

## Chapter 16

# Marine Genetic Resources: Do They Form Part of the Common Heritage of Mankind Principle?

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### I. INTRODUCTION

The term “marine genetic resources” (**MGRs**) may perhaps seem a bit abstract and, in any case, one that should rather be a subject of biological, not legal, deliberations. Nevertheless, the past decade has witnessed heightened debate, both of academic and diplomatic nature, relating to their legal status. The object of this paper is to analyze these controversies from a relatively narrow perspective. Namely, it will strive to answer one specific question: do the MGRs, as a matter of law, fall within the common heritage of mankind (**CHM**) principle, as defined in the 1982 United Nations Convention on the Law of the Sea<sup>2</sup> (**UNCLOS** or the **Convention**)? As a result, the paper will focus on areas beyond national jurisdiction (**ABNJ**), that is the High Seas and the Area, and will, in particular, scrutinize the regulations concerning the latter maritime zone.

It must be underlined at the outset that a number of related and no less important questions fall outside the scope of this paper. These include: the application of the Convention on Biological Diversity (**CBD**) in ABNJ, bioprospecting activities and to what extent they are covered by the marine scientific research (**MSR**) provisions of UNCLOS, the competence of the International Seabed Authority (**ISA**) with regard to the legal status of MGRs, as well as the application of intellectual property rights to marine biodiversity.

The Convention’s preamble clarifies that it was the intention of States Parties to establish “a legal order for the seas and oceans” which will, in particular, promote the equitable and efficient utilization of their

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<sup>2</sup> United Nations Convention on the Law of the Sea, Dec. 10, 1982, 1833 U.N.T.S. 3 [hereinafter UNCLOS]. The Convention entered into force on Nov. 16, 1994 and has currently 168 parties.

resources, as well as the conservation of the living resources. Additionally, the preamble refers to the United Nations (UN) General Assembly (GA) Resolution 2749 of 1970<sup>3</sup> that declared, *inter alia*, that the area of the seabed and ocean floor and the subsoil thereof, beyond the limits of national jurisdiction, as well as its resources, are the common heritage of mankind.

It would, therefore, seem, *prima facie*, that the question posed in the title of this paper should be relatively easy to answer. This is because the Convention's preamble suggests that UNCLOS is a comprehensive treaty. Broadly speaking, when it comes to ocean resources, the drafters' wish to set an overarching legal framework that provides equally for their utilization and conservation is clearly apparent.<sup>4</sup> These factors have even led some to speak of the constitutional nature of the Convention.<sup>5</sup> Hence, one could assume that the legal status of any sort of marine resource under the Convention is precisely regulated. Nevertheless, contrary to the simplicity of the answer suggested above, the debate on the legal status of MGRs of the High Seas and the Area, understood in particular by reference to the (in)applicability of the freedom of the High Seas and/or the common heritage of mankind principle, has been flourishing.

Before proceeding with the proper analysis, it shall be recalled that the Convention does not use or define the terms "marine genetic resources," or "biodiversity." Hence, a convenient starting point to define MGRs is provided for by the CBD,<sup>6</sup> that states in Article 2 that "genetic resources" encompass "[g]enetic material of actual or potential value." "Genetic material," in turn, is defined as "[a]ny material of plant, animal, microbial or other origin containing functional units of heredity." Since every cell of a living organism contains "functional units of heredity" (DNA or RNA), this definition of genetic resources is a broad one and encompasses all kingdoms of life. Thus, notwithstanding the taxonomic model, both macro- and microorganisms (including viruses) are included

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<sup>3</sup> G.A. Res. 25/2749, Declaration of Principles Governing the Sea-Bed and the Ocean Floor, and the Subsoil Thereof, beyond the Limits of National Jurisdiction (Dec. 12, 1970).

<sup>4</sup> This is also reflected in the annually adopted UNGA Res. *Oceans and the law of the sea* that consistently emphasizes "[t]he universal and unified character of the Convention, and reaffirming that the Convention sets out the legal framework within which all activities in the oceans and seas must be carried out . . ." G.A. Res. 70/235, *Oceans and the law of the sea*, pmbl (Dec. 23, 2015).

<sup>5</sup> Law of the Sea, 1973-1982 (Third Conference), *A Constitution for the Oceans*, Remarks by Tommy T.B. Koh, President of the Third United Nations Conference on the Law of the Sea, [http://www.un.org/depts/los/convention\\_agreements/texts/koh\\_english.pdf](http://www.un.org/depts/los/convention_agreements/texts/koh_english.pdf); Richard Falk & Hilal Elver, *Comparing Global Perspectives: The 1982 UNCLOS and the 1992 UNCED, in ORDER FOR THE OCEANS AT THE TURN OF THE CENTURY* 153 (Davor Vidas & Willy Østreng eds., 1999) ("It is a constitutional document that may be the greatest treaty making accomplishment in the entire history of international law.").

<sup>6</sup> Convention on Biological Diversity, June 5, 1992, 1760 U.N.T.S. 79. The Convention on Biological Diversity entered into force on Dec. 29, 1993 and currently has 196 Parties.

in the definition.<sup>7</sup> Notwithstanding the territorial scope of application of the CBD, on the basis of this brief overview it is assumed here that the core of the definition of “genetic resources” is, in principle, agreeable for the international community and is reflected in, *inter alia*, the CBD. Hence, it is useful to apply the same logics to MGRs and define them for the purposes of this paper as “genetic material of marine origin of actual or potential value.”

## II. WHY DOES THE QUESTION POSED IN THE TITLE OF THIS PAPER DESERVE ATTENTION?

Before the inquiry into the applicability of the Area/common heritage of mankind principle to MGRs, it is important to ask *why it matters*.

The most straightforward answer is that the **legal regime** of Part XI (“the Area”; this Part reflects the CHM principle) is significantly different than the one embodied in Part VII (“the High Seas”). Especially when one takes into consideration the high expectations as to the potential value of deep sea MGRs (see below), the issue of what set of legal rules apply to them proves important. Most notably, high seas resources are *common* (in the sense that they do not belong to any particular State and that every State can make use of them) and freedoms are exercised for the benefit of *individual* actors (although, admittedly, with due regard for the rights of others<sup>8</sup>). When it comes to the resources of the Area, the situation is almost the opposite. No State can claim sovereignty or sovereign rights over them.<sup>9</sup> Instead, the rights in the resources of the Area are vested in *mankind as a whole*, on whose behalf the ISA<sup>10</sup> acts. *Individual actors* can, indeed, undertake “activities in the Area” but these shall be carried out for the benefit of mankind as a whole.<sup>11</sup> In this context it is worthwhile to note that the different treatment of the Area resources (than those of the High Seas) is necessarily linked to certain philosophical and ethical considerations that underpin and are given effect through the CHM principle.<sup>12</sup>

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<sup>7</sup> U.N. Secretary-General, *Oceans and the law of the sea*, 40-1, U.N. Doc. A/62/66 (Mar. 12, 2007). A similar definition of “genetic resources” was adopted in the framework of the Food and Agriculture Organization, International Treaty on Plant Genetic Resources for Food and Agriculture, Nov. 3, 2001, 2400 U.N.T.S. 303. The Treaty entered into force on June 29, 2004 and currently has 139 Parties, although it is restricted to *plants* only and to material that is of actual or potential value *for food and agriculture*.

<sup>8</sup> UNCLOS art. 87(2).

<sup>9</sup> *Id.* art. 137(1).

<sup>10</sup> *Id.* art. 137(2).

<sup>11</sup> *Id.* art. 140(1).

<sup>12</sup> See Dire Tladi, *The Common Heritage of Mankind and the Proposed Treaty on Biodiversity in Areas beyond National Jurisdiction: The Choice between Pragmatism and Sustainability*, 25 Y.B. INT’L ENVTL L. 1, 113 (2015).

**Economically speaking**, there are great—substantiated or not—expectations as to the potential value of MGRs and/or bio-technologies developed and commercialized on the basis of marine genetic resources. This is certainly one of the main reasons for the current interest in MGRs and, more broadly, in biodiversity in ABNJ. For example, MGRs are being increasingly used for medical uses, for example, due to their anti-inflammatory, anti-cancer or anti-tumor functions, or for the potential to treat HIV/AIDS.<sup>13</sup> Also, bioactive compounds found in the deep seas are used in the biotechnology, biopharmaceutical, and cosmetics industry.<sup>14</sup> It is also reported that at least some of the results of bioprospecting processes may be patented.<sup>15</sup> Often, the exact location of where the patented resource was found is not known. Therefore, it is not always possible to identify whether a given compound derives from areas within or beyond areas of national jurisdiction. Rather, a broad geographical description in the patent application is provided. In any case, there are known examples of patents related to MGRs from ABNJ.<sup>16</sup> The economic potential of MGRs should neither be ignored, nor exaggerated. The question on the legal status of these resources is both academically interesting and economically, as well as politically, substantiated, as detailed below.

Life in the deep seas raises interest also from a purely **scientific perspective**. It is sometimes suggested that the beginning of life at hydrothermal vents corresponded to the development of life on Earth.<sup>17</sup> Additionally, while about three-quarters of the Earth is covered by water, only as little as 5% of the ocean has been systematically explored for life<sup>18</sup>

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<sup>13</sup> For an overview of these applications, see David Leary et al., *Marine genetic resources: A review of scientific and commercial interest*, 33 *MARINE POL'Y* 2, 185–87 (2009); Murray H.G. Munro et al., *The discovery and the development of marine compounds with pharmaceutical potential*, 70 *J. BIOTECHNOLOGY* 1, 15–25 (1999).

<sup>14</sup> See Leary et al., *supra* note 13, at 187–88; Salvatore Arico & Charlotte Salpin, *Bioprospecting of Genetic Resources in the Deep Seabed: Scientific, Legal and Policy Aspects*, United Nations University, Institute of Advance Studies, 20 (2005), available at <https://www.cbd.int/financial/bensharing/g-absseabed.pdf>. Interesting information can also be found at the internet database site *Bioprospector*, hosted by UN UNU-IAS, <http://www.bioprospector.org/bioprospector/>.

<sup>15</sup> See, e.g., Arico & Salpin, *supra* note 14, at 20 *et seq*; DAVID K. LEARY, *INTERNATIONAL LAW AND THE GENETIC RESOURCES OF THE DEEP SEA* 170 *et seq* (2007); Charlotte Salpin & Valentina Germani, *Patenting of Research Results Related to Genetic Resources from Areas beyond National Jurisdiction: the Crossroads of the Law of the Sea and Intellectual Property Law*, 16 *RECIE LAW* 1, 12–23 (2007).

<sup>16</sup> Marjo Vierros & Salvatore Arico, *Trends in bioprospecting for and application of marine genetic resources*, as presented at the side-event of the 12th Meeting of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea, June 20–24, 2011 (on file with author).

<sup>17</sup> Arico & Salpin, *supra* note 14, at 13; Anja Spang et al., *Complex archaea that bridge the gap between prokaryotes and eukaryotes*, 521 *NATURE* 7551, 173–79 (May 14, 2015).

<sup>18</sup> Jesse H. Ausubel et al. eds., *First Census of Marine Life 2010: Highlights of a Decade of Discovery* 6 (2010), <http://www.coml.org/pressreleases/census2010/PDF/Highlights-2010-Report-Low-Res.pdf>.

and according to some estimates “at least 1 million [possibly up to 10 million – KJM] species of marine life likely exist, and thus at least three species remain to be discovered for each already known.”<sup>19</sup>

This questions matters also from **an environmental perspective**. This is not to suggest that one principle is automatically and unquestionably better than the other (for example, the CHM principle over the High Seas freedom). However, there is no denying the fact that marine biodiversity in ABNJ will benefit from establishing a stable and uncontroversial legal regime in ABNJ that would also address specific problems the unique habitats in these areas face. It should be mentioned here that, generally the more extreme the marine environment (in terms of depth, temperature, availability of light, or pressure), the more probable it becomes that the organisms found there will exhibit extraordinary qualities in terms of their genetics (hence, the often employed term: *extremophiles*). This, in turn, leads to the above-mentioned, heightened bio-industry expectations as to the deep sea species, like ecosystems around hydrothermal vents.<sup>20</sup> On the other hand, these ecosystems are often fragile, endemic, and the mere sampling (especially done repeatedly in one site) or introduction of an external element, such as light, could have adverse environmental impacts.

