smuggling in question. Irregular maritime migration has been an issue for a long time, and the growing new trend was that refugees in forced migration were increasingly mixed with voluntary migrants legitimately targeted by the states' migration control schemes such as interception at sea.²⁷ The recent outpouring of refugees from Syria and related responses from neighboring countries only reconfirms the need to think about the issues of migration and refugee protection more seriously in terms of the law of the sea.

As for issues related to piracy, UNCLOS basically restates what customary international law had to say about piracy. It is a relatively well-settled set of rules, although the definition of piracy in the Convention has been subject to frequent criticism that it is too elliptic or narrow. Another problem relates to the jurisdictional provisions, such as lack of the requirement to make the crime an offense under national law, or lack of the principle of "prosecute or extradite."²⁸ These alleged shortcomings, however, have been addressed in associated agreements. The Convention for the Suppression of Unlawful Acts against the Safety of Maritime Navigation, commonly called SUA Convention, provides solutions to some jurisdictional problems related to piracy, and the efforts led by the UN Security Council and the IMO helped close the gap with national legislation.²⁹ The Security Council, in response to the increasingly exacerbating situation off the coast of Somalia, authorized states to take "all necessary means" to repress piracy including the authorization to enter the territorial water of Somalia to take actions against acts of piracy in a series of Security Council resolutions. What has been authorized in these resolutions, which are summed up in the most recent one (S/RES/2246), continued to be in effect, but the General Assembly seemed to feel compelled to clarify points of international law in this context. The General Assembly resolution 235 notes that the authorization in the relevant Security Council resolutions applies "only with respect to the situation in Somalia" and that they "shall not be considered as establishing customary international law." Given the remarkable improvements of the piracy situation off the coast of Somalia, the concerted efforts at the global and regional levels seem to have worked, even though piracy and armed robbery at sea still remain a threat in the region.³⁰

One of the first instances of maritime terrorism in modern history was the seizure of the *Achille Lauro* in 1985,³¹ but the more recent effort of the international community to fight terrorism clashes with the law of the sea when it comes to the issue of proliferation security, among many. Intrusive measures against vessels engaged in proliferation of weapons of mass destruction (WMD) at sea would not always be consistent with the freedom of navigation which constitutes a more robust part of the UNCLOS system. On the high seas, the derogation from the flag state jurisdiction is permissible only on a limited list of grounds specified in Articles 110 (right of visit when a ship is suspected of piracy, slave trade, unauthorized broadcasting, no or false nationality) and 111 (right of hot pursuit). Transporting WMD or parts thereof to or from a country under international sanctions for proliferation

activities cannot be a ground for exceptions to the flag state jurisdiction based on the invincible freedom of the high sea. The situation is similar with the territorial waters. The right of innocent passage through the territorial sea enjoyed by “ships of all States” cannot be suspended or denied for the purpose of implementing proliferation security measures. The Article 19 makes it clear that WMD-related shipping does not make the passage prejudicial to the peace, good order or security of the coastal State. States like the United States and the Russia were so insistent on the narrow interpretation of the exceptions to the right of innocent passage as to jointly declare that the list of exceptions in the Article 19 was an exhaustive one, in the Uniform Interpretation of Rules of International Law Governing Innocent Passage agreed upon in 1989. No major treaties regulating weapons of mass destruction, such as the 1968 Nuclear Non-Proliferation Treaty, contain permission on the interdiction of vessels.³² It was in this legal context that the idea of Proliferation Security Initiative (PSI) was brought up. Instead of trying to pressure and restrain the traditional principle of international law of the sea, the international community chose to act within the confines of existing law, and began to organize a network of state consent and cooperation to jointly deal with WMD proliferation. The 2003 Statement of Interdiction Principles, a basic document for PSI participating countries, makes it clear that all measures taken are consistent with relevant international law. It does not give member states any right to board the ships of other states on the high seas.³³ The relevant Security Council resolutions also make the same point (e.g. the resolution 1540 of 2004). It remains to be seen whether the demand for broader and more effective proliferation security measures would require any drastic changes in the way the rule of the flag state is applied.

