

PART VI

CONTINENTAL SHELF

Article 76

Definition of the continental shelf

1. The continental shelf of a coastal State comprises the seabed and subsoil of the submarine areas that extend beyond its territorial sea throughout the natural prolongation of its land territory to the outer edge of the continental margin, or to a distance of 200 nautical miles from the baselines from which the breadth of the territorial sea is measured where the outer edge of the continental margin does not extend up to that distance.
2. The continental shelf of a coastal State shall not extend beyond the limits provided for in paragraphs 4 to 6.
3. The continental margin comprises the submerged prolongation of the land mass of the coastal State, and consists of the seabed and subsoil of the shelf, the slope and the rise. It does not include the deep ocean floor with its oceanic ridges or the subsoil thereof.
4. (a) For the purposes of this Convention, the coastal State shall establish the outer edge of the continental margin wherever the margin extends beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured, by either:
 - (i) a line delineated in accordance with paragraph 7 by reference to the outermost fixed points at each of which the thickness of sedimentary rocks is at least 1 per cent of the shortest distance from such point to the foot of the continental slope; or
 - (ii) a line delineated in accordance with paragraph 7 by reference to fixed points not more than 60 nautical miles from the foot of the continental slope.
- (b) In the absence of evidence to the contrary, the foot of the continental slope shall be determined as the point of maximum change in the gradient at its base.
5. The fixed points comprising the line of the outer limits of the continental shelf on the seabed, drawn in accordance with paragraph 4 (a)(i) and (ii), either shall not exceed 350 nautical miles from the baselines from which the breadth of the territorial sea is measured or shall not exceed 100 nautical miles from the 2,500 metre isobath, which is a line connecting the depth of 2,500 metres.
6. Notwithstanding the provisions of paragraph 5, on submarine ridges, the outer limit of the continental shelf shall not exceed 350 nautical miles from the baselines from which the breadth of the territorial sea is measured. This paragraph does not apply to submarine elevations that are natural components of the continental margin, such as its plateaux, rises, caps, banks and spurs.
7. The coastal State shall delineate the outer limits of its continental shelf, where that shelf extends beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured, by straight lines not exceeding 60 nautical miles in length, connecting fixed points, defined by coordinates of latitude and longitude.
8. Information on the limits of the continental shelf beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured shall be submitted by the coastal State to the Commission on the Limits of the Continental Shelf set up under Annex II on the basis of equitable geographical representation. The Commission shall make recommendations to coastal States on matters related to the establishment of the outer limits of their continental shelf. The limits of the shelf established by a coastal State on the basis of these recommendations shall be final and binding.

9. The coastal State shall deposit with the Secretary-General of the United Nations charts and relevant information, including geodetic data, permanently describing the outer limits of its continental shelf. The Secretary-General shall give due publicity thereto.
10. The provisions of this article are without prejudice to the question of delimitation of the continental shelf between States with opposite or adjacent coasts.

Bibliography: *Harald Brekke/Philip Symonds*, Submarine Ridges and Elevations of Article 76 in Light of Published Summaries of Recommendation of the Commission on the Limits of the Continental Shelf, ODIL 42 (2015), 289–306; *Robin R. Churchill/Alan V. Lowe*, The Law of the Sea (3rd edn. 1999); Myron H. Nordquist/Satya N. Nandan/Shabtai Rosenne (eds.), United Nations Convention on the Law of the Sea 1982: A Commentary, vol. II (1993); *H. Hedberg*, Relation of Political Boundaries on the Ocean Floor of the Continental Margin, Virginia Journal of International Law 17 (1976), 57–75; *Hyun Jung Kim*, Natural Prolongation: A Living Myth in the Regime of the Continental Shelf, ODIL 45 (2014), 374–388; *Maira L. McConnell*, The Law Applicable on the Continental Shelf, in: Karen Brown/David B. Snyder (eds.), General Reports of the XVIIIth Congress of the International Academy of Comparative Law (2012), 453–460; *Donald R. Rothwell/Tim Stephens*, The International Law of the Sea (2010); *Øystein Jensen*, The Commission on the Limits of the Continental Shelf: Law and Legitimacy (2014); Myron H. Nordquist/John Norton Moore/Tomas Heidar (eds.), Legal and Scientific Aspects of Continental Shelf Limits (2004); J. Ashley Roach/Robert W. Smith (eds.), Excessive Maritime Claims (3rd edn. 2012)

Documents: GA, Question of the 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 the Use of Their Resources in The Interests of Mankind, GA Res. 2574(XXIV)A-D of 15 December 1969; IHO, Hydrographic Dictionary, Special Pub 32, Part 1, vol. 1 (1994); ILA, Legal Issues of the Outer Continental Shelf: Report of the Berlin Conference (2004); ILA, Legal Issues of the Outer Continental Shelf: Report of the Toronto Conference (2006); CLCS, Scientific and Technical Guidelines of the Commission on the Limits of the Continental Shelf, UN Doc. CLCS/11 (1999); CLCS, Rules and Procedure of the Commission on the Limits of the Continental Shelf, UN Doc. CLCS/40/Rev.1 (2008)

Cases: ICJ, *Case Concerning the Continental Shelf* (Libyan Arab Jamahiriya v. Malta), Judgment of 3 June 1985, ICJ Reports (1985), 13; ICJ, *Case Concerning the Continental Shelf* (Tunisia v. Libyan Arab Jamahiriya), Judgment of 24 February 1982, ICJ Reports (1982), 18; ICJ, *North Sea Continental Shelf Cases* (Federal Republic of Germany v. Netherlands; Federal Republic of Germany v. Denmark), Judgment of 20 February 1969, ICJ Reports (1969), 3; ITLOS, *Dispute Concerning Delimitation of the Maritime Boundary between Bangladesh and Myanmar in the Bay of Bengal* (Bangladesh v. Myanmar), Judgment of 14 March 2012, available at: https://www.itlos.org/fileadmin/itlos/documents/cases/case_no_16/C16_Judgment_14_03_2012_rev.pdf

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I. Purpose and Function

Art. 76 provides the methodology and describes the process by which a coastal State may identify the precise locations for the points which define the outer limits of its continental shelf. Outside of these limits, the area beyond national jurisdiction (the Area) falls under the remit of the International Seabed Authority. Art. 76 is one of the articles in the Convention for which a significant amount of technical understanding is required for its successful implementation. In simple terms, this process requires the solution of one or both of two geomorphological and geodetic formulae, each of which require geoscientific information, measurement and analysis. Safeguards against the outcome of either of the formulae resulting in unduly excessive areas of entitlement are included in Art. 76 in the form of two constraints, which are also of geomorphological and geodetic construction.

According to Art. 76, the continental shelf of a coastal State extends either to 200 NM from the baselines from which the territorial sea is measured, or out to a limit defined by the technical formulae laid out in Art. 76. The rights and responsibilities of the coastal State for the continental shelf are detailed elsewhere in Part VI of the Convention – notably Art. 77.¹

Art. 76 comprises ten paragraphs, the first three of which provide a general introduction to terms and concepts used, and outline the principles on which the definition is based. The following four paragraphs describe the technical criteria for construction of the outer edge of the continental margin, and from this, the outer limit of the juridical continental shelf. The final three paragraphs summarise the procedures for submission of information to the UN, determine the legal status of the definition and confirm that the provisions of the article are without prejudice to delimitation between States.²

Art. 76 operates in association with Annex II of the Convention, which describes the establishment, remit and function of the Commission on the Limits of the Continental Shelf (hereafter the Commission) who are required to examine coastal States' submissions and issue recommendations accordingly, from which the State can establish binding limits. The Commission has drafted a number of documents to describe their activities and to assist coastal States in their interpretation of Art. 76, particularly paragraphs 4 to 7, which contain its most the technical components.³

II. Historical Background

1945 saw the first significant steps in the establishment of the regime of the legal continental shelf. On the 28th September of that year, President HARRY TRUMAN of the USA authorised a proclamation regarding the continental shelf and its natural resources. In part this stated:

¹ See further *Maggio* on Art. 77 MN.