These considerations lead to a more **political and/or institutional explanation**: this question matters because States, in particular under the auspices of the UNGA, have devoted no less than a decade of intense debates to try to settle this question. They have also frequently expressed divergent opinions as to whether MGRs are subjected to the high seas regime or, conversely, the Area’s. For example, the report of the 2007 UN Informal Consultative Process on Oceans and the Law of the Sea provides that:

With regard to marine genetic resources located in areas beyond national jurisdiction, several States reiterated their view that all resources of the Area, including marine genetic resources, were part of the “common heritage of mankind”. . . . A different view was expressed by other delegations with regard to activities related to marine genetic resources in areas beyond national jurisdiction, namely that these were governed by customary international law as reflected in the United Nations Convention on the Law of the Sea. They stated that living marine resources were not covered by the provisions of Part XI pertaining to the Area, and fell outside of the mandate of the International Seabed Authority, except insofar as those resources were part of the

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<sup>19</sup> *Id.* at 11-12.

<sup>20</sup> For an overview, see Ch. German, *Hydrothermal activity and mid-ocean ridges*, in UNDERSTANDING THE OCEANS. A CENTURY OF OCEAN EXPLORATION 140 (Margaret Deacon et al. eds., 2001).

marine environment that must be protected in connection with mining activities.<sup>21</sup>

Similar concerns were raised during the work of the Ad Hoc Open-ended Informal Working Group to study issues relating to the conservation and sustainable use of marine biological diversity beyond areas of national jurisdiction (so called BBNJ Working Group)<sup>22</sup> and, currently, in the framework of the Preparatory Committee (referred to as PrepCom).<sup>23</sup>

This brief overview of the debates within the UNGA does not do justice to all their nuances and specificity.<sup>24</sup> Nevertheless, it shall suffice for the current purposes. Of most importance: (a) the topic of marine biodiversity in ABNJ is well established on the UN agenda; (b) it covers (but is not limited to) the issue of marine genetic resources; and (c) one of

<sup>21</sup> U.N. General Assembly, *Report on the work of the United Nations Open-ended Informal Consultative Process on Oceans and the Law of the Sea at its eighth meeting*, ¶¶ 71, 74, U.N. Doc. A/62/169 (July 30, 2007).

<sup>22</sup> Established on the basis of G.A. Res. 59/24, *Oceans and the law of the sea*, ¶ 73 *et seq.* (Nov. 17, 2005). *See, e.g.*, U.N. General Assembly, Letter dated Mar. 16, 2010 from the Co-Chairpersons of the Ad Hoc Open-ended Informal Working Group to the President of the General Assembly, U.N. Doc. A/65/68, ¶¶ 71, 72 (Mar. 17, 2010) (“Divergent views were expressed on the relevant legal regime under the Convention regarding marine genetic resources beyond areas of national jurisdiction . . .”).

<sup>23</sup> *See* G.A. Res. 69/292, *Development of an international legally binding instrument under the United Nations Convention on the Law of the Sea on the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction* (June 19, 2015). The Preparatory Committee will meet no less than 2 times both in 2016 and 2017 and the negotiations within it shall address the topics identified in the “package agreed in 2011” that includes “marine genetic resources, including questions on the sharing of benefits.” The phrase “package agreed in 2011” refers to the compromise reached in the framework of the BBNJ Working Group in 2011 that was subsequently endorsed by the U.N. Res. 66/231, *Oceans and the law of the sea*, ¶ 166 and Annex (Nov. 24, 2011). In particular, the Group of 77 and China, the African Group, and the Caribbean Community (CARICOM) favored the CHM principle, whereas Japan, Russia, and the U.S. argued the opposite. Others, in particular the EU (but also: Norway and Switzerland) tried to avoid the debate on the legal status of MGRs in ABNJ, calling for a “pragmatic approach.” On the basis of author’s personal notes from the meeting, as well as *Summary of the First Session of the Preparatory Committee on Marine Biodiversity of Areas Beyond National Jurisdiction: 28 March – 8 April 2016*, 25 EARTH NEGOT. BULL. 106 (2016), <http://www.iisd.ca>.

<sup>24</sup> For example, the role of so the called Intersessional workshops was omitted; *see, in that regard*, U.N. General Assembly, Intersessional workshops aimed at improving understanding of the issues and clarifying key questions as an input to the work of the Working Group in accordance with the terms of reference annexed to General Assembly resolution 67/78, U.N. Doc. A/AC.276/6 (June 10, 2013). For a more detailed treatment of UNICPOLOS, *see, e.g.*, Lori Ridgeway, *Marine Genetic Resources: Outcomes of the United Nations Informal Consultative Process (ICP)*, 24 INT’L J. MARINE & COASTAL L. 2, 309–31 (2009). *See also*, the outline of U.N. debates on MGRs in ABNJ, Glen Wright et al., *The long and winding road continues: Towards a new agreement on high seas governance*, IDDRI, 27–31 (2016).

the major controversies during those debates was (and, arguably, continues to be) the application of the CHM principle as opposed to the freedom of the high seas to MGRs in ABNJ.

Taking into account all of the above mentioned perspectives for considering marine biodiversity in ABNJ, it is undoubtedly worthwhile to try to settle the question whether the CHM principle applies to MGRs.

### III. THE EXISTING LEGAL FRAMEWORK

As highlighted above, one of the main controversies relating to the legal status of MGRs in ABNJ is the question of applicability of either the High Seas or of the Area regime. The purpose of this section is to provide a brief overview of the Convention's legal framework with respect to these two maritime zones. The main focus will rest on the material and territorial scope of application of Parts VII and XI of the Convention. This will serve as a background to the subsequent (section IV) interpretation of the CHM principle.

#### A. *The High Seas*

UNCLOS does not provide a positive definition of high seas but only defines the scope of the applicability of Part VII of the Convention. Namely, the high seas regime shall apply to:

*[a]ll parts of the sea that are not included in the exclusive economic zone, in the territorial sea or in the internal waters of a State, or in the archipelagic waters of an archipelagic State.*<sup>25</sup>

Hence, the high seas regime generally applies both to the water column beyond EEZ, as well as to the seabed and subsoil.<sup>26</sup> Equally important is the statement in Article 89 that:

*[n]o State may validly purport to subject any part of the high seas to its sovereignty.*<sup>27</sup>

This provision is a necessary corollary of a rule that the high seas are areas *beyond national jurisdiction*. Consequently, no State can validly extend its claims of territorial jurisdiction over the High Seas or appropriate them. It follows that it is the object and purpose of Article 89 of UNCLOS to "internationalize" the high seas in the sense of putting them outside of any

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<sup>25</sup> UNCLOS art. 86 (emphasis added).

<sup>26</sup> Alex G. Oude Elferink, *The Regime of the Area: Delineating the Scope of Application of the Common Heritage Principle and Freedom of the High Seas*, 22 INT'L J. MARINE & COASTAL L. 1, 145 (2007) [hereinafter A. Oude Elferink, *The Regime of the Area* (2007)].

<sup>27</sup> UNCLOS art. 89 (emphasis added).

State's sovereignty. In the same vein, the phrase "any part of the high seas" shall be interpreted as referring to *spatial* or geographical scope of the high seas, and not to any "biological component" of these seas.<sup>28</sup> This is important because if the latter interpretation were to be accepted, it could have consequences for, *inter alia*, the practice of patenting (and, hence, claiming ownership of) MGRs found in the high seas.

The other important aspect of the high seas regime is the freedom that all States enjoy. Article 87 of UNCLOS states that this freedom (singular) comprises, *inter alia*, both for coastal and land-locked States: (a) freedom of navigation; (b) freedom of fishing, subject to the conditions laid down in section 2; and (c) freedom of scientific research, subject to Parts VI and XIII. This freedom shall be exercised "with due regard for the rights under this Convention with respect to activities in the Area."<sup>29</sup>

It must be noted that the list of freedoms specified in Article 87 is not an exhaustive one. Naturally, there is no mention of the "freedom to search for and exploit marine genetic resources"<sup>30</sup> or the like. It could be argued, though, that this kind of freedom is implicit in the phrase "*inter alia*" in paragraph 1 of Article 87, as well as in the word "freedom" used in the singular.<sup>31</sup> Thus, it is one general "freedom"<sup>32</sup> that consists of many, some of which are referred to specifically.

Of course, "freedom" does not imply that States exercising it are free from any regulation at all.<sup>33</sup> As it is apparent, the freedom of the high seas

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<sup>28</sup> Satya N. Nandan & Shabtai Rosenne eds., 3 UNITED NATIONS CONVENTION ON THE LAW OF THE SEA 1982: A COMMENTARY, 93-97 (1995). It seems there was no major discussion at third U.N. Conference on the Law of the Sea on that provision (other than separating the rules embodied in the current Articles 89 and 87). From available *travaux préparatoires*, it seems correct to conclude that the phrase "any part" referred only to the "spatial aspect" of the seas.

<sup>29</sup> UNCLOS art. 87(2).

<sup>30</sup> Freedom of fishing is explicitly referred to in UNCLOS Article 87(1)(e). However, due to the differences between fishing activities and those related to MGRs it does not seem appropriate to extend this freedom to cover also the latter case.

<sup>31</sup> Some argue, however, that the freedom of fishing and/or marine scientific research covers the bioprospecting activities of MGRs. See Craig H. Allen, *Protecting the Oceanic Gardens of Eden: International Law Issues in Deep-Sea Vent Resource Conservation and Management*, 13 GEO. INT'L ENVTL. L. REV. 3, 628-30 (2001).

<sup>32</sup> This is not to say, however, that high seas are currently best described as an area where a/the "*laissez faire*" approach is dominant. It has been already recognized by the ICJ in its judgment of Aug. 25, 1974 in the *Fisheries Jurisdiction* case: "It is one of the advances in maritime international law, resulting from the intensification of fishing, that the former *laissez-faire* treatment of the living resources of the sea in the high seas has been replaced by a recognition of a duty to have due regard to the rights of other States and the needs of conservation for the benefit of all." *Fisheries Jurisdiction* (U. K. Gr. Brit. & N. Ir. v. Ice.), Judgment, 1974 I.C.J. 3, ¶ 72 (July 25).

<sup>33</sup> This was also made clear by the ILC with respect to its draft that had preceded the adoption of 1958 Geneva Conventions, *Report of the International Law Commission to the General Assembly*, [1956] 2 Y.B. INT'L L. COMM'N 278, U.N. Doc. A/CN.4/104.



is qualified threefold. *First*, by the “due regard standard” in Article 87(2),<sup>34</sup> *second*, by the fact that these provisions shall be exercised under the conditions laid down by UNCLOS and, *third*, by conditions deriving from international law.<sup>35</sup>

With regard to the second qualification mentioned above, it is important to see whether there are any provisions of UNCLOS that would influence the legal status of the MGRs in the high seas. In this context, it is necessary to look at Section 2 of Part VII UNCLOS which is devoted to the “conservation and management of the *living resources* of the high seas” (emphasis added). Neither of the terms referred to in the title of this section are defined in the Convention.<sup>36</sup> What is, nevertheless, crucial is the understanding and regulation of “living resources,” as this term is broad enough to encompass MGRs as well. It is symptomatic, though, that Section 2 of UNCLOS starts with Article 116 that deals exclusively with fishing. Indeed, notwithstanding it makes references to the potentially broad “living resources” terminology, the main aim of this section is the regulation of fishing activities and the conservation and management of fish.<sup>37</sup>

Admittedly, Article 117 may have a broader application, insofar as it speaks of a duty of States to take or to cooperate with other States in taking:

such measures *for their respective nationals* as may be necessary for the conservation of the living resources of the high seas. (emphasis added).