Human Rights

International law of the sea and international human rights law are two distinct sets of law. The gulf between two disciplines is real, and it was asserted that UNCLOS would play a limited role in the future development of international human rights law.³⁴ The paucity of perception of their linkage or conflict is not surprising. Still, it is not impossible to consider the mutual relevance of one discipline to another (Treves, 2010).³⁵ For instance, environmental protection and distributive justice for developing states and land locked states may be linked to a broader concept of human rights; obligations to render assistance and rescue, right to fishing, prohibition of the transport of slaves, and prompt release of vessels seem directly related to human rights discourse.³⁶

In particular, maritime law-enforcement operations by the governments as in the boarding on the high seas regulated by the Article 110 could be subjected to human rights law, although the Convention does not mention that aspect of the operations.³⁷ The International Tribunal for the Law of the Sea confirmed that the use of force must be avoided as far as possible in boarding and arresting a foreign ship on the high seas, and that, where unavoidable, considerations of humanity must apply, along with principles of reasonableness and necessity (M/V Saiga case, 1999).³⁸

In the case of detention of vessels and their crew, principles enumerated in the International Convention on Civil and Political Rights may be applicable.³⁹ Refugee crisis can also be discussed in the context of broader human rights law.

As states increasingly assert their jurisdiction over foreign vessels and people on board, more issues relating to human rights will be raised. Under the current framework, it is unclear whether these issues fall within the actual scope of the law of the sea. It is clear, however, that two regimes of law do coincide in many situations and will do so more in the future (Treves, 12).⁴⁰

A Changing World and the Law of the Sea

Climate Change and Energy Revolutions

In 2014, the presidents of the United States of America and the People's Republic of China, the two largest sources of greenhouse gas emissions, issued a joint statement on climate change, in which they confirmed that climate change is one of the greatest threats facing humanity. President Obama, in his final state of the union address early this year, said that non-believers who want to dispute the science around climate change would be "pretty lonely" because they would be debating the U.S. military, most of the country's business leaders, the majority of its people, almost the entire scientific community and nations around the world. When the Paris climate conference (COP21) resulted in the first-ever universal, legally binding agreement on climate change in December 2015, it was accepted as a powerful signal confirming the commitment of the international society in fighting climate change for a low-carbon future in the most serious manner. Now, there is no denying that climate change constitutes one of the most important challenges, with the significant potential to change the world, as we know of—once and for all. In many countries, climate change has made business leaders and policy makers rethink their long-term strategies. The European Commission adopted the EU Strategy on adaptation to climate change in 2013 and set out a framework and mechanisms to strengthen the EU's preparedness for climate impacts.⁴¹ New regulations are introduced to deal with climate change, providing market participants with new conditions and new incentives. Companies respond creatively to opportunities and risks brought by climate change and related public policy.⁴² Raised awareness, technological breakthroughs and investor preferences all contribute to rapid transition toward a low carbon economy. They have to adapt with or without government intervention. Innovations—unprecedented in scope, intensity and complexity—follow. For example, Bloomberg News reported that the 2020s would be the decade of the electric car. Today, according to Bloomberg News, electric cars make up less than 1 percent of the global car market but a dramatic hike is expected in the share of the electric cars in the global auto market, with thirty five percent of new cars with a "plug" by 2040. Bloomberg News says, "electric vehicles could displace oil demand of 2 million barrels a day" in early 2020s. This means a new oil crisis, with the "Big Crash"