² The 1993 Volume II of the Virginia Commentary Series (Myron H. Nordquist/Satya N. Nandan/Shabtai Rosenne (eds.), *United Nations Convention on the Law of the Sea 1982: A Commentary*, vol. II (1993)) provides an invaluable resource on which scholars of Art. 76 and its derivation have based their research for more than two decades. It encapsulates an enormous range of historical and contextual information relevant to the development of the text of Art. 76 and for that reason, much of that background is not repeated here. The current text will not only serve as an update on that summary, but in addition it will provide a comprehensive analysis of activities related to the implementation of Art. 76 to date.

³ CLCS, Scientific and Technical Guidelines of the Commission on the Limits of the Continental Shelf, UN Doc. CLCS/11 (1999), available at: http://www.un.org/depts/los/clcs_new/commission_documents.htm#Guidelines; CLCS, Rules and Procedure of the Commission on the Limits of the Continental Shelf, UN Doc. CLCS/40/Rev.1 (2008), available at: http://www.un.org/depts/los/clcs_new/commission_documents.htm#Rules%20of%20Procedure.

‘The Government of the United States regards the natural resources of the subsoil and the seabed of the continental shelf beneath the high seas but contiguous to the coasts of the United States as appertaining to the United States, subject to its jurisdiction and control.’⁴

- 6 The criterion to delineate the limit of the continental shelf was one of water depth, whereby seafloor deeper than 100 fathoms (600 feet) was excluded. Subsequent to this statement, a number of alternative criteria were debated, including a limit based on the exploitability of resource – although recognised as a limit that would vary dependent on a coastal State’s capability to conduct exploitation, this proposal was considered by many to be inequitable.
- 7 The 1958 Convention on the Continental Shelf (CSC), which arose from the first UN Conference on the Law of the Sea, was signed on the 29th April of that year. The conference addressed seven topics: the regime governing the superjacent waters and airspace; laying or maintenance of submarine cables or pipelines; the regime governing navigation, fishing, scientific research and the coastal State’s competence in these areas; delimitation; tunneling, but significantly for the development of the continental shelf regime, contained the following definition, stating that the term referred:

‘to the seabed and subsoil of the submarine areas adjacent to the coast but outside the area of the territorial sea, to a depth of 200 metres, or beyond that limit, to where the depth of the superjacent water admits of the exploitation of the natural resources of the said areas; and (b) to the seabed and subsoil of similar submarine areas adjacent to the coasts of islands’.⁵

- 8 Over subsequent years, it was recognised that both the 200 metre depth criteria and the exploitability thresholds were impractical for different reasons, and the seminal 1969 judgment of the International Court of Justice (ICJ) in the *North Sea Continental Shelf Cases* indicated further difficulties in the definition of the continental shelf.⁶ Paragraph 43 of the judgment included the following statements:

‘More fundamental was the concept of the continental shelf as being a natural prolongation of the land domain [...]. Submarine areas did not appertain to the coastal State merely because they were near it, nor did their appurtenance depend on any certainty of delimitation as to their boundaries. What conferred the ipso jure title was the fact that the submarine areas concerned might be deemed to be part of its territory in the sense that they were a prolongation of its land territory under the sea.’⁷

The notion of natural prolongation, or continuation of the land territory into the submarine environment was in this early case considered a significant element in the establishment of entitlement to such an extension to territory of a coastal State.

- 9 On 15 December 1969, the UN General Assembly recognised these difficulties, stating that the:

‘1958 Convention does not define with sufficient precision the limits of the area over which a coastal State exercises sovereign rights for the purposes of exploration and exploitation of the natural resources, and that customary international law on the subject is inconclusive’.⁷

- 10 During the several sessions of the ensuing UNCLOS III, starting in 1973, issues relevant to the definition of the continental shelf were debated in Plenary and the Second Committee. Topics ranged from whether distance was a useful criteria, to whether natural prolongation was more appropriate.
- 11 Discussions proceeded until the Ninth Session, and these results and the work of the Chairman of the Negotiating Group 6 and his compromise suggestions led to a formal text

⁴ US Presidential Proclamation 2667, Policy of the United States With Respect to the Natural Resources of the Subsoil and Sea Bed of the Continental Shelf of 28 September 1945.

⁵ Art. 1 CSC.

⁶ ICJ, *North Sea Continental Shelf Cases* (Federal Republic of Germany v. Netherlands; Federal Republic of Germany v. Denmark), Judgment of 20 February 1969, ICJ Reports (1969), 3 *et seq.*

⁷ GA, Question of the 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 the Use of Their Resources in The Interests of Mankind, GA Res. 2574(XXIV)A-D of 15 December 1969.

being accepted as Art. 76, along with the development of a process for dealing with Sri Lanka and its special case, raised by Sri Lanka at an earlier stage at the Conference (1980).

Proposals made and considered during the drafting of the definition of the continental shelf and which have become the core elements in the final text of Art. 76 are summarised below. They have been incorporated into the text at different stages in the drafting process, and represent a combination of key elements and procedures by which a coastal State defines its continental shelf. Their precise text formulation may have been modified in detail since their introduction, but they represent the foundation of the final text of the article.

‘Natural prolongation’: China proposed the use of the term ‘natural prolongation’ to define the continental shelf at the Sea-Bed Committee in 1973. Their original text read:

‘By virtue of the principle that the continental shelf is a natural prolongation of the continental territory, a coastal State may reasonably define, according to specific geographical conditions, the limits of the continental shelf under its exclusive economic zone beyond its territorial sea or economic zone. The maximum limits of such continental shelf may be determined among States through consultations.’⁸

‘The foot of the continental slope’: The construction of the outer limit of the continental shelf at 60 NM from the foot of the slope, and the demarcation of the outer limit of the continental shelf by points no more than 60 NM apart were two significant parts of the proposal made by the United States 1975.⁹ The formulation of the proposal also stated that the margin should not include the ‘rocks and sediments’ of the deep ocean floor.

Several of the most significant proposals to shape key components of the developing article arrived in the proposal made by the Irish delegation at the Fourth Session.¹⁰ The Irish text provided the definition of the foot of the slope as ‘the point of maximum change of gradient at its base’, and included the option of its identification based on ‘evidence to the contrary’. The proposal also described the delineation of the outer limit of the continental shelf by means of identifying points where the ‘thickness of the sedimentary rock was 1 % of the distance to the foot of the slope’. Finally, and very significantly, the Irish text elaborated on the different constructions of the outer edge of the continental margin and the continental shelf.

By the Eighth Session of the Third Conference in 1979, a proposal was made by the Russian delegation to limit the extent of a continental shelf to avoid extreme claims by coastal States.¹¹ The implication was that while the continental margin, linked to the natural prolongation, had a potentially broad extent, the continental shelf should not extend beyond a line marked by 100 NM beyond the 2500 m isobath.

At the resumed Eighth Session, the Russian delegation added a further modification of the constraint to the breadth of the continental shelf, proposing that ‘the limit of the shelf in areas containing submerged oceanic ridges shall not extend farther than the ...350 mile distance’. This text was developed in the context of addressing submarine ridges at the Conference and the Chairman of Negotiating Group finally proposed a complementary text.

At the same resumed Eighth Session, Sri Lanka pursued an exceptional method of delimitation applicable to certain geological and geomorphological conditions which found significant support for other delegation. The proposal was eventually included in Annex II of the Final Act of the Conference.

A combination of proposal text during the Ninth Session (1980) from the wide-margin States, modified by the Australian delegation, sought to further clarify those seafloor features which constituted part of the continental margin, and those that did not. Submarine elevations, such as plateaux, rises, banks and spurs were accepted, but oceanic ridges were not.

⁸ Sea-Bed Committee, China: Working Paper on the Sea Area within the Limits of National Jurisdiction, UN Doc. A/AC.138/SC.II/L.34 (1973), cited in: GAOR 28th Sess. Suppl. 21 (A/9021-I), 64.

⁹ UNCLOS III, United States: The Continental Shelf (1975, mimeo.), reproduced in: Renate Platzöder, Third United Nations Conference on the Law of the Sea: Documents, vol. XI (1987), 500.

¹⁰ Reproduced in: Nordquist/Nandan/Rosenne (note 2), 852.

¹¹ UNCLOS III, USSR: Informal Proposal, UN Doc. NG8/10 (1979, mimeo.), reproduced in Renate Platzöder, Third United Nations Conference on the Law of the Sea: Documents, vol. IX (1986), 377.