Nevertheless, it should be underlined that this provision obliges States to take measures, individually or jointly, not with regard to living resources (such as MGRs) *per se*, but towards their nationals (that is, entities that are under their jurisdiction; for example, individuals that are on fishing boats that fly the flag of a given State). Hence, this provision establishes a standard for regulating the conduct of nationals, not one that would be directly applicable to the legal status of living resources, including MGRs, of the High Seas.

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<sup>34</sup> From this article’s perspective the most important is the “due regard” standard that qualifies the rights concerning the activities in the Area.

<sup>35</sup> UNCLOS art. 81(1). These conditions fall outside the scope of this analysis.

<sup>36</sup> However, as was explained by the Food and Agriculture (FAO) report of 1992, “conservation” is understood as “actions required to ensure the sustainability of the resources being exploited,” whereas “management” refers to the allocation of the resources. *Marine fisheries and the law of the sea: a decade of change. Special chapter (revisited) of The State of Food and Agriculture 1992*, FAO FISHERIES CIRCULAR NO. 853, 28 and notes therein (1993).

<sup>37</sup> The very freedom of fishing in UNCLOS Article 87 is conditioned precisely by the reference to Section 2. Additionally, this conclusion is further corroborated by such phrases as “allowable catch” or “populations of harvested species” in UNCLOS Article 119. Also, the mention of regional fisheries organizations towards the end of UNCLOS Article 118 shows that its main aim is the conservation and exploitation of fish.

Thus, it is possible to tentatively conclude that marine genetic resources—insofar as they are located in the high seas—are subject to the freedom of the high seas principle. It follows, that States, including their subjects, may engage in the search of MGRs, and may collect samples of various deep sea fauna and flora as well. This freedom is, however, to be exercised (a) under the conditions laid down in the Convention<sup>38</sup> as well as general international law which could include broad environmental standards and principles,<sup>39</sup> and (b) with due regard to the Area regime.

### *B. The Area Regime*

Although the legal regime of the Area is contained in Part XI of the Convention, its definition is in Article 1 of UNCLOS, which identifies the Area as “[t]he seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction.”<sup>40</sup> However, for the purposes of this paper, the crucial provision for understanding the legal regime applicable in the Area is embodied in Article 136 of UNCLOS, which states:

The *Area* and *its resources* are the common heritage of mankind.<sup>41</sup>

This should be read in conjunction with Article 133, which defines “resources”—for the purposes of Part XI<sup>42</sup>—as:

all solid, liquid or gaseous mineral resources *in situ* in the Area at or beneath the seabed, including polymetallic nodules.

It is clear, therefore, that the notion of “resources” in Part XI of the Convention refers only to non-living ones. Accordingly, for the purposes of Part XI, MGRs do not constitute “resources.” In addition, the phrase “activities in the area” is defined in Article 1(3) of UNCLOS to mean “all activities of exploration for, and exploitation of, *the resources* of the Area”<sup>43</sup> (emphasis added). Consequently, the phrase “activities in the Area” encompasses only those undertaken in relation to the mineral resources—and not to MGRs.

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<sup>38</sup> This obligation also includes environmental standards introduced in the Convention such as those enshrined in Articles 192-196, 197, and 204-206, as well as those related to marine scientific research. See UNCLOS at arts. 238-244, 256-257.

<sup>39</sup> For more on this issue, see: ROBIN WARNER, PROTECTING THE OCEANS BEYOND NATIONAL JURISDICTION. STRENGTHENING THE INTERNATIONAL LAW FRAMEWORK (2009); Alex G. Oude Elferink, *Governance Principles for Areas beyond National Jurisdiction*, 27 INT'L J. MARINE & COASTAL L. 2, 205-59 (2012); Jeff Ardron et al., *The sustainable use and conservation of biodiversity in ABNJ: What can be achieved using existing international agreements?*, 49 MARINE POL'Y, 98-108 (2014).

<sup>40</sup> UNCLOS art. 1(1)(1).

<sup>41</sup> *Id.* Art. 136 (emphasis added)

<sup>42</sup> This definition is therefore *not* applicable to *all Parts* of the Convention.

<sup>43</sup> UNCLOS art. 1(1)(3).

Nevertheless, there are conflicting interpretations as to the scope of application of Part XI of the Convention and in particular of the common heritage of mankind principle. Most of them relate to the deceptively simple formulation of Article 136 of UNCLOS. Indeed, great interpretative potential lies in this “11-word puzzle.”<sup>44</sup>

On the one hand, one could argue that it applies to mineral resources only and, consequently, that MGRs are clearly outside its scope of application.<sup>45</sup> This argument is often coupled with a reminder that deep-sea biodiversity (including MGRs and their possible application) was not discovered at the time when the Convention was negotiated and, hence, this treaty cannot “perform miracles”<sup>46</sup> by effectively regulating issues not known when it was negotiated.<sup>47</sup>

On the other hand, one can argue that since Article 136 specifies that *both* the Area and its resources form part of the common heritage of mankind principle, then not only the resources, but also *the Area as such* (independently of *its resources*) can be encompassed by the common heritage principle. In this regard, since the Area means “the seabed and ocean floor and subsoil thereof” then it could include *every kind of resource* that can be found there (that is, both non-living and living—so MGRs as well).<sup>48</sup> This line of argumentation seems to have the greatest potential and has been employed by some States during the PrepCom debates.<sup>49</sup> It will also be also scrutinized in this paper in a most detailed manner.

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<sup>44</sup> UNCLOS Article 136 was aptly referred to in such a way by KEMAL BASLAR, *THE CONCEPT OF THE COMMON HERITAGE OF MANKIND IN INTERNATIONAL LAW*, 206 (1998).

<sup>45</sup> See, e.g., Lyle Glowka, *The Deepest of Ironies: Genetic Resources, Marine Scientific Research, and the Area*, 12 OCEAN Y.B. 1, 168 (1996); N. Matz, *Marine biological resources: Some reflections on concepts for the protection and sustainable use of biological resources in the deep sea*, 2 NON-STATE ACTORS & INT’L L. 3, 285, 289 (2002); Tullio Scovazzi, *The Evolution of International Law of the Sea: New Issues, New Challenges (Volume 286)*, in COLLECTED COURSES OF THE HAGUE ACADEMY OF INTERNATIONAL LAW 217–20 (with reservations) (2000); Serge Beslier, *The Protection and Sustainable Exploitation of Genetic Resources of the High Seas from the European Union’s Perspective*, 24 INT’L J. MARINE & COASTAL L. 2, 337 (2009).

<sup>46</sup> Tullio Scovazzi, *Is the UN Convention on the Law of the Sea the Legal Framework for All Activities in the Sea? The Case of Bioprospecting*, in LAW, TECHNOLOGY AND SCIENCE 316 (Davor Vidas ed., 2010).

<sup>47</sup> Cf. *infra*, notes 133–134 and accompanying text 1 A HANDBOOK ON THE NEW LAW OF THE SEA 595 (Rene-Jean Dupuy & Daniel Vignes eds., 1991).

<sup>48</sup> See, in particular, A. Oude Elferink, *The Regime of the Area* at 147–54 (2007); Louise A. de La Fayette, *A New Regime for the Conservation and Sustainable Use of Marine Biodiversity*, 24 INT’L J. MARINE & COASTAL L. 2, 268–70 (2009); Fernanda Millicay, *A Legal Regime for the Biodiversity of the Area*, in LAW, SCIENCE & OCEAN MANAGEMENT 804–12 (Myron H. Nordquist et al. eds., 2007).

<sup>49</sup> See, e.g., the Statement by Thailand on behalf of G77 and China delivered on Mar. 30, 2016 (available through UN PaperSmart portal: <https://papersmart.unmeetings.org/ga/preparatory-committee-established-by-general-assembly-resolution-69292/first-session/statements/>).

Other counterarguments refer to: (a) the inclusion of sedentary species into the Continental Shelf regime and, by analogy, possible inclusion of "sedentary" deep sea species/MGRs into the Area regime; and (b) the fact that the UNCLOS preamble refers to the desire to develop the 1970 Declaration which speaks of all (not only mineral) resources forming part of the CHM principle. These arguments will be considered as well in the analysis to follow.

#### IV. THE INTERPRETATION OF THE CHM PRINCIPLE UNDER THE VIENNA CONVENTION ON THE LAW OF TREATIES

This section will deal with the interpretation of the common heritage of mankind principle, as reflected in UNCLOS. In order to achieve this aim, it will employ the means of interpretation provided for in the Vienna Convention on the Law of Treaties (VCLT).<sup>50</sup> Therefore, firstly (subsection A), it will offer few introductory remarks on the VCLT rules of interpretation as applied to UNCLOS. Secondly, this section will employ these rules (section B: general rule of interpretation and subsection C: supplementary rules of interpretation) to the CHM principle in order to arrive at the conclusion as to its meaning and, more importantly, scope of application. Naturally, in this latter aspect, the primary focus will rest on the question of applicability of this principle to the marine genetic resources.

##### A. *Introduction: Methodology of Interpretation*

In accordance with Article 31(1) VCLT, UNCLOS shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose. Thus, the general rule of interpretation embodied in the Vienna Convention<sup>51</sup> encompasses three main means of interpretation: literal (ordinary meaning), functional/teleological (object and purpose),<sup>52</sup> as well

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<sup>50</sup> Vienna Convention on the Law of Treaties, May 23, 1969, 1155 U.N.T.S. 331 [hereinafter VCLT]. Currently the Convention has 114 Parties.

<sup>51</sup> It is not possible at this point to fully discuss the methodology of the application of the general rule of interpretation as reflected in Article 31 VCLT. However, it is assumed that since it is a "rule" (singular), all the methods of interpretation mentioned therein should be treated on an equal footing. On the other hand, some claim that literal interpretation should prevail. Also, when one looks at the jurisprudence of the ICJ it seems that the "ordinary meaning" is always a starting point and the other methods are used to confirm it. The problem in the present analysis is, however, that the other methods may yield different results than the literal interpretation.

<sup>52</sup> For more on that issue, see: MARK E. VILLIGER, COMMENTARY ON THE 1969 VIENNA CONVENTION ON THE LAW OF THE TREATIES 421-41 (2009); ANTHOY AUST, MODERN TREATY LAW AND PRACTICE 230-44 (2nd ed., 2007); Richard Gardiner, *The Vienna Convention Rules on Treaty Interpretation*, in THE OXFORD GUIDE TO TREATIES 200-385 (Duncan B. Hollis ed., 2012) [hereinafter Gardiner, *The Vienna Convention Rules on Treaty Interpretation*].

as contextual/systematic (context of the treaty that includes, *inter alia*, its text, together with the preamble and annexes<sup>53</sup>).

Moreover, to determine the meaning of a given provision, in particular when the general rule of interpretation leaves the meaning ambiguous or obscure or when it leads to a result that is manifestly absurd or unreasonable, one can have recourse to supplementary means of interpretation that include, *inter alia*, preparatory work of the treaty.<sup>54</sup>

As might be observed, this paper employs the VCLT rules of interpretation notwithstanding the fact that, in accordance with Article 1 VCLT, it applies only to treaties between States, and currently one international organization—the European Union—is a party to UNCLOS.<sup>55</sup> Still, in accordance with Article 3(c) VCLT it is possible to apply its rules as among the States parties to UNCLOS, even if other subjects of international law are parties thereto as well. In any case, the International Court of Justice (ICJ) has frequently applied the rules of interpretation embodied and reflected in VCLT as being of customary character.<sup>56</sup> This approach was also adopted, explicitly with regard to the Convention, by the International Tribunal for the Law of the Sea (ITLOS).<sup>57</sup>

Given the fact that the main bone of contention, as exemplified in the title of the current paper, relates to the applicability of the CHM principle to MGRs, the above described means of interpretation will be sequentially employed in particular to provisions contained in Part XI of the Convention dealing with the Area (and especially to the CHM principle).