inevitable.⁴³ Another factor is a revolution in solar energy technology. The energy storage systems for solar power dramatically improve and become more affordable. An increasing number of countries are expected to reach a grid parity, which means that they are able to generate electricity with solar power or other alternative energy sources at the same price (parity of cost of electricity) as from fossil-fuel based electricity grid.⁴⁴ This only helps speedy disruption of oil industry. Mark Carney, Governor of the Bank of England, said, given the IPCC's estimate of a carbon budget (an amount of carbon that can be burnt while still having a likely chance to limit the global temperature to 2 degree above pre-industrial levels), "the vast majority of reserves" of oil, gas and coal would be "unburnable without expensive carbon capture technology."⁴⁵ A more radical suggestion has been made: there would be a clean disruption or total collapse of the existing energy industry by 2030, caused by revolutionary transitions to solar power and electric vehicles.⁴⁶ Solar energy might do to fossil fuel what smart phones did to non-smartphones: a dazzlingly quick and almost complete replacement. When Klaus Schwab, founder and executive chairman of the World Economic Forum, warned that we are "on the brink of a technological revolution that will fundamentally alter the way we live, work and relate to one another."⁴⁷ He referred to a "Fourth Industrial Revolution," the digital revolution spurred by a fusion of new technologies penetrating the lines between the physical, digital, and biological spheres. He was not exactly talking about climate change and energy revolutions, but this fourth industrial revolution seems to possess similar characteristics to what climate change has brought to global economy.

Will this "revolution" affect the UNCLOS system, and if so, how? There has been discussion on how the UNCLOS could cope with issues of climate change related to the oceans environment. Experts say the most immediate threats posed by climate change are sea-level rise and disruption of marine ecosystem for coastal states and small islands.⁴⁸ Some small islands countries are predicted to disappear in several decades, and this may have implications for our thinking on maritime jurisdiction.⁴⁹ UN General Assembly has continuously expressed its concerns about climate change in its oceans-related resolutions. It is possible to identify provisions of the Convention that might have something to do with climate change, such as the Articles 192 and 194, but the environmental rules contained in the Convention are centered on how to address physical contamination.⁵⁰ Still, it is to be remembered that the domains of the law of the sea and international environmental law overlap each other to a considerable degree "with each informing the other at a fundamental level."⁵¹ IMO comes into play when dealing with real climate change issues. It is known that emission from the shipping industry account for three percent of the global greenhouse gas emissions. IMO has been trying to regulate ship emissions by, for example, introducing an energy efficiency design index.⁵²

Despite a variety of measures conceived by IMO and other international bodies in the context of regulation of activities on the oceans, it seems very unlikely that the UNCLOS can play a major role in the global efforts against climate change. This does not mean, however, that climate change is irrelevant for the future of the Convention. As the discussion on climate change progresses and widens, the UNC-

LOS will be required to *be* relevant. It is sometimes asserted that technological progress such as the development of climate engineering—large-scale technical interventions into the natural climate system—is “amongst the primary reasons that pose considerable challenges to the international law of the sea” because the new technology involves difficult interpretation of the provisions of the Convention on scientific research installations or equipment in the marine environment in the Part regulating Marine Scientific Research as well as rights and duties of states in the EEZ.⁵³ If we were to have a fourth implementing agreement to the Convention, after a planned conclusion of an international legally binding instrument on BBNJ, it might be something about climate change. Given the transformative impact of climate change discussion, we need to think about a more integrated approach for the law of the sea and the climate change regime. That will be one of the imminent challenges to be faced by the Convention.

It is to be noted that climate change and energy revolutions may have another implication for the law of the sea. When we discuss coastal states tending to expand their sovereign authority seaward, it is mostly about wanting to secure more natural resources under their jurisdictions. But imagine a scenario of less demand for fossil fuels and a disruptive change in existing energy industry mentioned above. This would likely affect demand for marine non-living resources in general. A major part of pressure for exclusive economic right would be gone. What would this scenario mean for the law of the sea landscape in the long run? This might lead states to think less of the significance of the maritime delimitation with neighboring states, and there might be less chance for disputes to occur over some reserves of fossil fuels. Without doubt, it is a good thing. If this were to actually happen, we need to think hard about how to develop jurisprudence of maritime delimitation in a way that could support more peaceful, cooperative construction of the relevant provisions including the Articles 74 and 83 on delimitation of EEZ and continental shelf, respectively.