III. Elements

1. ‘The continental shelf of a coastal State comprises [...]’

- 20 Art. 76 (1) provides two options by which a coastal State can delineate its continental shelf. One is simply a measurement out to 200 NM from its baselines as defined in accordance with Part 1 of the Convention,¹² and the other requires an identification of the outer edge of the continental margin, which exists throughout the natural prolongation of the land territory.
- 21 Either of these constructions serve to mark the limit of the continental shelf, but the second is more complex in that, rather than requiring a straightforward geodetic measurement from baselines, it involves the implementation of a combination of criteria elaborated on in Art. 76 (4) to (7). The juridical delineation of the various subdivisions of the continental margin – the shelf, slope and rise, as mentioned in Art. 76 (1) – appear again in Art. 76 (3), although these descriptions are not intended to be directly compatible with any geoscientific understanding of the same terms. This presents at the outset a challenge to the Commission in its examination of State’s submissions, being as it is made up wholly of technical practitioners. Nonetheless, a coastal State is required to implement these legal instructions, and generate a sustainable and fully supported construction in accordance with criteria laid out in Art. 76.
- 22 There are many terms within Art. 76 which are less clear than practitioners would like. Art. 76 (1), for example, refers to ‘natural prolongation’, which has been identified above as without a precise definition. The International Law Association (ILA) summarised in their 2004 report on issues on the continental shelf:

‘The outer limits of the continental shelf established in accordance with article 76(4) to (9) need not coincide exactly with the natural prolongation of the land territory of the coastal State to the outer edge of the continental margin, to which a reference is made 76(1). The application of the former provisions may result in the inclusion of certain areas that are located seaward of this natural prolongation in the legal continental shelf. These rules can also result in the exclusion from the legal continental shelf of certain areas that are not a part of this natural prolongation.’¹³

The ILA further notes in its 2006 report

‘Article 76(1) of the Convention refers to the natural prolongation of the land territory to define the continental shelf. To establish which areas are comprised by the reference to natural prolongation, the starting point is the land territory. The connection between the land territory and the natural prolongation can be geomorphological and/or geological. One of the implications of the definition of the continental shelf by reference to natural prolongation is that the continental shelf may consist of areas that are either continental and/or oceanic in origin’.¹⁴

- 23 While the terms natural prolongation and submerged prolongation are not defined in the Convention and are not in common use other than in a general sense, further reference has been made by courts to the concept of natural prolongation in delimitation of the continental shelf beyond 200 NM, most notably in the International Tribunal for the Law of the Sea (ITLOS) judgment on the continental shelf in the Bay of Bengal,¹⁵ which recalled the words of the International Court of Justice (ICJ) from the 1969 *North Sea Continental Shelf Cases*.
- 24 The ICJ stated in the *North Sea Continental Shelf Cases* that the continental shelf of a coastal State is:

¹² Art. 5 states ‘Except where otherwise provided in this Convention, the normal baseline for measuring the breadth of the territorial sea is the low-water line along the coast as marked on large-scale charts officially recognised by the coastal State’.

¹³ ILA, Legal Issues of the Outer Continental Shelf: Report of the Berlin Conference (2004), 32.

¹⁴ ILA, Legal Issues of the Outer Continental Shelf: Report of the Toronto Conference (2006), 28.

¹⁵ ITLOS, *Dispute Concerning Delimitation of the Maritime Boundary between Bangladesh and Myanmar in the Bay of Bengal* (Bangladesh v. Myanmar), Judgment of 14 March 2012, available at: https://www.itlos.org/fileadmin/itlos/documents/cases/case_no_16/C16_Judgment_14_03_2012_rev.pdf.

‘a natural prolongation of its land territory into and under the sea exist ipso facto and ab initio, by virtue of its sovereignty over the land, and as an extension of it in an exercise of sovereign rights for the purpose of exploring the seabed and exploiting its natural resources. In short, there is here an inherent right. In order to exercise it, no special legal process has to be gone through, nor have any special legal acts to be performed. Its existence can be declared (and many States have done this) but does not need to be constituted.’¹⁶

The use of natural prolongation in the text of the ICJ’s judgment provided no information as to how it should be defined, but led to a consistent view of all the parties that the principal of natural prolongation was important to consider. There were great differences, however, as to how States interpreted the term natural prolongation or how this property – a natural continuation of the land mass – may be manifested. Differences of opinion have been rehearsed since, during debate on the significance of this characteristic of a continental margin. Recent summaries of the differing views on the meaning and significance of natural prolongation are less than powerful endorsements of the concept.¹⁷ This rather negative approach seems in part due to the difficulties that commentators have in agreeing on any precision to the definition of the term. Geomorphological and geological attributes to landmasses, whether subaerial or submarine, are inevitably complex technical matters and arguments based on these lack the precision required in the establishment of reasonable proof. Natural prolongation as a contributing element in the determination of entitlement has largely been avoided by the Courts, and more notably, by the Commission charged with evaluating the extent of States’ continental shelf beyond 200 NM.

The significance of natural prolongation in the examination of submissions according to Art. 76 has, nonetheless, been expressed by the Commission. Prior to 2010, the Commission had not discussed to any extent the concept or significance of natural prolongation, referring to it in its Scientific and Technical Guidelines under a new initiative, which they called the ‘test of appurtenance’. Furthermore, the term ‘natural prolongation’ rarely occurs in the summaries of their recommendations to coastal States regarding their submissions in accordance with Art. 76. It was not until the Commission’s recommendations in respect of the UK submission under Art. 76 for Ascension Island in 2010, that it elaborated on its understanding of natural prolongation, providing a statement of how they understood the term ‘natural prolongation’.¹⁸ The Commission made their observations as follows:

‘Regarding the concepts of natural prolongation, submerged prolongation and the delineation of the outer edge of the continental margin of a coastal State, the Subcommission has applied the following principles and considerations:

- i. The “natural prolongation of [the] land territory” is based on the physical extent of the continental margin to its “outer edge” (Article 76.1) i.e. “the submerged prolongation of the land mass...” (Article 76.3);
- ii. The outer edge of the continental margin in the sense of Article 76.3 is established by applying the provisions of Article 76.4, through measurements from the foot of the continental slope;

In a judicial context, during the pleadings of the parties in the *ITLOS Bay of Bengal Case*, Bangladesh and Myanmar expressed very clear differences between the way they interpreted natural prolongation.¹⁹ The Tribunal in its judgment, noted:

‘For these reasons, the Tribunal is of the view that the reference to natural prolongation in article 76, paragraph 1, of the Convention, should be understood in light of the subsequent provisions of the article defining the continental shelf and the continental margin. Entitlement to a continental shelf beyond 200 nm should thus be determined by reference to the outer edge of the continental margin, to be ascertained in accordance with article 76, paragraph 4. To interpret otherwise is warranted neither by the text of article 76 nor by its object and purpose’.²⁰

¹⁶ ICJ, *North Sea Continental Shelf Cases* (Federal Republic of Germany v. Netherlands; Federal Republic of Germany v. Denmark), Judgment of 20 February 1969, ICJ Reports (1969), 3, 22 (para. 19, emphasis added).

¹⁷ *Hyun Jung Kim*, Natural Prolongation: A Living Myth in the Regime of the Continental Shelf, ODIL 45 (2014), 374–388.

¹⁸ http://www.un.org/depts/los/clcs_new/submissions_files/submission_gbr.htm.

¹⁹ *Bay of Bengal Case* (note 15).

²⁰ *Ibid.*, para 437.

The final sentence of this statement is problematic, as it is unsubstantiated and a *non sequitur*. If Art. 76 (4) is to be used to interpret natural prolongation, as the Tribunal states, then it is a small part of Art. 76 (4) which is critical. In Art. 76 (4), it is subparagraph (b) which determines the foot of slope position, without which neither Art. 76 (4)(a)(i) nor Art. 76 (4)(a)(ii) can be implemented. It is noteworthy that the foot of slope must be located within the base of slope in accordance with the Commission's Guidelines.²¹ Where this is not possible, Art 76 (4)(b) admits the use of evidence to the contrary (a geological and geomorphological concept) to identify the foot of slope. A foot of the slope derived thus will be at the limit of the natural prolongation and therefore would seem not to be located at the same point as the outer edge of the continental margin.