### ***B. General Rule of Interpretation***

In line with the comments above, this subsection will concentrate on three main canons of interpretation, namely: the literal (ordinary

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<sup>53</sup> VCLT art. 31(2). Together with the context, one should take into account “any subsequent agreement between the parties regarding . . . the application of its provisions,” “subsequent practice,” and, lastly, “any relevant rules of international law applicable in the relations between the parties.” *Id.* art. 31(3).

<sup>54</sup> *Id.* art. 32.

<sup>55</sup> For more on the (in)applicability of VCLT to UNCLOS, see: Budislav Vukas, *The Law of the Sea Convention and the Law of Treaties*, in *LIBER AMICORUM GÜNTHER JAENICKE* 635 (Christiane Philipp ed., 1998).

<sup>56</sup> The same rules of interpretation are also contained in the Vienna Convention on the Law of Treaties between States and International Organizations or between International Organizations of Mar., 21 1986 (not yet in force), available at [http://legal.un.org/ilc/texts/instruments/english/conventions/1\\_2\\_1986.pdf](http://legal.un.org/ilc/texts/instruments/english/conventions/1_2_1986.pdf). See, e.g., *Pulp Mills on the River Uruguay (Arg. v. Uru.)*, Judgment, 2010 I.C.J. 14, ¶ 65 (Apr. 2010). In particular due to that reason, temporal considerations, *i.e.* the entry into force of VCLT as opposed to the entry into force of UNCLOS, are also omitted.

<sup>57</sup> Responsibilities and obligations of States sponsoring persons and entities with respect to activities in the Area, Case No. 17, Advisory Opinion of Feb. 1, 2011, para. 58, [https://www.itlos.org/fileadmin/itlos/documents/cases/case\\_no\\_17/adv\\_op\\_010211.pdf](https://www.itlos.org/fileadmin/itlos/documents/cases/case_no_17/adv_op_010211.pdf).

meaning), the functional/teleological (object and purpose), as well as the contextual/systematic one. The latter will be addressed in two steps. Firstly, the analysis to follow will deal with the interpretation of the CHM principle in the overall context of Part XI of UNCLOS. Secondly, attention will turn to the subsequent agreements and practice of States that could inform the current interpretation of the principle of the common heritage of mankind.

### 1. *Literal Interpretation*

Treaty interpretation commences with an examination of the literal meaning of the terms, *in accordance with the ordinary meaning to be given to the terms of the treaty*. In this regard, it has already been established that the definition of “resources” in Article 133 UNCLOS excludes MGRs.<sup>58</sup> It is too soon, however, to state already at this stage that the CHM principle as such covers mineral resources only. After all, when the text of Article 136 UNCLOS is examined as a whole, it is clear that it refers both to “the Area” and “its resources.” Hence, the word “are”<sup>59</sup> should be rather understood as referring not only to resources but also to the Area *as such*. It would follow that the common heritage principle covers the Area independently of its resources. This thesis will now be tested, taking into account other means of interpretation that form part of the general rule enshrined in Article 31 VCLT.

### 2. *Functional Interpretation (Object and Purpose)*

Firstly, it is necessary to have recourse to the *object and purpose* of the Convention. This is often linked to the general obligation to interpret a treaty *in good faith*. The latter term indicates how the treaty shall be interpreted. In this context the Latin maxim *ut res magis valeat quam pereat* provides additional guidance in that it requires a treaty to be interpreted in such a way that gives it some meaning and role, rather than in a way that does not.<sup>60</sup> This is often referred to as the principle of effectiveness.

<sup>58</sup> In line with Article 31(4) of the VCLT: “A special meaning shall be given to a term if it is established that the parties so intended.” UNCLOS Article 133(a) clearly established a special meaning with regard to the term “resources.” As the authors of the Virginia Commentary note in this context: “*Expressio unius est exclusio alterius*”; 6 UNITED NATIONS CONVENTION ON THE LAW OF THE SEA 1982. A COMMENTARY, ¶ 133.10(c) (Satya N. Nandan & Shabtai Rosenne eds., 1995) [hereinafter VIRGINIA COMMENTARY, VOL. VI]. For a different interpretation in that regard, see A. Oude Elferink, *The Regime of the Area* at 151–52 (2007).

<sup>59</sup> UNCLOS, Article 136 reads: “[t]he Area and its resources *are* the common heritage of mankind” (emphasis added).

<sup>60</sup> As the ILC put it: “When a treaty is open to two interpretations one of which does and the other does not enable the treaty to have appropriate effects, good faith and the

Yet another aspect of this principle is, indeed, the one that prefers an interpretation that fulfils the aim of the treaty (object and purpose).<sup>61</sup>

Notwithstanding the problems with specifying what exactly constitutes the object and purpose of a given treaty,<sup>62</sup> it is common to refer to the preambular provisions in that respect.<sup>63</sup> As was already mentioned in the introductory part of this paper, the preamble of the Convention reflects the desire of the parties to establish “[a] legal order for the seas and oceans” that will promote, *inter alia*, “the equitable and efficient utilization of their resources, the conservation of their *living resources*, and the study, protection and preservation of the *marine environment*.” (emphasis added).

More specifically with regard to the Area, the Convention’s preamble underlines the desire “[t]o *develop* the principles embodied in resolution 2749 (XXV) of 17 December 1970 that ‘solemnly declared *inter alia* that the area of the seabed and ocean floor and the subsoil thereof, beyond the limits of national jurisdiction, as well as its resources, are the common heritage of mankind’” (emphasis added).

On the basis of these preambular provisions it is therefore possible to state, *first*, that it is the object and purpose of the Convention to set out legal rules applicable, generally, to all marine resources and to promote their conservation. This, however, does not automatically mean that MGRs should be considered to be covered by the common heritage of mankind principle. It rather means that if one is faced with a choice of interpreting the Convention’s provisions in such a way that MGRs are to be considered to be in a legal vacuum, or that they are to be covered by *some* rules of UNCLOS (be it the rules of the High Seas or the Area), the latter approach should prevail.

*Second*, the Convention’s preamble refers back to the Declaration of the UNGA resolution 2749 of 1970. Since the parties’ intent, as reflected in the preamble, was to *develop* the principles of that Declaration, based on the ordinary meaning of this term, it could be understood that they simply

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objects and purposes of the treaty demand that the former interpretation should be adopted.” Int’l L. Comm’n, *Draft Articles on the Law of Treaties with commentaries*, [1966] 2 Y.B. INT’L L. COMM’N, ¶ 6 (commentary to the then Article 27).

<sup>61</sup> RICHARD GARDINER, *TREATY INTERPRETATION* 209–11 (2nd ed. 2015) [hereinafter GARDINER, *TREATY INTERPRETATION*].

<sup>62</sup> For more on that issue, see Gardiner, *The Vienna Convention Rules on Treaty Interpretation*, in D.B. Hollis (ed.), *THE OXFORD GUIDE TO TREATIES* 496–97 (2012); GARDINER, *TREATY INTERPRETATION* at 285–87.

<sup>63</sup> See ILC, *Draft Articles on the Law of Treaties with commentaries*, *supra* note 59, ¶ 12 (commentary to the then Article 27). For the approach of the ICJ, see also *Reservations to the Convention on the Prevention and Punishment of the Crime of Genocide*, Advisory Opinion, 1951 I.C.J. 15, 23–4 (May 28); *Sovereignty over Pulau Ligitan and Pulau Sipadan (Indon. v. Malay.)*, Judgment, 2002 I.C.J. 625, ¶ 51 (Dec. 17). Strictly with regard to the interpretation of Part XI and CHM principle, see E. D. BROWN, *2 SEA-BED ENERGY AND MINERALS: THE INTERNATIONAL LEGAL REGIME* 50 (2011).

provided a starting point of reference for interpreting UNCLOS. Consequently, even *assuming arguendo* if the Declaration contained more precise definitions than those in UNCLOS, it would not prevent the negotiators of the Third UN Conference on the Law of the Sea from “developing” these principles (and thereby potentially modifying their meaning). What, in fact, the word “develop” seems to preclude, is the situation where the Declaration’s principles are not at all reflected in the final text of the Convention or their meaning is absolutely reversed.<sup>64</sup>

Nevertheless, it must be underlined that the genesis of the word “develop” in the Convention’s preamble points to a slightly different meaning that should be attached to this term. In fact, the change from “giving effect to” (which the previous version of the preamble used) to “develop” called for an explanatory memorandum of the President of the Conference. It seems that the rationale behind the word “develop” was to imply that the legal status of the CHM principle, already in 1970 when the Declaration was adopted, had a definite legal status.<sup>65</sup> Further, that the Convention does not influence that status but “merely” implements the principle, and provides it with “practical shape and form.”<sup>66</sup> However, the devil lies in the detail. This practical or even technical process of “developing” the common heritage of mankind principle in the Convention, perhaps not altering the legal status of the principle, gave it rather precise material scope. Undoubtedly, the relative vagueness of terms employed by the Declaration facilitated that.

Nowhere does the Declaration speak of the definition of the resources. At the same time, it does refer to the need to preventing pollution, contamination, and other hazards to the “marine environment,” as well as to “natural resources,” and “flora and fauna of the marine environment” in that context.<sup>67</sup> Hence, one can argue that given the fact that the drafters used two terms, “resources” and “natural resources,” in

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<sup>64</sup> The Declaration itself speaks of a future international treaty that shall be established “on the basis of the principles” of the Declaration. G.A. Res. 25/2749, *supra* note 3, ¶ 9.

<sup>65</sup> It could mean that some states considered the CHM principle as part of customary international law or (such views were also presented) that it even amounts to a *jus cogens* norm.

<sup>66</sup> See Law of the Sea, 1973–1982 (Third Conference), *Report of the President on the work of the informal plenary meeting of the Conference on the preamble*, U.N. Doc. A/CONF.62/L.49/Add.1 and 2 (Vol. XIII) (Mar. 29, 1980) (“Many delegations were of the opinion that the Declaration . . . had from the moment of the adoption of that resolution acquired a definite juridical status, and that the present Convention was not required in order to invest them with such juridical status as they already possessed. It must be made clear that an expression had to be used which, *while not affecting the question of the juridical status of those Principles*, would express the desire and intent of the Conference to *provide for the application of the concept of the common heritage of mankind* by establishing through the present Convention the institutional and legal framework and machinery to give the concept practical shape and form.”) (emphasis added).

<sup>67</sup> G.A. Res. 25/2749, *supra* note 3, ¶ 11.



one document, they intended to attach different meanings to them. In line with this interpretation, the term “resources” of the Area (that is mostly used in the Declaration in the context of their “exploitation” and “exploration”) should mean mineral resources. Where the declaration uses a broader term – “natural resources” – it should be interpreted as meaning both living and non-living ones.

In this context, the General Assembly adopted another resolution<sup>68</sup> on the same day that mandated the UN Secretary General to prepare a report to “identify the problems arising from the production of certain *minerals* from the area beyond the limits of national jurisdiction,” as well as “study these problems in the light of the scale of possible exploitation of the sea-bed, taking into account the world demand for *raw materials* . . . .”<sup>69</sup> This corroborates the view that the term “resources” in the Declaration was meant to refer in fact to mineral resources.

What also seems to transpire from the above-provided quotation of the Declaration is that *both the Area* (using the terminology that was adopted after 1970) *as well as its resources* were considered common heritage of mankind. This, therefore, supports (or at least does not contradict) the reading of Article 136 UNCLOS, as suggested before.

### 3. Contextual/Systemic Interpretation

While looking at the *context* of Article 136 UNCLOS, one can find arguments both in favor and against the hypothesis that the Area, independently of its resources, constitutes the common heritage of mankind.

On the one hand, Part XI contains provisions that refer only to “the Area,”<sup>70</sup> only to “resources,”<sup>71</sup> or to both of these terms.<sup>72</sup> One can argue, therefore, that if the parties wanted to restrict the meaning of Article 136 UNCLOS to the (mineral) resources only, they would have done so explicitly. It seems that the whole phrase (“the Area *and its resources*”) is used in every case when the provision in question is

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<sup>68</sup> G.A. Res. 2750 (XXV), *Reservation exclusively for peaceful purposes of the sea-bed and the ocean floor, and the subsoil thereof, underlying the high seas beyond the limits of present national jurisdiction and use of their resources in the interests of mankind, and convening of a conference on the law of the sea* (Dec. 17, 1970).