Security and Human Rights

Issues abound in the category of maritime security, and it is difficult to identify only a couple of the most pressing challenges for the future. Securing freedom of navigation is definitely a top priority as the navigational freedom and passage rights were critical for global economic growth and prosperity based on safe and secure movement and exchange of commodities and goods.⁵⁴ The international community has been relatively successful in dealing with piracy, as evidenced in the improvement of situations in Somalia and the Malacca straits.⁵⁵ There will be continued demand for stronger responses to terrorism. Global efforts to fight proliferation of WMD remain robust. Recently adopted sanctions by the UN Security Council against North Korea—resolution 2270—for its destabilizing nuclear and missile-related activities prove that the law of the sea is vital in structuring an international sanctions regime against norm-violators (S/RES/2270). Resolution 2270 sets out several measures to be taken at ports or with regard to shipping: all states are obliged to inspect the cargo in their seaports that originated from or is destined for North Korea; they have to pro-

hibit their nationals from leasing or chartering their flagged vessels to North Korea, and from registering vessels in North Korea, owning or providing any vessel classification and certification service to any vessel flagged by North Korea; they are called upon to deregister any vessel owned or operated by North Korea; and any vessel related to target individuals or entities or containing banned cargo is denied entry into ports of all states. This resolution can be regarded as containing one of the strongest sanctions ever against North Korea. Its reference to deregistration of North Korean vessels, in particular, indicates the willingness of the international community to deal with the issue of flag of convenience, although the Security Council did not prohibit it this time. If there is proof that the practice of the flag of convenience contributes to substantial violations by North Korea of the sanctions regime and erosion of the essential authority of the Security Council for that matter, then there might be serious discussion on outlawing the practice for certain relevant entities.

Passage rights and freedom of navigation are directly related to national security for both shipping countries and coastal ones. Behind any international controversies over freedom of navigation lie geopolitical and security concerns as well as economic ones. Countries understand it and reveal their understanding by action. According to press reports, the United States has continued the freedom of navigation programs in many parts of the world's oceans including the South China Sea, and China asserted the right of transit passage by having its naval fleet navigate through the waters around the Aleutian islands near Alaska last year. The freedom of navigation program of the United States is unique in its publicly declared intention to refuse to acquiesce in certain local examples of limitation of passage.⁵⁶ One is reminded here of the British fleet navigating through Albanian territorial waters described in the Corfu Channel case of the ICJ. In that case, Albania claimed the action of the British fleet was not innocent because it was a political mission, not for a real innocent passage. This claim was not accepted by the Court, which believed what mattered was the manner of passage, not its purpose (ICJ, 1949).⁵⁷ Would the Court pass a same judgment if such a situation were to occur in the present? Most likely, yes. How long will this case remain a relevant, valid precedent? No one knows for sure. In fact, history teaches us that some kind of grand hegemonic framework may come into play in this context. After all, international law of the sea has alternated between *mare clausum* and *mare liberum*.

From a more practical point of view, there are some interesting technical questions that require legal determination. Autonomous vehicles are expected to bring about noticeable changes to the way we use and think about vehicles, and now the shipping industry is faced with the possibility of using autonomous unmanned vessels. Companies, engineers and regulators still have their own doubt about the prospect of unmanned vessels dominating the shipping industry anytime soon.⁵⁸ It is undeniable, however, that unmanned cargo ships represent another aspect of new technical revolutions.⁵⁹ Under the current law of the sea, ships enjoy the right of navigation, although it is actually the flag state that actually exercises the right.⁶⁰ The Article 17 of the Convention states ships of all states enjoy the right of innocent passage. The Article 90 states every state has the right to sail ships flying its flag on

the high seas. Are autonomous ships entitled to enjoy the same right as the traditional ships? This will clearly be a new chapter of the law on passage rights and navigational freedom. IMO's COLREGs have certain rules that might be of relevance for unmanned vessels, for example in terms of the responsibilities of vessels to avoid collision.⁶¹ Safety issues need to be addressed in the context of the International Convention for the Safety of Life at Sea (SOLAS) as well. Experts point out the need to clarify the legal status of autonomous vessels under the Convention, COLREGs, SOLAS and other maritime rules, and it might be necessary to consider a new legal instrument dedicated to regulation of unmanned or autonomous vessels. In fact, this is not just a safety issue, and states may regard it as part of their national security concerns: would coastal states allow what is not exactly a traditional ship to enjoy innocent passage through their territorial waters, even when it is not easy to distinguish unmanned vessels from technologically innovative information gathering and research machines which happen to be capable of navigating at sea? Unmanned vessels might blur the thin line between navigation and marine scientific research if autonomous navigational techniques rely on real-time analysis of scientific data instantly gathered on the navigation route. Technological breakthroughs tend to make us rethink fundamental concepts and definitions. We might have to rethink what we want to mean by ships, navigation, marine scientific research and a host of other concepts that appear in the Convention.