- 27 The locus, or line of the foot of the continental slope can be identified with great accuracy on many continental margins, where it can be traced along the maximum change of gradient at the base of the slope. Along many margins, this point also frequently coincides with what most geologists would accept as the limit of natural prolongation based on the geological and geomorphological knowledge of the margin, and therefore allows the juridical and the technical understandings of the sense of Art. 76 to converge. This search for an inclusive convergence of the legal/technical concepts would seem to be a healthy premise from which to start the construction of the limits to the continental margin in accordance with Art. 76. The location of the locus of the foot of the slope where the technical understanding of the margin is lacking or the geological and geomorphological data are inconclusive is inevitably much harder, but this cannot negate the need to include the technical arguments of natural prolongation in its determination.

2. 'The continental shelf of a coastal State shall not extend beyond the limits provided for in paragraphs 4 to 6'

- 28 This paragraph confirms the parts of the article which provide the methodology by which the outer edge of the juridical continental margin is constructed (Art. 76 (4)), and those paragraphs which provide the constraints to extreme claims beyond 200 NM, thereby determining the limits to the continental shelf (Art. 76 (5) and (6)).

3. 'The continental margin comprises [...]'

- 29 Art. 76 (3) provides a summary of the various components of the continental margin, stating that as a submerged prolongation of the land mass of the State, it comprises the seabed and the subsoil of its three constituent parts – the shelf, slope and rise. It also very specifically identifies those parts of the seafloor which are excluded from the margin – namely, the deep ocean floor with its oceanic ridges or the subsoil thereof. The drafters of the article were well aware of the technical meaning of these terms, and they are used in this paragraph in that sense, to describe the constituent parts of a typical continental margin. The drafters were also aware of the fact that while many margins diverged from this classical model, they needed to formulate a juridical methodology which could be implemented across the world's continental margins. The following paragraphs provided that methodology and it is within these that the technical and legal sense of the terms continental margin, continental shelf and foot of slope, can be seen to separate.
- 30 The terms in use throughout Art. 76 have very specific meaning to the largely scientifically-oriented coastal State representatives who carry out the preparation of the submission documents. This is a technical understanding, even though the precise definition of each term would vary from scientist to scientist. Even within the authoritative expertise of the International Hydrographic Organisation (IHO), the definitions are less than precise.²²

²¹ CLCS Scientific and Technical Guidelines (note 3), para 5.4.5.

²² IHO, Hydrographic Dictionary Special Pub 32, Part 1, vol. 1 (1994), 281.

4. ‘the coastal State shall establish the outer edge of the continental margin [...]

Art. 76 (4) provides the two technical criteria by which the outer edge of the continental margin can be constructed. Both criteria need to be calculated from the foot of the slope. The first, according to Art. 76 (4)(a)(i), relies on geological information regarding the distribution of the sedimentary rocks of the margin; Art. 76 (4)(a)(ii) relies on a geodetic measurement of 60 NM. A State may use either, or both of these methods to optimise the extent of the juridical continental margin. The basis on which these criteria are formulated is a combination of both geographical and geological elements. Both require a geomorphological solution to the position of the foot of the continental slope, and then subsequently Art. 76 (4)(a)(i) requires an understanding of the thickness of sedimentary rock – normally obtained by geophysical methods. Art. 76 (4)(a)(ii) only uses a measurement of a distance of 60 NM from the foot of slope. The two methods, often referred to as formulae, were eventually both included in Art. 76 (4) because the drafters of the article recognised the different geological and geomorphological characteristics of continental margins, world-wide. Some margins presented a classic, sharply defined edge to the continent, largely reflecting its original shape at its formation, where others had been blanketed with sediment which related very much to the evolution and development of the margin. The freedom for a coastal State to choose whichever, or even a mix of these formulae if more appropriate, was a highly innovative and visionary inclusion in the drafting of the article.

A variation of the two formulae in Art. 76 (4) which define the outer edge of its continental margin was developed in the closing stages of UNCLOS III, and eventually added in the form of Annex II to the Final Act.²³ This provision was accepted by the Conference because the Sri Lankan delegation successfully argued that a strict application of Art. 76 (4)(a)(i), the sediment thickness formula, would not be equitable given its particular geographic circumstances. The alternative text to Art. 76 (4)(a)(i) allows a State in the southern part of the Bay of Bengal to define the outer edge of its continental margin by points where the sediment thickness is not less than 1 km, on the condition that a number of key criteria are established. These are: that the average distance at which the 200 m isobath occurs is not more than 20 NM; that the greater proportion of the sedimentary rock of the continental margin lies beneath the rise; that the mathematical average of the thickness of the sedimentary rock along a line established by means of application of Art. 76 (4)(a)(i) is more than 3.5 km and that this line would exclude more than half of the margin. Implementation of the provision by coastal States is limited in two ways. Firstly, once a State has used the method, a neighbouring State can also do this if it applies to a common geological feature, and secondly the Annex expressly restricts the use of these special provisions to coastal States in the southern part of the Bay of Bengal.

The Statement of Understanding was included in the Final Act expressly for the purposes of establishing the outer edge of the continental margin, and requests that the Commission be governed by its provisions accordingly. The Statement, however, makes no reference to continental shelf and it would be logical to assume that if the Commission were to accede to this request in respect of a coastal States’ submission, it would incorporate the establishment of the outer edge of the continental margin into its implementation of the Art. 76 as a whole, including the establishment of the outer limits of the continental shelf, in accordance with Art. 76 (5) or (6).

The sediment thickness criteria was proposed by the Irish delegation in 1976 at the Fourth Session, and was designed to address many of the continental margins around the world which are characterised by large sedimentary deposits.²⁴ It was recognised that while many

²³ Statement of Understanding concerning a specific method to be used in establishing the outer edge of the continental margin, Annex II to the Final Act of the Third Conference. See *Parson* on Annex II to the Final Act.

²⁴ Nordquist/Nandan/Rosenne (note 2), cite notes from the 75th informal meeting of the Second Committee (15 April 1976).

margins were effectively ‘starved’ of sediment, elsewhere, large sediment formations were the norm. An analysis of these sediment bodies requires an expert understanding of marine geophysics and its use in establishing thickness of sedimentary rocks. Good quality, well navigated data are needed to determine the exact parameters to establish with precision the location of the outer limit of the continental margin.

- 35 In the context of the implementation of Art. 76 (4)(a)(i), the use of the word ‘outermost’ to refer to the relevant fixed points defining the outer limit of the continental shelf is deliberate. It is possible that areas where irregularities in the distribution of the sedimentary rocks of the continental margin, as a result of variabilities in the upper surface of the crystalline basement underlying the sediment, could lead to multiple resolution of the 1 % thickness calculation occurring at different distances from the foot of slope. The valid identification of a 1 % thickness at several points at different distances from the foot of the slope would not be unusual. Each of these would satisfy the criteria, but as the article states, the outermost location is selected.
- 36 The second of the formulae is a more straightforward geodetic measurement of 60 NM.

5. ‘the foot of the continental slope shall be determined as the point of maximum change in the gradient at its base’

- 37 The foot of the continental slope is a feature which can be readily recognised on most continental margins, and logically forms a starting point for the measurements to the outer edge of the continental margin. Its definition is provided in Art. 76 (4)(b), which states that: ‘In the absence of evidence to the contrary, the foot of the continental slope shall be determined as the point of maximum change in the gradient at its base’.
- 38 There are two options for locating the foot of slope in Art 76 (4)(b), one specific: the point of maximum change of gradient at its base, and one general, using ‘evidence to the contrary’. The structure and order of the Convention text appears to suggest a first action to research evidence to the contrary, and if finding none to identify the point of maximum change of gradient. In their Scientific and Technical Guidelines, the Commission reversed the sense of the sub-paragraph and stated that the analysis of gradient should have primacy and that evidence to the contrary was to be used as the exception to the rule.²⁵ This makes the definition of the foot of the slope of crucial importance in delineating the outer limit of the outer continental shelf.
- 39 The second of the criteria (the point of maximum change in the gradient) requires a precise, and relatively straightforward mathematical calculation to be undertaken which addresses the inclination of the seafloor and establishes at which point the gradient change is greatest.
- 40 Adding the words ‘at its base’ as the final words of Art. 76 (4)(b) provided a clarification to a general text to ensure that there was no doubt as to which maximum change of gradient should be selected. In the normal form of a classic continental margin profile, there are two points where gradient change is very high – one at the edge of the physical shelf, at a shallow break of slope, often referred to as the shoulder, and one in deeper water at the base of the slope. Locating the foot of slope accurately within a base of slope region was developed as a key topic in Section 5 of the Commission’s Guidelines. And the process for identification and mapping the base of slope region was incorporated into the requirements to establish the foot of slope.²⁶
- 41 Despite the advice of the Commission, it is likely that nothing has taken so much time in States development of their submissions as the identification of the foot of slope point – for the very fact that the further oceanward the foot of the slope point can be argued, then the entitlement to a greater an area of continental shelf beyond 200 NM will be ensured.