<sup>69</sup> The Declaration, in its preamble, refers to “raw materials” as well. G.A. Res. 2749 (XXV), *Declaration of Principles Governing the Sea-Bed and the Ocean Floor, and the Subsoil Thereof, beyond the Limits of National Jurisdiction*, ¶ 11 (Dec. 12, 1970) (emphasis added).

<sup>70</sup> E.g., UNCLOS arts. 138, 141, 148.

<sup>71</sup> *Id.* art. 137(2). This provision mentions “the resources of the Area.” The word “Area” here qualifies only the location of the resources; it does not refer to Area independently of its resources.

<sup>72</sup> E.g., *id.* arts. 137(1), 143(2). UNCLOS, Article 139 refers to “activities in the Area” which is a term that, by definition, refers to the resources of the Area as well.

exploration/exploitation oriented, whereas the Convention refers simply to “the Area” in more general paragraphs. Moreover, Article 136 UNCLOS is the first provision in Section 2 of the Convention that is entitled “Principles Governing the Area”. Hence, the CHM principle should be read as encompassing the Area, just as much as its resources.

On the other hand, one can argue that Articles 145 and 147 of UNCLOS deal with the protection of the “marine environment” (a term which is not defined but clearly encompasses living flora and fauna of the deep sea<sup>73</sup>). Hence, while the existence of the marine environment in the deep sea was recognized, the “resources” and “activities in the Area” for the purposes of Part XI were defined to exclude living resources.<sup>74</sup>

For example, Article 145(b) refers to the “natural resources,” as well as to the flora and fauna of the marine environment; Article 147 makes very clear the distinction between “activities in the Area” and “other activities in the marine environment.” Therefore, one can argue that when the parties wanted to regulate the status of natural resources or of the marine environment, they did so. Since Article 136 fails to refer to either “natural resources,” “marine environment,” or any other phrase to that effect, it was the intention of parties to exclude them from the scope of application of the common heritage of mankind principle. This argumentation, however, is not entirely convincing. After all, the “protection of the marine environment” (title of Article 145 of UNCLOS) and “accommodation of activities in the Area and in the marine environment” (title of Article 147 of UNCLOS) form part of the Section 2 of Part XI—principles governing the Area. If one accepts that the main principle in that context is the common heritage of mankind,<sup>75</sup> it is possible to infer that it includes the protection of environment as well.<sup>76</sup>

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<sup>73</sup> The term “marine environment” was defined by ISA for the purposes of the so-called “Mining Code.” For example, the *Regulations for Prospecting and Exploration of Polymetallic Nodules* read that the “marine environment” shall be understood as “the physical, chemical, geological and biological components, conditions and factors which interact and determine the productivity, state, condition and quality of the marine ecosystem, the waters of the seas and oceans and the airspace above those waters, as well as the seabed and ocean floor and subsoil thereof.” This definition is a very broad one and clearly encompasses marine biodiversity, including MGRs. International Seabed Authority, Dec. 19/C/17, U.N. Doc. ISBA/19/C/17 (July 22, 2013). For more on the competence of ISA with relation to the marine environment, see: Tullio Scovazzi, *Mining, Protection of the Environment, Scientific Research and Bioprospecting: Some Considerations on the Role of the International Sea-Bed Authority*, 19 INT’L J. MARINE & COASTAL L. 4, 391–96 (2004).

<sup>74</sup> One should point out at this point that it is generally acknowledged that it was the discovery by the *Alvin* submersible in 1977 of the deep sea ecosystems that changed scientists’ perception of that maritime area. Hence, the negotiators of UNCLOS were little (if at all) aware of these developments. Cf. *infra*, notes 133–134, A HANDBOOK ON THE NEW LAW OF THE SEA, *supra* note 46, and accompanying text.

<sup>75</sup> It is possible to put forward an argument to the contrary. Namely, that since the title of Section 2 refers to “principles” (plural), it contains many of them—common heritage of

Nevertheless, the main problem in ascertaining the context of Article 136 of UNCLOS lies elsewhere. To be more precise: piecemeal comparison of selected provisions contained in Part XI, Section 2 of the Convention is not the most effective form of interpretation. Here, as the preceding paragraphs show, various nuanced interpretations are possible. Instead, the preferred approach is a *broad* examination of the context of Articles 133 and 136, and in particular at *the legal and practical implementation* of the common heritage of mankind principle, as reflected in the remainder of Section 2 of Part XI and in the whole of Part XI of the Convention.

Based on this literal analysis, it is possible to tentatively accept that the CHM principle applies both to the Area as well as to its resources. In line with that argumentation, it is necessary to reach a conclusion that *selected* provisions of Part XI, Section 2 of UNCLOS (that is, those that refer to the Area and not only to its “resources” or “activities in the Area”) do apply to MGRs. This would in particular be the case with regard to Article 137(1),<sup>77</sup> Article 138,<sup>78</sup> Article 141,<sup>79</sup> and Article 143(1) and (3) (also in conjunction with Article 256)<sup>80</sup> of UNCLOS. As already discussed, Articles

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making being just one of many. Consequently, even if Section 2 contains provisions dealing with natural resources and the marine environment, these may be understood as *separate principles*, not related to the common heritage of mankind. In this paper, however, it is assumed that the common heritage of mankind *is* the main principle regulating the status of the Area and the provisions that follow UNCLOS Article 136 show various sides of it; implement it.

<sup>76</sup> There are many “listings” of elements that the CHM principle includes. Indeed, some (though not all) of them refer to the protection of the marine environment. *E.g.*, Rüdiger Wolfrum, *The Principle of the Common Heritage of Mankind*, 43 ZEITSCHRIFT FÜR AUSLÄNDISCHES ÖFFENTLICHES RECHT UND VÖLKERRECHT 319 (1984), or Elisabeth Mann Borgese, *The Common Heritage of Mankind: From Non-living to Living Resources and Beyond*, in 2 LIBER AMICORUM JUDGE SHIGERU ODA (Nisuke Ando et al. eds., 2002), include the protection of the marine environment within the CHM principle, whereas YOSHIFUMI TANAKA, *THE INTERNATIONAL LAW OF THE SEA* 172-73 (2012), does not.

<sup>77</sup> “No State shall claim or exercise sovereignty or sovereign rights over *any part of the Area or its resources . . .*” This provision, though, is hardly any different from the regulation of the High Seas. *See* UNCLOS art. 89.

<sup>78</sup> This Article is entitled “General conduct of States in relation to *the Area*” and obliges that it to be in accordance “with the provisions of this Part, the principles embodied in the Charter of the United Nations and other rules of international law . . .” Here, the crucial part speaks of the necessity to apply the provisions of Part XI. The scope of application of these rules to MGRs, however, is exactly the bone of contention.

<sup>79</sup> “*The Area* shall be open to use exclusively for peaceful purposes . . . without discrimination . . .” Again, when compared with UNCLOS Articles 87(1) and 88 that deal with the High Seas, there would seem to be little difference in the treatment of MGRs under UNCLOS Article 141 and Articles 87 and 88. The latter provisions, arguably, do not refer explicitly to the non-discrimination principle, although Article 87(1) does underline that there should be no difference when it comes to the access to the High Seas, notwithstanding the fact whether a given State is coastal or land-locked.

<sup>80</sup> “Marine scientific research *in the Area* shall be carried out . . . for the benefit of mankind as a whole’ and States ‘shall promote international co-operation in marine

145 and 147 also apply to MGRs. However, they do so only indirectly as they call for the protection of the marine environment and natural resources of the Area but only with respect to “activities in the Area” (phrase relating to *mineral* resources only).

If this conclusion is accepted, it gives rise to two potential legal scenarios. Either (a) the common heritage of mankind principle applies to both the Area (and, hence, to MGRs in the Area) and the (mineral) resources within the Area, but it was implemented “unevenly” with respect to these two types of resources; or (b) this differentiation in the treatment of living and non-living resources is already embedded in the CHM principle as such. Both of these interpretations boil down to the conclusion that if one accepts that the literal interpretation of Article 136 of UNCLOS is correct, it is then necessary to face the fact that the common heritage of mankind principle works differently with respect to living (in particular MGRs) and non-living resources. Provisions that could apply to MGRs on the basis of such an approach were enumerated above. However, it is equally necessary to see which provisions would likely *not apply* to living resources due to the fact that their scope is restricted to “resources” or “activities in the Area,” as defined in the Convention for the purposes of Part XI.

This would, in particular, be the case with respect to Article 137(2),<sup>81</sup> Article 139,<sup>82</sup> Article 140,<sup>83</sup> Article 144,<sup>84</sup> Article 146,<sup>85</sup> and Article 148<sup>86</sup> of UNCLOS. But it is not only the quantity of provisions that would not apply to MGRs but their “quality” that matters. For example, there are

scientific research *in the Area*” (emphasis added). The latter obligation encompasses, *inter alia*, encouragement for the participation of personnel of different countries and ensuring that programs are developed “for the benefit of developing States and technologically less developed States.”

<sup>81</sup> “All rights in the *resources of the Area* are vested in mankind as a whole, on whose behalf the Authority shall act. These resources are not subject to alienation . . .” (emphasis added).

<sup>82</sup> “States Parties shall have the responsibility to ensure that *activities in the Area*, whether carried out by States Parties, or state enterprises or natural or juridical persons which possess the nationality of States Parties or are effectively controlled by them or their nationals, shall be carried out in conformity with this Part” (emphasis added).

<sup>83</sup> “*Activities in the Area* shall, as specifically provided for in this Part, be carried out for the benefit of mankind as a whole . . . . The Authority shall provide for the equitable sharing of financial and other economic benefits derived from *activities in the Area* . . .” (emphasis added).

<sup>84</sup> “The Authority shall take measures in accordance with this Convention: (a) to acquire technology and scientific knowledge *relating to activities in the Area*; and (b) to promote and encourage the transfer to developing States of *such* technology and scientific knowledge . . .” (emphasis added).

<sup>85</sup> “With respect to *activities in the Area*, necessary measures shall be taken to ensure effective protection of human life. . .” (emphasis added).

<sup>86</sup> “The effective participation of developing States in *activities in the Area* shall be promoted . . .” (emphasis added).

important regulations in Section 2 of Part XI (which deals with the principles governing the Area) that could not be usefully employed for the regulation of the legal status of living resources. Moreover, some of these provisions are the “crucial ones” for the very concept of the CHM principle.

Based on this analysis, it is only the rights to mineral resources that are vested in mankind as a whole and, consequently, ISA competence is restricted to these (Article 137(2)). It is only the “activities in the Area” that are to be carried out for the benefit of mankind as a whole (Article 140); and, finally, the transfer of technology provisions are also restricted to “activities in the Area” only (Article 144<sup>87</sup>). Similarly, the regulations in Section 3 of the Convention, which set out the policies related to the exploration and exploitation of the resources, are restricted to mineral resources.<sup>88</sup>

As a logical conclusion flowing from the fact that rights to mineral resources are vested in mankind as a whole, the competence of the ISA (the institutional face of the CHM principle) is generally restricted to “resources” and “activities in the Area,” and hence does not encompass living resources. In particular, it is necessary in this context to have recourse to Article 157(1) of UNCLOS which specifies that:

The Authority is the organization through which States Parties shall, in accordance with this Part, organize and control *activities in the Area*, particularly with a view to administering the *resources of the Area*. (emphasis added).

While the provision immediately following does envisage additional, incidental powers of the Authority, these have to be implicit and necessary “for the exercise of those powers and functions with respect to *activities in the Area*.”<sup>89</sup>

As the preceding analysis shows, accepting that the Area, independently of its resources, constitutes the common heritage of mankind would amount to agreeing that either this principle was not fully developed with regard to living resources (and the Convention was “unfinished” in this aspect) or that the CHM principle was originally designed in such a way as to treat various types of resources differently. Notwithstanding

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<sup>87</sup> Section 5, Annex of the 1994 Implementing Agreement does not influence that conclusion. Agreement relating to the Implementation of Part XI of the United Nations Convention on the Law of the Sea of 10 December 1982, July 28, 1994, 1836 U.N.T.S. 3. There are currently 150 Parties to the Agreement.