No such futuristic conceptualization is required when we discuss how human rights law meets the law of the sea. Still, the impact of human rights will be felt in a more visible way as rights of individuals are increasingly identified in maritime activities both by governments and private sectors. When activists from non-governmental organizations protest at sea near drilling platforms or whaling fleets, it may be an exercise of freedom of expression and peaceful assembly.⁶² At the same time, it could be regarded by opposing party as an infringement of the use of the oceans or freedom of navigation.⁶³ Another important set of issues involves labor rights. News reports on the supply of seafood using slave labor startled the world.⁶⁴ This reminded governments and civil societies of the need to incorporate human rights issues with the law of the sea discourse. UN General Assembly was paying attention: resolution 235 refers to the working conditions of seafarers and fishermen. This is also related to human trafficking and forced labor on fishing vessels. The same resolution notes the ongoing cooperation between international organizations including the work conducted by the UN Office on Drugs and Crime and ILO on that issue. IMO is working on the fair treatment of seafarers, and ILO has adopted Maritime Labor Convention that focuses on the safety and human rights of maritime workers. Still, resolution 235 does not have an independent section for human rights issues: they are addressed under the rubric of safety and security. The General Assembly may need to consider reserving a separate space for human rights issues at sea. Concepts of human rights increasingly become sophisticated and powerful. Any law enforcement actions on any part of the oceans involving humans will be subject to principles of due process. For example, the Convention is silent on whether states are allowed to arrest a ship without nationality on the high seas, although they have

the right of visitation on such a ship under the Article 110.⁶⁵ This provision and related academic arguments for or against such arrest did not seem to take into consideration individual rights of the crew on board, but if actual seizure of a stateless ship takes place, it is very likely that the crew will have a better chance at challenging it based on their individual rights to due process, instead of constructive interpretation of the relevant articles of the Convention.⁶⁶

Future of the Law of the Sea: Integrated Approach?

In order to come up with appropriate responses to possible challenges in the field of the law of the sea, it is important to understand how such challenges would affect the balances the Convention is supposed to maintain. Environment, security and human rights concerns discussed above are among those most likely to present the most difficult challenges: climate change and biodiversity issues will transform the way we explore and exploit the distant oceans and their resources, and may change the concept of equitable solutions to many of the problems addressed by the Convention including maritime delimitation. The law of the sea will not be able to sustain its relevance without paying sufficient attention to climate change regimes. New technological revolutions will likely shake up and reshape the shipping industry and the demand for more integrated rules will ensue; freedom of navigation is already under pressure by a variety of international security concerns; the rights of individuals subject to law enforcement at sea have the potential to reshape the discourse on regulation of maritime activities. It is only a matter of time before the law of the sea will be compelled to integrate human rights in this traditionally state-centered issue area.

International law changes as the conditions under which states behave change. Trying to identify major challenges faced by the law of the sea could help states deal with the implications of such transition with more ease. The international community is more or less on the right track in their efforts to respond to future challenges in this field, as shown in a long list of issues to be taken care of by the UN General Assembly in the form of yearly resolutions on the law of the sea. They need to be adjusted, however, to reflect more accurately and in a timely manner the ongoing transformation of the world. Each issue has its own place or channel for discussion: climate change is being discussed within the UN Framework Convention and its associated pacts, international security mostly within the UN Security Council and human rights within international covenants supported by UN Human Rights Council and relevant judicial bodies. What is important is that practitioners of international law of the sea stay abreast of important developments of each of those fields, since they will be increasingly required to keep the Convention relevant in this age of rapid transition.

Notes

1. This article is based solely on the personal opinions of the author and does not in any way represent the official position of the Government of the Republic of Korea.

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