²⁵ CLCS Scientific and Technical Guidelines (note 3), para. 6.1.2.

²⁶ *Ibid.*, para. 5.4.5.

NORDQUIST ET AL. state that the phrase ‘in the absence of evidence to the contrary’ implies that there may be special circumstances requiring the application of alternative means for determining the foot of the continental slope.²⁷ In an effort to clarify what was meant by this phrase, the Commission compiled a series of generic circumstances using examples taken from margins around the world, where they suggested evidence to the contrary may be invoked, and summarised what data would be needed to support these arguments.²⁸ Specifically, the Commission refers to geological and geomorphological evidence provided by plate tectonics.²⁹ They describe how the foot of the slope may be marked by features which are especially characteristic of, for instance, convergent plate margins or rifted and volcanic passive margins. To date, only two of the 22 recommendations published by the Commission refer to foot of slope points being solely supported by evidence to the contrary,³⁰ although certain geological characteristics of specific margins (such as those with a large sedimentary fan, for instance) have more recently needed this provision,³¹ but the application of the alternative method of identifying the foot of slope has also been not straightforward.

6. ‘The fixed points comprising the line of the outer limits of the continental shelf [...]’

At the Eighth Session in 1979, the Russian delegation proposed a text which would seek to restrict the extent to which the formula which now forms Art. 76 (4) allowed states to delimit what might be considered excessive amounts of continental shelf beyond 200 NM.³² It had been recognised by a number of delegations that the formulae would potentially allow some coastal States an entitlement to continental shelf so far beyond 200 NM that would represent an excessive claim. Cognisant of the fact that this would not prove satisfactory to non-wide margin States, the margineers agreed to the inclusion of a new paragraph, which restricted the continental shelf extent to either 350 NM from baselines from which the territorial seas are measured or to a line drafted at a distance of 100 NM oceanward from the 2500 m isobath.

According to additional text provided by the Irish delegation, in this way the continental margin area delineated using the formulae in paragraph 4 was defined as continental shelf if it lay within either of the constraints. Alternatively, wide continental margins could be effectively reduced to a continental shelf limit represented by the line of the constraint/constraints.

The selection of the 2500 m isobath – that is, a line on the seafloor along which every point lies at 2500 m water depth, essentially an underwater contour – can present some difficulties. As the Commission recognise in their guidelines the configuration of bathymetric contours are often complex ‘as a result of geological and tectonic processes shaping the present continental margins’.³³ It may also be a problem that modern contouring algorithms can produce overly complex or misleading isobath patterns when they attempt to resolve very flat surfaces – which is often the case for seafloor in water depths of 2500 m or more. Given that this is a vital component of the continental shelf limit process, much care has to be taken to ensure that sufficient reliable bathymetric data is available to substantiate the accurate selection of the 2500 m isobath. A simple 100 NM measurement beyond this is then taken to delineate the constraint.

²⁷ Nordquist/Nandan/Rosenne (note 2).

²⁸ CLCS Scientific and Technical Guidelines (note 3), 6.

²⁹ *Ibid.*, paras. 6.2.6–6.3.13.

³⁰ Joint Submission made by France, Ireland, Spain and the United Kingdom, see: http://www.un.org/depts/los/clcs_new/submissions_files/frgbires06/fisu_clcs_recommendations_summary2009.pdf; www.un.org/depts/los/clcs_new/submissions_files/arg25_09/2016_03_11_COM_SUMREC_ARG.pdf.

³¹ http://www.un.org/depts/los/clcs_new/commission_submissions.htm.

³² USSR Proposal (note 11), Art. 76 (5) (USSR).

³³ CLCS Scientific and Technical Guidelines (note 3), para. 4.4.2.

7. ‘the outer limit of the continental shelf shall not exceed 350 nautical miles from the baselines from which the breadth of the territorial sea is measured. [...]’

46 Art. 76 (6) describes the delineation of the outer limit of a coastal States continental shelf in respect of a particular feature of the seafloor, the submarine ridge. This text, reducing the options for delimiting the continental shelf where it extends beyond 200 NM from two to one, appears to derive from the recognition that seafloor features such as mid-ocean (or active seafloor-spreading) ridges can extend for considerable distances from a land mass which lies upon them. Mid-ocean ridges are by nature both lengthy and elevated – and a constraint based on a measurement from a 2500 m isobath could allow these States undue advantage was addressed by this provision. Iceland, a coastal State which would likely be affected by this criteria, noted in the 128th Plenary of the Ninth Session (1980) that it ‘understood that the new criterion would apply to ridges which were a prolongations of the land mass of the coastal State concerned’.³⁴ The Commission provided a lengthy text describing the geological characteristics of various types of seafloor highs, but concluded that its decisions on whether features included in States’ submissions should constitute submarine elevations, submarine ridges, or oceanic ridges would be made on a case-by-case basis.³⁵ A recent publication from two ex-Commissioners reveal that none of the summaries of recommendation published by the Commission “recognise a clear case of a submarine ridge in the sense of Article 76, paragraph 6”.³⁶

47 In order to reduce the uncertainty as to which seafloor features are components of the continental margin and those that are not, a text proposed by the Australian delegation suggested that ‘plateaux, rises, banks and spurs’ should all be included as examples of submarine elevations which are accepted as part the continental margin – and therefore be limited by either a 350 NM line or 100 NM beyond the 2500 m isobaths.³⁷ None of these features referred to in the Australian proposal are defined, and moreover this type of seafloor feature nomenclature is not formally standardised, with a result that two features named historically as ‘spurs’ for instance, may have very different geological origins and consequent significance for the delineation of the continental shelf. It is the responsibility of the coastal State to establish unequivocally the geological context of any submarine elevation or high it refers to in its submission.

8. ‘The coastal State shall delineate the outer limits of its continental shelf [...]’

48 This criteria was introduced at a relatively early stage in the drafting by both the US delegation and the Informal Group of Juridical Experts (known as the Evensen Group) during the Third Session in 1975. It provided a useful method to delineate the outer limit of the continental shelf, ensuring a practical representation of what would in many cases would be expected to be a highly irregular line. What seemed to be a simple manner of representation of a line, however, has precipitated some controversy, which the Commission has, to some extent, also contributed to.³⁸ One area of uncertainty is the orientation at which a line can be constructed between a fixed point as established by Art. 76 (4) to (6), and a point on the 200 NM limit of the coastal State. Summaries of recommendations published by the

³⁴ UNCLOS III, 128th Plenary Meeting, UN Doc. A/CONF.62/SR.128 (1980), OR XIII, 32, 36 (para. 58).

³⁵ CLCS Scientific and Technical Guidelines (note 3), para. 7.2.11.

³⁶ *Harald Brekke/Philip Symonds*, Submarine Ridges and Elevations of Article 76 in Light of Published Summaries of Recommendation of the Commission on the Limits of the Continental Shelf, ODIL 42 (2015), 289–306.

³⁷ UNCLOS III, Australia: Article 76 (ICNT/Rev.1) (1980, mimeo.), reproduced in: Renate Platzöder (ed.), Third United Nations Conference on the Law of the Sea: Documents, vol. IV (1983), 524 (Art. 76 (3)).

³⁸ *Oystein Jensen*, The Commission on the Limits of the Continental Shelf: Law and Legitimacy (2014), 73–81.