<sup>88</sup> The provisions contained in the 1994 Implementing Agreement (in particular Section 6 and 7, Annex) do not modify this conclusion.

<sup>89</sup> UNCLOS art. 157(2) (emphasis added). Again, the 1994 Implementing Agreement does not change the powers of the Authority (see 1994 Implementing Agreement, *supra* note 86, Annex, Section 1, para. 1).

which strand of reasoning one takes, it does not seem to have support in the Convention's text or preparatory work, as discussed below.

At this point it is necessary to recall again that the Convention is treated as the "Constitution for the oceans" within which all activities in the oceans and seas must be carried out.<sup>90</sup> It is difficult to reconcile this status of UNCLOS with the argument that it was "unfinished". Also (arguably somewhat ironically in this context), Article 311(6) of UNCLOS<sup>91</sup> points in the same direction. If there shall be no amendments to the CHM principle, it means that the principle, as it stands, is final and "finished."

While analyzing the context and systemic structure of the Convention, it is worthwhile to recall the argument that the living resources of the deep seabed could be considered sedentary species<sup>92</sup> and—*per analogiam* to their treatment in the continental shelf regime—should fall within the scope of the Area and the CHM principle. As Armas-Pfirter puts it:

The LOSC specifically defines sedentary species of the continental shelf and expressly assigns them to it, but does not do so for the sedentary species in the Area. Nevertheless, we do not feel that this omission allows us to consider that such species do not exist or are not, in law, assigned to the Area.<sup>93</sup>

The present Author believes, though, this argument works exactly the opposite way. Namely, if the negotiators were familiar<sup>94</sup> with the legal possibility of "attaching" living resources (or at least some types thereof) to the maritime zone dealing primarily with mineral resources<sup>95</sup> (i.e. the

<sup>90</sup> See Koh, *supra* note 5 and accompanying text.

<sup>91</sup> "[T]here shall be no amendments to the basic principle relating to the common heritage of mankind set forth in article 136."

<sup>92</sup> These species are defined in UNCLOS Article 77(4) as "organisms which, at the harvestable stage, either are immobile on or under the seabed or are unable to move except in constant physical contact with the seabed or the subsoil."

<sup>93</sup> Frida M. Armas-Pfirter, *How Can Life in the Deep Sea Be Protected?*, 24 INT'L J. MARINE & COASTAL L. 2, 303 (2009). Similarly in: Frida M. Armas-Pfirter, *The Management of Seabed Living Resources in The Area Under UNCLOS*, 11 REVISTA ELECTRÓNICA DE ESTUDIOS INTERNACIONALES, 21-22, 27-28 (2006).

<sup>94</sup> See generally, S.V. Scot, *The Inclusion of Sedentary Fisheries within the Continental Shelf Doctrine*, 41 INT'L & COMP. L. Q. 4, 788-807 (1992). It must be added that this solution was highly criticized by some commentators. With respect to the 1958 Geneva Convention, see, in particular, Shigeru Oda, *A Reconsideration of the Continental Shelf Doctrine*, 31 TUL. J. INT'L L. 22-26 (1957); Shigeru Oda, *The Geneva Conventions on the Law of the Sea: Some Suggestions for Their Revision*, 1 NAT. RESOURCES LAW. 2, 104-05 (1968); BÁRBARA KWIAKOWSKA, *THE 200 MILE EXCLUSIVE ECONOMIC ZONE IN THE NEW LAW OF THE SEA* 74-78 (1989).

<sup>95</sup> UNCLOS art. 77(1) ("... sovereign rights for the purpose of exploring it and exploiting its natural resources. . ."). Cf. UNCLOS Article 56(1)(a) and the extent of sovereign rights of the coastal state in the Exclusive Economic Zone ("sovereign rights for the purpose . . .

continental shelf) and utilized this solution in Parts V and VI of the Convention, *and didn't do that* in the framework of Part XI, then it should be read as rejection of that idea as far as Part XI is concerned. Hence, the “sedentary species argument” with respect to deep seabed MGRs is neither grounded in law (in particular in any of the provisions of Part XI UNCLOS) nor does it lend itself to be easily applied in a *per analogiam* fashion. This is due to the fact that it is difficult to apply this logic to zones (i.e. the continental shelf and the Area) characterized by fundamentally different legal status. In any case, this argument, if accepted, would only apply to (micro)organisms that could qualify as sedentary species.<sup>96</sup> It would not influence the legal status of other deep sea organisms. Consequently, this would create or maintain a “dual” regime, whereby some of the organisms would constitute common heritage of mankind and some would still fall within the High Seas freedom.

#### 4. Contextual/Systemic Interpretation Continued: Subsequent Agreements and Practice

In interpreting intent, one can look to the *subsequent agreement between UNCLOS' Parties regarding the application of its provisions*,<sup>97</sup> that is, the 1994 Agreement relating to the Implementation of Part XI of UNCLOS.<sup>98</sup> It is sometimes highlighted in this regard that the Agreement *does not* change the definition of resources in Article 133 of UNCLOS.<sup>99</sup> This is then construed to signify that the notion of “resources,” meaning mineral resources, was later agreed upon in the said Agreement. When one takes into account the fact that by this time (i.e. mid-1990s) the knowledge of the existence and value of deep sea habitats and MGRs was far more

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*natural resources, whether living or non-living . . .”* (emphasis added). However, Article 68 excludes the application of Part V of the Convention with respect to sedentary species.

<sup>96</sup> Not to mention that the definition of “sedentary species” is rather notorious for its unclear terms which are also unfamiliar to biologists. See, e.g., Horst Korn et al., *Deep Sea Genetic Resources in the Context of the Convention on Biological Diversity and the United Nations Convention on the Law of the Sea*, BUNDESAMT FÜR NATURSCHUTZ 38 [Federal Agency for Nature Conservation] (Bonn, 2003).

<sup>97</sup> UNCLOS art. 31(3)(a). Not all of the UNCLOS parties are parties to the 1994 Agreement. It was argued, though, that even for the twenty-one UNCLOS parties that are not bound by the 1994 Agreement, the single and modified regime applies due to the fact there had been tacit acceptance in that respect. Michael Lodge, *The Deep Seabed*, in *THE OXFORD HANDBOOK OF THE LAW OF THE SEA* 227–28 (D. Rothwell et al. eds., 2015) (citing M. Hayashi).

<sup>98</sup> On the negotiating history and the Agreement, see generally D.H. Anderson, *Resolution and Agreement Relating to the Implementation of Part XI of the UN Convention on the Law of the Sea: A General Assessment*, 55 *ZEITSCHRIFT FÜR AUSLÄNDISCHES ÖFFENTLICHES RECHT UND VÖLKERRECHT* 275–89 (1995).

<sup>99</sup> See A. Oude Elferink, *The Regime of the Area* at 153 (and literature quoted therein) (2007).

widespread, this argument accrues some significance. This is all the more so, given the true legal impact of the 1994 Implementing Agreement. After all, notwithstanding the fact that the title of the Agreement suggests that it merely implements UNCLOS, in reality it did modify some of the Convention's provisions relating to the exploration and exploitation of the (mineral) resources of the Area.<sup>100</sup>

On the other hand it is important to recall that the purpose of the Agreement was quite specific, as alluded to in the UNGA resolution adopting the Agreement:

Recognizing that political and economic changes, including in particular a growing reliance on market principles, have necessitated the re-evaluation of some aspects of the regime for the Area and its resources.<sup>101</sup>

This followed the statement of the then UN Secretary General who had earlier regretted that these were predominantly developing states that ratified the Convention.<sup>102</sup>

Therefore, the main aim of the 1994 Implementing Agreement was to secure universal participation of all (in particular developed) States in the Convention's framework *through introducing necessary modifications into the mining regime*.<sup>103</sup> Hence, it is possible to argue that the definition of

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<sup>100</sup> For more on that issue, see: Shabtai Rosenne, *The United Nations Convention on The Law of the Sea, 1982. The Application of Part XI: An Element of Background*, 29 ISR. L. REV. 3, 491-505 (1995); Tullio Scovazzi, *The Evolution of International Law of the Sea: New Issues, New Challenges (Volume 286)*, COLLECTED COURSES OF THE HAGUE ACADEMY OF INTERNATIONAL LAW 125-26 (2000).

<sup>101</sup> G.A. Res. 48/263 (Aug. 17, 1994). It also reaffirmed that "[t]he seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction (hereinafter referred to as the "Area"), as well as the resources of the Area, are the common heritage of mankind."

<sup>102</sup> "[T]he present [*i.e.*, in 1992 - KJM] situation in which there is the unprecedented number of 159 signatories to the Convention, but only 51 ratifications and accessions—all but one from developing countries—is highly unsatisfactory. There is a real possibility that such a situation could lead to the erosion of the delicate balance contained in the Convention." Concluding remark by the Secretary General at the Informal Consultations on outstanding issues relating to the deep seabed mining provisions of the United Nations Convention on the Law of the Sea, cited after E. D. Brown, 'Neither necessary nor prudent at this stage': *The regime of seabed mining and its impact on the universality of the UN Convention on the Law of the Sea*, 17 MARINE POL'Y 2, 81-82 (1993). See also, U.N. Secretary-General, *Consultations of the Secretary-General on outstanding issues relating to the deep seabed mining provisions of the United Nations Convention on the Law of the Sea*, U.N. Doc. A/48/950 (June 9, 1994).

<sup>103</sup> A. V. Lowe, *The international seabed: a legacy of mistrust*, 5 MARINE POL'Y 3, 205, 213-14 (1981); D. H. Anderson, *Efforts to Ensure Universal Participation in the United Nations Convention on the Law of the Sea*, 42 INT'L & COMPARATIVE L. Q. 4, 654-64 (1993); D.H. Anderson, *Further Efforts to Ensure Universal Participation in the United Nations Convention*



resources was not modified because it was not the aim (or mandate) of the negotiating States to do so. The list of nine controversial issues in Part XI of UNCLOS that were to be resolved through the adoption of the Implementing Agreement is instructive. These issues were: (1) costs to State Parties; (2) the Enterprise; (3) decision-making; (4) the review conference; (5) transfer of technology; (6) production limitation; (7) compensation fund; (8) financial terms of contracts; and (9) the environment.<sup>104</sup> It is clear, therefore, that the controversy lied elsewhere than in the current debates under the auspices of the UN General Assembly and did not relate to the *living* resources of the Area. Curiously enough, the one and only issue, out of the above listed nine, that could have a bearing on today's debates—*i.e.* the environment—was finally put aside in the course of the 1994 Implementing Agreement negotiations, as it was not considered controversial.<sup>105</sup>

Nevertheless, even though the definition of the “resources” could have been changed in 1994, this does not unequivocally mean that the failure to do so puts the Area as such outside the scope of the CHM principle.<sup>106</sup> Overall, this line of interpretation does not deliver convincing arguments in favor or against the hypothesis that the CHM principle covers MGRs.

Full analysis of the *subsequent practice of States in the application of UNCLOS*<sup>107</sup> falls beyond the scope of this analysis. Nevertheless, it can be rather safely concluded that even taking into account the known instances of bioprospecting for and patenting of MGRs from ABNJ, they do not constitute “the agreement of the parties regarding its interpretation,” as required by Article 31 (3)(b) of VCLT. This is clearly exemplified by the above-mentioned controversies under the auspices of UNGA concerning the legal regime applying to MGRs in ABNJ.<sup>108</sup>

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on the Law of the Sea, 43 INT'L & COMPARATIVE L. Q. 4, 886-93 (1994); JAMES HARRISON, MAKING THE LAW OF THE SEA 86-90 (2011).

<sup>104</sup> U.N. Secretary General, *Consultations of the Secretary-General on outstanding issues relating to the deep seabed mining provisions of the United Nations Convention on the Law of the Sea*, ¶ 5, U.N. Doc. A/48/950 (June 9, 1994).

<sup>105</sup> Anderson, *supra* note 102, at 660 (“finally, there was general agreement that environmental considerations were of utmost importance and that the Convention already imposed high standards which would be further elaborated by the Authority. This question was not seen to be one which represented obstacle in the way of ensuring universal participation”). Similarly: U.N. Secretary General, *Consultations of the Secretary-General on outstanding issues relating to the deep seabed mining provisions of the United Nations Convention on the Law of the Sea*, ¶ 9, U.N. Doc. A/48/950 (June 9, 1994). S. Nandan, gave a slightly different interpretation for the elimination of environment from the list of issues. In his view the environment was “qualitatively different from the eight other issues under consideration.” *Quoted in* Harrison, *supra* note 102, at 89.

<sup>106</sup> See also A. Oude Elferink, *The Regime of the Area* at 153 (2007).

<sup>107</sup> See VCLT art. 31(3)(b).

<sup>108</sup> See *supra*, notes 21-23 and accompanying text.

C. *Supplementary Rules of Interpretation: The Convention's Negotiating History*

The analysis so far lends support to both sides of the controversy relating to the applicability of the common heritage of mankind principle to marine genetic resources. Literal interpretation of Article 136 of UNCLOS allows claiming that the Area (and *all* resources “in” it), independently of its mineral resources, constitutes the CHM. On the other hand, in particular the broader context of Section 2 Part XI, as well as Part XI as a whole, substantiates the conclusion to the opposite. This is chiefly due to the fact that claiming otherwise would lead to accepting that the Convention adopts a “differentiated” (depending on the type of resource at hand) CHM regime. The assessment of whether it leads to “manifestly absurd” results, to employ the VCLT terminology,<sup>109</sup> will most probably differ depending on the eye of the beholder. In any case, in the opinion of the present Author, it does seem “unreasonable.”<sup>110</sup>

Even if that proposition were not accepted, it seems safe to conclude that even after having recourse to the general rule of interpretation envisaged in Article 31 of VCLT, the meaning of Article 136 of UNCLOS and the scope of the CHM principle is, at best, “ambiguous or obscure.”<sup>111</sup> Hence, it is appropriate to have recourse to supplementary means of interpretation enshrined in Article 32 of VCLT that include in particular preparatory work.

It shall be underlined that this exercise will be restricted to scrutinizing the negotiating history of such terms as “resources” and “the Area,” as well as necessary developments concerning the CHM principle. It will not elaborate on the complete *travaux préparatoire* of this principle and much less of the Part XI as a whole.<sup>112</sup> Lastly, it shall be recalled that a similar analysis with respect to the terms used in the 1970 Declaration was already presented. It was considered that this issue belongs to the discussion related to the functional interpretation (“object and purpose” of the Convention) rather than, strictly speaking, to the preparatory work of the Convention.

As a starting point it is useful to recall that the original Maltese proposal presented by Arvid Pardo, entitled “Draft Ocean Space Treaty”<sup>113</sup>

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<sup>109</sup> VCLT art. 32(b).

<sup>110</sup> *Id.*

<sup>111</sup> *Id.* art. 32(a).

<sup>112</sup> For a broader overview, see, e.g., ALEXANDRA MERLÉ POST, DEEP SEA MINING AND THE LAW OF THE SEA 137–63 (1983).

<sup>113</sup> Committee on the Peaceful Uses of the Sea-Bed and the Ocean Floor Beyond the Limits of National Jurisdiction, Working Paper submitted by Malta, UN Doc. A/AC.138/53 (Aug. 23, 1971) [hereinafter Draft Ocean Space Treaty]. This document also, formally speaking, did not belong to the official documents of the III Conference on the Law of the Sea.

did contain (contrary to UNCLOS) the definition of “natural resources”. They were “all living and non-living things or energy, actually or potentially useful to human beings, which are found in ocean space.”<sup>114</sup> Clearly, this definition would encompass, *inter alia*, MGRs. At the same time, Part IV of the Draft (entitled “International Ocean Space” and dealing with all areas beyond national jurisdiction; hence, in today’s terminology, covering both the High Seas and the Area) declared that all “International Ocean Space is the common heritage of all mankind.”<sup>115</sup> The Draft refers in this Part both to defined “natural resources”<sup>116</sup> and to undefined “resources”<sup>117</sup> *simpliciter*. It is not entirely clear to what extent this was a deliberate attempt or simply a result of the working nature of the document. In any case, it is clear that the common heritage concept in this Draft had broader territorial and material scope of application, as also made clear in the explanatory memorandum at the beginning<sup>118</sup> and would apply to living resources.<sup>119</sup> Nevertheless, the Sea-Bed Committee didn’t really devote attention to the definitions of “resources” or “minerals” in its work.<sup>120</sup>

The debate on definitions did not take place during the first session of the UNCLOS III Conference.<sup>121</sup> The first discussion on the CHM principle took place in Caracas (2<sup>nd</sup> session), where around forty countries

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<sup>114</sup> Draft Ocean Space Treaty art. 1. It is interesting to note that this definition, through the concept of “actual or potential value to human beings” is quite similar to the definition of biological and genetic resources adopted twenty years later in the framework of the Convention on Biological Diversity. *Id.* art. 2.

<sup>115</sup> *Id.* art. 66.

<sup>116</sup> *E.g., id.* arts. 72, 104, 106, 111, 119, 125, 129.

<sup>117</sup> *E.g., id.* arts. 68, 71, 75. These were, arguably, important provisions. As, for example, Article 71 stated, “[t]he administration of International Ocean Space and the exploration and exploitation of its resources is exclusively for peaceful purposes and shall be carried out for the benefit of mankind as a whole” (emphasis added) and Article 75 “[a]ll activities of exploration and exploitation of resources in International Ocean Space shall be conducted by, or on behalf of, the Institutions . . .” (emphasis added).

<sup>118</sup> *Id.* at 7 (“This part [i.e. Part IV – KJM] of the working paper is founded on the concept that ocean space beyond national jurisdiction is a common heritage of mankind”).

<sup>119</sup> This was certainly the intent of A. Pardo. Among the staunch supporters of the idea were also S. Oda and E. Mann Borgese. For more on that issue, see: Elisabeth Mann Borgese, *The Common Heritage of Mankind: From Non-living to Living Resources and Beyond*, in 2 LIBER AMICORUM JUDGE SHIGERU ODA 1313–18 (Nisuke Ando et al. eds., 2002). The Author recalls his conversation with H. Shirley Amerasinghe who had stated shortly before his untimely death in 1981 “Had we really looked at Arvid’s Draft in 1971, we could have spared ourselves ten years of work!” *Id.* at p. 1317. One could say this still holds true.

<sup>120</sup> VIRGINIA COMMENTARY, VOL. VI at 71.

<sup>121</sup> As explained by the Chairmen of the I Committee, it was a deliberate attempt and references were made to the “Article 0” that was supposed to contain definitions. Law of the Sea, 1973-1982 (Third Conference), *Draft articles considered by the Committee at its informal meetings (Articles 1-21)*, UN Doc. A/CONF/62/C.1/L.3 (Vol. III) (Aug. 3, 1974). Generic term “resources” was used.

frequently referred to “minerals” or “resources” without, however, defining or specifying the latter term.<sup>122</sup> Only Chile and Mexico explicitly referred to “living resources.”<sup>123</sup> However, most countries did not address at all (at least explicitly) the question of the meaning of the term “resources” or whether it should cover living organisms.<sup>124</sup>

In 1975 the Informal Single Negotiating Text (ISNT)<sup>125</sup> was prepared. Its Part I (Article 1) contained the definitions of various terms used in the treaty, and in particular “resources” were to mean “resources *in situ*.”<sup>126</sup> The then Article 3 of ISNT stated that “[t]he Area and its resources are the common heritage of mankind.” Although this is the exact phrasing we find in the current Article 136 of the Convention, the scope of application of the CHM principle under ISNT terms—due to the broad definition of resources—would extend to living resources.<sup>127</sup>

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<sup>122</sup> On the basis of: Division of Ocean Affairs and the Law of the Sea (DOALOS), *The Law of the Sea. Concept of the Common Heritage of Mankind. Legislative History of Articles 133 to 150 and 311(6) of the United Nations Convention on the Law of the Sea*, 291-304 (1996). General references to “resources”: Sri Lanka (however also to “raw materials”), Canada, Jamaica, Switzerland, Thailand, Burma, Portugal, Pakistan (however also to: nodule mining, conservation of ocean resources and marine environment), Yugoslavia, Tunisia, China, Bhutan, Viet Nam (remarking that the ISA must have full control over the exploitation of the *resources of the seabed*, as well as competence to adopt regulations necessary for the *conservation of living resources*), USSR, Mongolia (although referring also to freedom of fishing), Spain, Algeria. Express references to “minerals” or “mineral resources”: Germany (GDR), Japan, Cuba (referring to “resources” but noting possible impacts of their exploration for the price of minerals), Republic of Korea, Ukrainian SSR (referring to “natural resources” but in the context of “growing demand for mineral raw resources”).

<sup>123</sup> *Id.* Chile clearly stated that the future regime should apply to resources of the seabed and subsoil, “whether mineral or living resources, or minerals existing in solution in the water column” (*id.* at 293). Mexico argued that it was not appropriate to restrict the system of exploration to “minerals and other non-living resources” and advised instead that the competent organization (i.e. what later became ISA) “should be entrusted with the management and supervision of the renewable and non-renewable resources of the seabed and also those in the water column” (*id.* at 299). Also, Romania referred to “natural resources” (*id.* at 297).

<sup>124</sup> However, for example Bangladesh referred to “resources” but made the point that the future regime (as proposed originally by Pardo) should apply not only to seabed but also to the superjacent waters and, hence, the reference to “resources” could be construed here to mean both living and non-living resources *id.* at 298.

<sup>125</sup> Law of the Sea, 1973-1982 (Third Conference), Informal Single Negotiating Text [hereinafter ISN], U.N. Doc. A/CONF.62/WP.8 Part I (May 7, 1975).

<sup>126</sup> ISN art. 1(iii).

<sup>127</sup> Article 1(iv) of ISNT also defined “mineral resources” as meaning one of the four main types (listed in the definition) of mineral resources. As highlighted, the definition of the CHM in Article 3 *did not* refer to this term. Article 1(ii) of ISNT states also that the phrase “Activities in the Area” means “all activities of exploration of the Area and of the exploitation of *its resources*, as well as *other associated activities in the Area including scientific research*” (emphasis added). Not only would it then relate to living resources (given their definition) but possibly also to bioprospecting. Such a solution was rejected

The crucial change was introduced between May 1975 (date of release of ISNT) and May 1976<sup>128</sup> when the Chairman of the First Committee (*P. Bamela Eugo*) presented the so-called Revised Single Negotiating Text (RSNT).<sup>129</sup> According to its Article 1, “resources” were to mean “mineral resources *in situ*.” This subtle modification has had a major impact on the law of the sea regime. Since then the definition of resources (for the purposes of today’s Part XI of the Convention) has been restricted to mineral resources which, as already discussed, also influenced the material scope of application of the CHM principle. Unfortunately, however, the Introductory Note by the Chairman of the Committee<sup>130</sup> does not shed any light on the reasons for this change. Clearly, this modification (from “resources *in situ*” to “mineral resources *in situ*”) must have not been considered as a major one, as it didn’t even deserve a comment.

The Informal Composite Negotiating Text (ICNT)<sup>131</sup> of 1977 retains the same formulation of the CHM principle and the same restricted definition of resources.<sup>132</sup> Overall, no delegation raised the issue of the definition of resources, applicability of CHM principle to living resources, or possible application of this principle to “the Area,” notwithstanding its “resources.” It seems it was generally assumed at this stage of the Conference that the (current) Part XI of the Convention, including the CHM principle and competence of ISA, relate to mineral resources.<sup>133</sup>

Although some minor changes were made to the definition of resources and the formulation of (current) Articles 133 and 136 during the 9<sup>th</sup>, 10<sup>th</sup>, and 11<sup>th</sup> sessions (1980, 1981, and 1982, respectively), none of them

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by developed countries. See, F. H. Paolillo, *The Institutional Arrangements for the International Sea-Bed and Their Impact on the Evolution of International Organizations (Volume 188)*, in COLLECTED COURSES HAGUE ACAD. INT’L L. 194 (1984); 2 UNITED NATIONS CONVENTION ON THE LAW OF THE SEA, 1982. A COMMENTARY 33 (Myron H. Nordquist et al. eds., 1993).