Commission suggest in some cases this line should be as short as possible,³⁹ and in others, to conform to the general configuration of the margin.⁴⁰ Another is to what extent 60 NM bridging lines can be used to span sections of concave, indented or embayed continental shelf lines located by fixed points so as to enclose ‘additional’ areas of outer continental shelf which are not established on the criteria provided for in Art. 76 (4) to (6). While this practice has been accepted by the Commission in almost every case of summaries of recommendations published to date, it is noteworthy that in one instance, it did not accept the enclosure of an embayment created by New Zealand in one section of its submission.⁴¹ This exception appears to be due to the large scale of the proposed enclosure.

9. ‘the Commission on the Limits of the Continental Shelf’

The Commission receives the submissions, which must be of a form as described in, and in accordance with, a timetable laid out by Annex II of the Convention. Following examination of the materials in the manner described by the Commission in its Scientific and Technical Guidelines⁴² and Rules of Procedure,⁴³ the Commission makes recommendations to the coastal State on the basis of which the coastal State shall establish the limits of the shelf, and these will be final and binding.⁴⁴

Introduction of legislation by a coastal State for its continental shelf based on recommendations from the Commission has taken place in several instances, but there are also notable examples where States and the Commission have disagreed, and have only enacted legislation for parts of the continental shelf.

In cases of disagreement between a coastal States and the Commission, the coastal State can resubmit if they wish with a revised submission. They may also add materials and data to their submission during the sub-commission/examination process.

10. ‘charts and relevant information’

Art. 76 (9) details what materials need to be provided by the coastal State to the Secretary General regarding the outer limits of its continental shelf. The use of the word ‘permanently’ indicates these are final, having been endorsed by the Commission and accepted by the coastal State. The description of what these materials consist of – ‘charts and relevant information including geodetic data’ – may be compared to the requirements under Arts, 16, 75 and 84 in which charts or lists of coordinates are options.⁴⁵

11. ‘The provisions of this article are without prejudice to the question of delimitation of the continental shelf between States with opposite or adjacent coasts’

This paragraph provides for the fact that none of the actions or decisions of the Commission regarding the outer limits of the continental shelf should prejudice any subsequent delimitation between adjacent or opposite coastal States. This statement is mirrored in the wording of Art. 9 of Annex II to the Convention.⁴⁶ Delimitation is not the intention nor the

³⁹ http://www.un.org/depts/los/clcs_new/submissions_files/frgbires06/fisu_clcs_recommendations_summary2009.pdf, para. 28.

⁴⁰ http://www.un.org/depts/los/clcs_new/submissions_files/aus04/Aus_Recommendations_FINAL.pdf.

⁴¹ http://www.un.org/depts/los/clcs_new/submissions_files/nzl06/nzl_summary_of_recommendations.pdf, para 61.

⁴² CLCS Scientific and Technical Guidelines (note 3), 9.

⁴³ CLCS Rules and Procedure (note 3), S. XI and Annex III.

⁴⁴ See *Serdy* on Annex II.

⁴⁵ See *Symmons* on Art. 16 MN 14–15; *Tanaka* on Arts. 75 and 84.

⁴⁶ Art. 9 states that ‘The actions of the Commission shall not prejudice matters relating to delimitation of boundaries between States with opposite or adjacent coasts’, see *Serdy* on Annex II, Art. 9.

remit of any part of Art. 76, and this allows the Commission to proceed with its work divorced completely from issues of the existing, or future position of maritime boundaries. The Commission has chosen to interpret this in Annex I of its Rules of Procedure⁴⁷ to preclude its examination of submissions which are in any way subject to disputed areas relevant to the continental shelf.

Annex II to the Final Act
Statement of understanding concerning a specific method to be used
in establishing the outer edge of the continental margin

Considering the special characteristics of a State’s continental margin where (1) the average distance at which the 200 metres isobath occurs is not more than 20 nautical miles; (2) the greater proportion of the sedimentary rock of the continental margin lies beneath the rise; and

Taking into account the inequity that would result to that State from the application to its continental margin of Article 76 of the Convention, in that, the mathematical average of the thickness of sedimentary rock along a line established at the maximum distance permissible in accordance with the provisions of paragraph 4 a (i) and (ii) of that article as representing the entire outer edge of the continental margin would be less than 3.5 kilometres; and that more than half of the margin would be excluded thereby;

Recognises that such State may, notwithstanding the provisions of article 76, establish the outer edge of its continental margin by straight lines not exceeding 60 nautical miles in length connecting fixed points, defined by latitude and longitude, at each of which the thickness of sedimentary rock is not less than 1 kilometre,

Where a State establishes the outer edge of its continental margin by applying the method set forth in the preceding paragraph of this statement, this method may also be utilised by a neighbouring State for delineating the outer edge of its continental margin on a common geological feature, where its outer edge would lie on such a feature on a line established at the maximum distance permissible in accordance with article 76 paragraph 4 a (i) and (ii), along which the mathematical average of the thickness of sedimentary rock is not less than 3.5 kilometres,

The Conference requests the Commission on the Limits of the continental shelf set up pursuant to Annex II of the Convention, to be governed by the terms of this Statement when making its recommendation on matters related to the establishment of the outer edge of the continental margins of these States in the southern part of the Bay of Bengal.

Bibliography: Myron H. Nordquist/Satya N. Nandan/Shabtai Rosenne (eds.), United Nations Convention on the Law of the Sea 1982: A Commentary, vol. II (1993)

Documents: CLCS, Scientific and Technical Guidelines of the Commission on the Limits of the Continental Shelf, UN Doc. CLCS/11 (1999); CLCS, Submission by the Union of Myanmar (2008); CLCS, Submission by the Republic of Kenya (2009); SPLOS, Report of the nineteenth Meeting of States Parties, UN Doc SPLOS/203 (2009)

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⁴⁷ CLCS Rules and Procedure (note 3), Annex I.

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I. Purpose and Function

The Statement of Understanding (hereafter referred to as 'the Statement') is formed of five paragraphs, the first two of which contain the criteria which need to be satisfied by a coastal State in order for it to qualify to implement the provisions of the Statement. The third paragraph provides the technical details for a special manner of identifying positions for the fixed points which define the outer edge of the continental margin. This special methodology provides an alternative to either of the criteria laid out in of Art. 76 (4)(a)(i) and (ii).¹ The fourth paragraph of the Statement allows for a neighbouring State to utilise the same alternative method of delineating the outer edge of the continental margin as described in paragraph 3 – providing it also qualifies to apply the provision. The fifth paragraph contains two elements – one which requests the Commission on the Limits of the Continental Shelf (the Commission) set up pursuant to the terms of Annex II of the Convention to be governed by the terms of the Statement, and a second which constrains this alternative method of identifying the outer edge of the continental margin to States in the southern part of the Bay of Bengal.

The implementation of the provisions within the Statement of Understanding has been discussed widely, in terms of its applicability more globally than the fourth paragraph's restriction to 'the outer edge of the continental margins of these States in the southern part of the Bay of Bengal' would indicate. For instance, in the report of the nineteenth meeting of the States Parties to UNCLOS, paragraph 79 states:

'Reference was made to the Statement of Understanding contained in Annex II to the Final Act of the Third United Nations Conference on the Law of the Sea, which was considered to be applicable in every area in which the scientific criteria contained in the Statement could be satisfied, and did not depend on the geographic location of the State party.'²

Applications of Annex II of the Final Act (the Statement) by States other than those in the southern part of the Bay of Bengal to submissions dealing with continental shelf beyond 200 NM have been made by both Myanmar and Kenya.³ At the time of writing, the Commission has been prevented from assessing these documents in accordance with their own Rules and Procedures, as both are the subject to objections by other State(s).⁴ It is therefore not known whether the Commission could, or would, proceed with their work on these submissions.

The text of the Statement of Understanding is consistent in that it refers only to the determination of the continental 'margin' throughout its text. It was introduced by the Sri Lankan delegation during the Eighth Session as an amendment of the 'Irish formula', which became a component of the final text in the form of paragraph 4 (a) (i). It has been noted

¹ See *Parson* on Art. 76 MN 31–42.

² SPLOS, Report of the nineteenth Meeting of States Parties, UN Doc SPLOS/203 (2009).