<sup>128</sup> Which is around one year before the famous *Woods Hole Oceanographic Institution* submersible *Alvin*, found hydrothermal vents in the Galapagos Rift at the depth of ca. 2.5 km.

<sup>129</sup> Law of the Sea, 1973–1982 (Third Conference), *Revised Single Negotiating Text (Part I)*, U.N. Doc. A/CONF.62/WP.8/Rev.1/Part I (Vol. V) (May 6, 1976).

<sup>130</sup> *Id.*

<sup>131</sup> Law of the Sea, 1973–1982 (Third Conference), *Informal Composite Negotiating Text*, U.N. Doc. A/CONF.62/WP.10 (Vol. I) (July 15, 1977).

<sup>132</sup> *Id.* arts. 133(b), 136.

<sup>133</sup> See, e.g., Law of the Sea, 1973–1982 (Third Conference), 19<sup>th</sup> Meeting, *Summary Records of meetings of the First Committee*, ¶¶ 8–9 (USSR), 17 (Chairman of the Committee), 28 (USA), U.N. Doc. A/CONF.62/C.1/SR.19 (Vol. I) (Mar. 26, 1975); Law of the Sea, 1973–1982 (Third Conference), 45<sup>th</sup> meeting, *Summary Records of meetings of the First Committee*, ¶ 42 (Argentina), UN doc. A/CONF.62/C.1/SR.45 (Vol. II) (Apr. 25, 1979): “. . . part XI of the convention dealt with an essentially economic activity, namely the exploitation of the resources of the sea-bed, which were the common heritage of mankind. The parameters must therefore be different and new criteria applied. Countries which would benefit most directly from the exploitation of the mineral resources of the sea-bed . . . .”

influenced the fact that both the definition of resources and the CHM principle remained restricted to minerals.

Lastly, it is worthwhile to point out that Dupuy and Vignes note in this context:

It was *not until the final session of the Conference*, following the publicity given to the discovery of hydrothermal springs and a keener awareness of the fact that *other resources might be exploited in the medium term*, that an additional provision was included in the Convention.<sup>134</sup>

This “additional provision” is Article 162, paragraph 2(o)(ii) of UNCLOS, which obliges the ISA to adopt rules, regulations, and procedures for the exploration for and exploitation of “any resource other than polymetallic nodules.” However, this provision cannot be interpreted as broadening the overall competence of the ISA, which is clearly established in Article 157(2)(1) of UNCLOS as relating to organizing and controlling “activities in the Area.” Given the fact that this last term refers to mineral resources, the formulation “any resources other than polymetallic nodules” must be interpreted as encompassing mineral resources only. This is also the conclusion reached by Dupuy and Vignes: “[i]t is nonetheless true that the international regime is basically designed for the nodules.”<sup>135</sup>

In view of the foregoing it is possible to state that from ISNT, through RSNT to ICNT and thereafter the formulation of the common heritage of mankind was exactly the same: “[t]he Area and its resources are the common heritage of mankind.” Nevertheless, due to the fact that in mid-1970s the term “resources” was limited to mineral resources, this principle received—as it is argued—a narrower meaning as well. Moreover, this change did not seem, as evidenced by the conference documents, a meaningful or major one to the negotiators.

Overall then, there is no evidence in the preparatory work of the Convention that would support a thesis of a “dual meaning” of the CHM principle (i.e. that it covers both living and non-living resources but works differently depending on the type of a resource). Similarly, the Convention’s *travaux préparatoire* does not provide the interpreter with sufficient materials to claim that Article 136 of UNCLOS was designed in such a way that the CHM principle applies both the (mineral) resources, as well as to the Area as such (covering in this instance both living and non-living resources). There is also absolutely no evidence to back the argument relating to the “sedentary species analogy.”

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<sup>134</sup> A HANDBOOK ON THE NEW LAW OF THE SEA, *supra* note 46, at 595 (emphasis added).

<sup>135</sup> *Id.*

## V. CONCLUSIONS: LEGAL STATUS OF MGRS IN THE AREA

It is certainly correct to claim that the regulation of mineral resources was the main concern of many States during the III UN Conference on the Law of the Sea. It is enough to recall the famous speech by Ambassador Arvid Pardo in 1967 when he described the wealth of the minerals on the deep seabed and predicted the imminent prospects for the exploration thereof. This speech oriented the discussions at the Conference. Since the marine biodiversity of the deep sea was practically unknown at that time, it is not surprising that the main emphasis of Part XI is on the *mineral* resources of the Area. At the same time, however, the scientific knowledge (or lack thereof) of the negotiators (and, strictly speaking, their subjective intentions) cannot be construed as a sole factor that predetermines the meaning of certain terms of the Convention.<sup>136</sup>

On the basis of the analysis above it is appropriate to formulate the following answer to the question posed in the title of this paper: marine genetic resources do not, as a matter of law (*de lege lata*), form part of the common heritage of mankind principle, as reflected in UNCLOS. Instead, in line with the general application of Part VII of the Convention,<sup>137</sup> the freedom of the high seas applies.

However, this does not mean that Part XI has no implications for living resources or activities related to them. *Firstly*, Articles 145 and 147 of UNCLOS will and should play a role in protecting the marine environment, if only from the “activities in the Area.” *Secondly*, the relatively broad formulation of Article 143,<sup>138</sup> requiring that the marine scientific research “in the Area” be carried out for the benefit of mankind as a whole, cannot be ignored.<sup>139</sup> Although restricted to research “in the Area,”<sup>140</sup> it has to be taken seriously. Due to the necessity that this research

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<sup>136</sup> For more on the “subjective intent” or “intention of the parties” school versus “objective meaning” or textual school, see R. Y. Jennings, *General Course on Principles of International Law (Volume 121)*, in COLLECTED COURSES OF THE HAGUE ACADEMY OF INTERNATIONAL LAW 545–46 (1967); EIRIK BJORGE, *THE EVOLUTIONARY INTERPRETATION OF TREATIES* 1–4 (2014); ULF LINDERFALK, *ON THE INTERPRETATION OF TREATIES. THE MODERN INTERNATIONAL LAW AS EXPRESSED IN THE 1969 VIENNA CONVENTION ON THE LAW OF TREATIES* 29–33 (2007); Gardiner, *The Vienna Convention Rules on Treaty Interpretation*, 478–80, 495–500; GARDINER, *TREATY INTERPRETATION*, 509–16. For the approach of the ICJ, see also *Dispute regarding Navigational and Related Rights (Costa Rica v. Nicar.)*, Judgment, 2009 I.C.J. 213, ¶¶ 64–66 (July 13).

<sup>137</sup> See UNCLOS art. 86: “[t]he provisions of this Part apply to all parts of the sea that are not included in . . . .” See *infra* part 3(a) of this chapter.

<sup>138</sup> Also read in conjunction with UNCLOS Article 256.

<sup>139</sup> See Tullio Scovazzi, *Mining, Protection of the Environment, Scientific Research and Bioprospecting: Some Considerations on the Role of the International Sea-Bed Authority*, 19 INT’L J. MARINE & COASTAL L. 4 398 (2004).

<sup>140</sup> This issue is beyond the scope of the present paper. *But see*, A. Oude Elferink, *The Regime of the Area* at 158 *et seq.* (2007).

shall be conducted “for the benefit of mankind as a whole,” it should be taken that this phrase involves more obligations than “regular” MSR regime.<sup>141</sup> Moreover, it must be recalled that the general duty to protect and preserve the marine environment<sup>142</sup> still applies to all activities with respect to all kinds of resources, just as other “environmentally oriented” provisions of Part XII do.<sup>143</sup>

Naturally, as discussed above, the High Seas freedom that applies to MGRs in ABNJ is not unrestricted as well. Although Articles 116 through 119 of UNCLOS “curb” that freedom to a very limited extent, in particular Articles 192-197, and 204-206 (devoted to marine environment), as well as 238-244, 256-257 UNCLOS (related to marine scientific research) do provide some regulation with respect to activities concerning MGRs.

Whether the conclusion presented in this paper is entirely satisfactory *de lege ferenda*, is, as always, a matter of perspective. Admittedly, this is imperfect situation. *Firstly*, the regulation of biodiversity in ABNJ is not sufficiently clear and stable in legal terms. Additionally, it does introduce certain degree of dualism in the treatment of living resources in ABNJ.<sup>144</sup> This, in turn, has potentially negative implications both for individual States, as well as for the international community as a whole. *Secondly*, it does not allow for a truly efficient and ecosystem approach to deep-sea habitats.

It must be highlighted, however, that both in the context of the BBNJ Working Group, and in the PrepCom, it has frequently been remarked that the “*status quo* is not acceptable.” Naturally, what exactly the *status quo* means (be it the full application of the High Seas freedom or imperfect application of CHM principle) differs for many States. However, there seems to be both the will, as well as the procedural and legal machinery (*i.e.* the PrepCom and possible intergovernmental conferences thereafter)<sup>145</sup> to change it. In this regard, it remains to be seen which of the Convention’s provisions will be “implemented” in the framework of the future, potential UNCLOS Implementing Agreement. It is hoped that the “package deal,” traditional to the law of the sea negotiations, will be found.

Of course, the CHM principle is not automatically superior to any other legal solution. Moreover, even if this principle is *not adopted* for the purposes of the new Implementing Agreement, this would not necessarily

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<sup>141</sup> See in particular, UNCLOS arts. 238-241, 242-244.

<sup>142</sup> UNCLOS art. 192.

<sup>143</sup> E.g., UNCLOS arts. 194, 204-206, 209.

<sup>144</sup> At least when one accepts that, notwithstanding the overall conclusion of this paper, some Part XI provisions play a role with respect to MGRs. Hence, one could speak of: (a) “spatial dualism” (MGRs in the High Seas as opposed to those in the Area), as well as of (b) “material dualism” (different set of rules applying to MGRs located in the Area and the High Seas).

<sup>145</sup> See *supra* note 23 and accompanying text.



be equal to the rejection of all its elements. At present, there seems to be at least consensus between States with respect to the institutional aspect of the CHM principle. Hence, it is unlikely that either an extension of the ISA mandate or the establishment of a new institution in charge of deep-sea biodiversity will materialize as options within the Implementing Agreement. In addition, significant challenges will arise in delineating the scope of application of the new Implementing Agreement and its relationship with the Convention and the 1994 Straddling Fish Stocks Agreement, with respect to the management of world fisheries. Similarly, issues related to the patentability of marine biodiversity, or rather the inventions developed on their basis (as well as, more generally, the inter-linkages, if any, between the UNCLOS and WIPO regimes), will be difficult as well.

At the same time, except for capacity-building and transfer of technology solutions (for which there seems to be an appetite, especially from the viewpoint of developing countries), the future of the UNCLOS Implementing Agreement could and should reflect inter-generational equity, as well as sustainable development considerations.<sup>146</sup> Indeed, the broad aim of this Agreement should be, as mandated, the “the conservation and sustainable use of marine biological diversity of areas beyond national jurisdiction.”<sup>147</sup> Hence, the conservation of the marine environment, for the sake of all States, their citizens, as well as future generations (and biodiversity *as such*), should be an important part of the future treaty. It is to be hoped that the necessary consensus will be found soon and, additionally, that the UNCLOS Implementing Agreement will not follow its “mother” Convention’s footsteps when it comes to the thorny road to universal ratification.

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<sup>146</sup> Cf. Tladi, *supra* note 12, at 113–32 (2015).

<sup>147</sup> See *supra* note 23 and accompanying text.