³ CLCS, Submission by the Union of Myanmar (2008), available at: http://www.un.org/depts/los/clcs_new/submissions_files/submission_mmr.htm; CLCS, Submission by the Republic of Kenya (2009), available at: http://www.un.org/depts/los/clcs_new/submissions_files/submission_ken_35_2009.htm.

⁴ Objection of the Somali Federal Republic (2014): available at: http://www.un.org/depts/los/clcs_new/submissions_files/ken35_09/som_re_ken_2014_02_04.pdf; http://www.un.org/depts/los/clcs_new/submissions_files/ken35_09/2014_09_02_SOM_LET_UN_004_14-00700.pdf. Communication of Sri Lanka Relating to the Submission of Myanmar (2008), available at: http://www.un.org/depts/los/clcs_new/submissions_files/mmr08/clcs16_2008_mmr_lka_e.pdf; Communication by India Relation to the Submission of Myanmar (2009), available at: http://www.un.org/depts/los/clcs_new/submissions_files/mmr08/clcs16_2008_ind_e.pdf; Note Verbale of Bangladesh Relating to the Submission of Myanmar (2009), available at: http://www.un.org/depts/los/clcs_new/submissions_files/mmr08/clcs16_2008_mmr_bgd_e.pdf.

elsewhere in this volume (See Art. 76 section) that paragraph 4 refers to the establishment of the continental margin and the subsequently validation of it as a whole, or part, as continental shelf only follows implementation of paragraphs 5 or 6 of Art. 76.

- 5 One interpretation of this is that the Statement would need to be implemented in combination with the other paragraphs of Art. 76, including Art. 76 (5) and (7), in order to generate a submission which the Commission would be able to examine as requested by the wording of paragraph 5 of the Annex II. It is somewhat surprising, then, that all of the three States which have invoked the use of the Statement of Understanding (Sri Lanka, Myanmar and Kenya) refer to one or more of the points located using the provisions of the Statement as defining limits to the continental *shelf*.
- 6 Paragraph 3 of Annex II of the Final Act contains the precise criteria on which the coastal State may delineate its continental margin (by straight lines not exceeding 60 NM in length connecting fixed points, defined by latitude and longitude, at each of which the thickness of sedimentary rock is not less than 1 km). It states, however, that this assessment is 'notwithstanding the provisions of article 76.' It would seem that this clause is one which potentially replaces certain provisions of Art. 76, and would apply solely to the method of identification of the outer limit, i.e., that contained by paragraph 4 (a) – and it would not negate all, or any of the other provisions of Art. 76.

II. Historical Background

- 7 The text which became the Statement had its origins in comments made to the Seventh Session of the Conference (1978) by the Sri Lankan delegation, in which they presented their views on the text under development for the delimitation of a coastal States continental margin by use of the so-called 'Irish formula' – which eventually became Art. 76 (4)(a)(i). This criterion involving the measurement of sediment thickness was introduced to the Conference at the Fourth Session (1976), whereby it was proposed that the outer edge of the continental margin could be delineated by fixed points at which the thickness of the sedimentary rock was at least 1 % of the distance to the foot of slope. The Sri Lankans noted that the criterion could produce equitable results only in cases where the margin thinned out rapidly, and that it could cause injustice in the case of countries where the continental margin was wide and of considerable thickness throughout.
- 8 After further consultations and amid a general and widespread support from the Conference, at the Eighth Session (1979) Sri Lanka proposed an extended text to be included in of Art. 76 (4). The proposal read:

'in the case of a State where the mathematical average of the thickness of sedimentary rocks along the entire outer edge of the continental margin established at the maximum distance permissible in accordance with the preceding provisions of his paragraph is not less than 3.5 kilometers, and where more than half of the margin lies beyond the outer edge as so delineated, by a line delineated in accordance with paragraph 6 by reference to the outermost fixed points at each of which the thickness of the sedimentary rocks is less than 0.8 kilometer.'⁵

- 9 It was agreed by the Conference and the Chairman that the text would be adopted as a statement of understanding to be incorporated in an Annex to the Final Act. Modest amendments to the text were developed during subsequent discussions and consultations – including the increase of sediment thickness to 1 km to mark the outer limit of the continental margin – and a final text was established at the resumed Ninth Session of the Conference (1980).

⁵ See Myron H. Nordquist/Satya N. Nandan/Shabtai Rosenne (eds.), United Nations Convention on the Law of the Sea 1982: A Commentary, vol. II (1993), 1021. See also *ibid.*, 1020–1025 for further discussion of drafting with reference to a selection of otherwise unavailable *travaux* documents.

III. Elements

1. Implementation

Implementation of the Statement from a technical perspective presents a number of interesting challenges. As the text is not part of the Convention, paragraph 5 of the Statement is specific in requesting the Commission to be governed by the terms of the Statement when making its recommendations on matters related to the establishment of the outer edge of the continental margin of these States. Some general technical guidance to the technical analyses defined by the Statement is provided by the Commission's 'Scientific and Technical Guidelines'⁶ (the Guidelines). The text of the Statement, however contains a number of geological and geophysical requirements which are not mentioned in Art. 76, are not examined in the Guidelines, and thus may introduce additional difficulties and uncertainties – as discussed below.

2. 'the 200 metres isobaths', 'the sedimentary rock'

In the first paragraph of the Statement, a coastal State is required to identify its 200 m isobath, a relatively uncontroversial parameter, and an average distance of 20 NM to that isobath – but the Statement rather unusually does not record from where this distance should be measured. It would be natural to assume that the starting point would be the baselines from which the width of the territorial sea is measured – so it is curious that this is not stated. The second set of parameters required to qualify for this alternative method refer to the need to calculate the amount of sedimentary rock of the continental margin lying beneath the rise. It would seem highly unlikely that the 'amount of' sedimentary rock could be calculated or estimated with any accuracy. Is it a surface, volume or mass above basement which needs to be calculated? On any method, this is a technical challenge of a huge order – much greater than the task to determine a 1 % point along a ship's survey track. Even more problematic is the spatial relationship of this 'amount' relevant to the extent of the [continental] 'rise' – most of the sedimentary rock has to lie beneath it before the State can proceed. The term 'rise' is not defined in the Convention, and in general, is very difficult to quantify. The Commission itself makes two attempts to establish the technical parameters of a continental rise⁷, and the International Hydrographic Organization defines it simply as 'a long, broad elevation that rises gently and generally smoothly from the sea floor'. Neither of these texts are precise enough to act as satisfactory definitions for a feature on which qualification for application of the Statement's criteria rely.

3. 'the mathematical average of the thickness of sedimentary rock [...]'

The second paragraph requires calculation and averaging of the thicknesses of sedimentary rock at the location of each of the fixed points determined by Art. 76 (4)(a). The average value arrived at needs to be more than 3.5 km for the coastal State to qualify for use of the special provisions of the Statement. The paragraph also requires the coastal State make an estimation of the extent of the margin, since the exclusion of 'half of the margin' by the line constructed using paragraph 4 (a) needs also to be demonstrated. The use of the terms 'rise' and 'margin' in these two opening paragraphs is confusing, and in at least one case – the last sentence of paragraph 2 – contains a mixture of juridical and technical versions.

⁶ CLCS, Scientific and Technical Guidelines of the Commission on the Limits of the Continental Shelf, UN Doc. CLCS/11 (1999), 95.

⁷ *Ibid.*, para. 5.4.5 it is simply stated: 'The rise [...] is the wedge-shaped sedimentary body having a smaller gradient than the continental slope', and in *ibid.*, para. 8.4.8, a rise is referred to being characterised by 'a normal range in gradient [...] of between 0.07 and 1.15 degrees'. Neither descriptor is particularly useful in establishing its extent.

4. 'margin'

- 13 The use of the word margin in the last two phrases in paragraph 2 is problematic. The first time it occurs (outer edge of the continental margin would not be less than 3.5 km) it refers to the juridical margin as defined by paragraph 4 (a), the second time it occurs (more than half the margin would be excluded) it is referring to the geological, non-juridical margin. As noted above, there is no satisfactory, or widely accepted quantifiable definition of a continental margin, thus presenting some difficulties in such a critical assessment.
- 14 Finally, it would be necessary for a coastal State to accurately define the lateral limits of the margin and rise in order to satisfactorily carry out the required calculations for division of these features as stipulated in paragraphs 1 and 2. Unless there are pre-existing agreements or adjudications, this may create further uncertainty and error.

5. 'such State may, notwithstanding the provisions of article 76, establish the outer edge of its continental margin by[...]'

- 15 Paragraph 3 of the Statement establishes that a measurement of at least 1 km thickness of sedimentary rock will define the outer edge of the continental margin. The implementation of this alternative provision to those provided in Art. 76 (4)(a) is straightforward and can be undertaken with reference to appropriate parts of the Commission's Scientific and Technical Guidelines.

6. 'this method may also be utilised by a neighbouring State'

- 16 Paragraph 4 allows for a neighbouring coastal State to utilise the provisions in the Statement to delineate the outer edge of its continental margin on a common geological feature, providing it satisfies the single requirement that the average thickness of sedimentary rocks at points defined in accordance with Art. 76 (4)(a) is greater than 3.5 km. The neighbouring State is not required to satisfy criteria based on isobath position, extent of margin, rise or amount of sedimentary rock.

7. 'States in the southern part of the Bay of Bengal'

- 17 The final key element for the Statement is laid out in paragraph 5, where it states that its use is restricted to 'States in the southern part of the Bay of Bengal'. As has been noted above, this has not deterred States that do not lie in the southern part of the Bay of Bengal from invoking the provisions of this Annex.

Article 77

Rights of the coastal State over the continental shelf

1. The coastal State exercises over the continental shelf sovereign rights for the purpose of exploring it and exploiting its natural resources.

2. The rights referred to in paragraph 1 are exclusive in the sense that if the coastal State does not explore the continental shelf or exploit its natural resources, no one may undertake these activities without the express consent of the coastal State.

3. The rights of the coastal State over the continental shelf do not depend on occupation, effective or notional, or on any express proclamation.

4. The natural resources referred to in this Part consist of the mineral and other non-living resources of the seabed and subsoil together with living organisms belonging to

sedentary species, that is to say, 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.

Bibliography: Robin R. Churchill/Alan V. Lowe, *The Law of the Sea* (3rd edn. 1999); Edwin J. Cosford, *The Continental Shelf 1910–1945*, *McGill Law Journal* 4 (1958), 245–266; Bruce C. Glavovic, *Disasters on the Continental Shelf: Exploring New Frontiers*, in: Myron H. Nordquist/John Norton Moore/Aldo Chircop/Ronán Long (eds.) *The Regulation of Continental Shelf Development: Rethinking International Standards* (2013), 225–258; Tomas H. Heider, *Legal Aspects of Continental Shelf Limits*, in: Myron H. Nordquist/John Norton Moore/Tomas H. Heider (eds.) *Legal and Scientific Aspects of Continental Shelf Limits* (2004), 19–38; Chie Kojima, *Fisheries, Sedentary, MPEPIL*, available at: <http://www.mpepil.com>; Hersch Lauterpacht, *Sovereignty over Submarine Areas*, *BYIL* 27 (1950), 376–433; David K. Leary, *International Law and the Genetic Resources of the Deep Sea* (2007); Moira L. McConnell, *The Law Applicable on the Continental Shelf*, *General Reports of the XVIIIth Congress of the International Academy of Comparative Law* (2012), 453–466; L. Dolliver M. Nelson, *Maritime Jurisdiction*, *MPEPIL*, available at: <http://www.mpepil.com>; Myron H. Nordquist/Satya N. Nandan/Shabtai Rosenne (eds.), *United Nations Convention on the Law of the Sea 1982: A Commentary*, vol. II (1993); Alexander Proelss, *Marine Genetic Resources under the UNCLOS and CBD*, *GYIL* 51 (2008), 417–446; Donald R. Rothwell/Tim Stephens, *The International Law of the Sea* (2010); Tim Stephens, *The Continental Shelf*, in: Rachel Baird/Donald R. Rothwell (eds.), *Australian Coastal and Marine Law* (2012), Ch. 7; Peter-Tobias Stoll, *The Continental Shelf*, *MPEPIL*, available at: <http://www.mpepil.com>; Robin Wagner, *Protecting the Diversity of the Depths: Environmental Regulation of Bioprospecting and Marine Scientific Research beyond National Jurisdiction*, *Ocean Yearbook* 22 (2008), 411–443

Documents: GA, *Oceans and Law of the Sea: Report of the Secretary General*, UN Doc. A/62/66 (2007); ILC, *Report of the International Law Commission: Articles Concerning the Law of the Sea*, UN Doc. A/3159 (1956), GAOR 11th Sess. Suppl. 9, 4–12; ILC, *Report of the International Law Commission: Commentaries to the Articles Concerning the Law of the Sea*, UN Doc. A/3159 (1956), GAOR 11th Sess. Suppl. 9, 12–45

Cases: *Arbitration between Petroleum Development (Trucial Coast) Ltd. and Sheikh of Abu Dhabi*, *AJIL* 47 (1953), 156–159; *Cornish Submarine Mines (First) Arbitration of 1856*; ICJ, *Case Concerning the Continental Shelf (Libyan Arab Jamahiriya v. Malta)*, Judgment of 3 June 1985, *ICJ Reports* (1985), 13; ICJ, *Case Concerning the Continental Shelf (Tunisia v. Libyan Arab Jamahiriya)*, Judgment of 24 February 1982, *ICJ Reports* (1982), 18; ICJ, *North Sea Continental Shelf Cases* (Federal Republic of Germany v. Netherlands/Denmark), Judgment of 20 February 1969, *ICJ Reports* (1969), 3

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I. Purpose and Function

Art. 77 defines the nature, extent and foundation of the rights of the coastal State over its continental shelf. The article sets out the general regime of rights relating to Part VI and the continental shelf, with more specific provisions following. Whilst the continental shelf delineation regime set out in Art. 76 constitutes the most innovative provision of this part, Art. 77 serves to illustrate the rights of coastal States within this newly extended maritime zone. Indeed, although the new method of delineation of the limits of the continental shelf was a major change, UNCLOS ‘did not substantially modify the rights and duties of coastal and other States in the continental shelf.’¹

¹ Tim Stephens, *The Continental Shelf*, in: Rachel Baird/Donald R. Rothwell (eds.), *Australian Coastal and Marine Law* (2012), Ch. 7.

- 2 The rights of the coastal State over the continental shelf are termed ‘sovereign rights’ and encompass the rights of exploring and exploiting the natural resources of the continental shelf. Though termed ‘sovereign’ rights, the coastal State does not have sovereignty over the continental shelf in the ordinary sense, but rather ‘functional rights and jurisdiction.’² The provision clarifies that these rights are exclusive to the coastal State, with no other State being entitled to exercise them without express consent, and that they are inherent rights vested in the coastal State that do not on upon occupation or proclamation. This is in contrast to the rights of coastal States granted within the regime of the exclusive economic zone (EEZ) in Part V of the Convention³ or the regime of the territorial sea,⁴ as these maritime zones must be claimed before the coastal State has any specific rights. Art. 77 further defines what is meant by natural resources in relation to Part VI, narrowing the scope of the ‘sovereign rights’ to exploration and exploitation of these natural resources in this maritime zone.
- 3 Part VI constitutes a continuation and the final part of the provisions of the Convention that lay out the delineation rules and jurisdictional nexus of coastal States. Parts V and VI together ‘set out the rules governing the rights and duties of coastal States in respect of natural resources in maritime areas under national jurisdiction’⁵; Art. 77 is central to this. The regimes of the continental shelf and EEZ, although affording rights in different areas, are linked together in modern law,⁶ and Parts V and VI should be read together to properly understand the regime of each maritime zone.

II. Historical Background

- 4 The legal status of the submarine area beyond the limit of the territorial sea underwent significant upheaval, and many differing claims, in the 20th century before it became regulated internationally, first by the 1958 Convention on the Continental Shelf (CSC), and later by UNCLOS. The development of the regime of the territorial sea developed separately from the seabed underlying it,⁷ though by the early years of the 20th century ‘it became generally accepted that the possession of a territorial sea gave the coastal State proprietary rights of that sea, including its bed and subsoil.’⁸ The seabed of the high seas, however, was not generally considered to appertain to the coastal State, although some States held the position that title to its resources could be gained through effective occupation.⁹ With regards to resources, it was imagined that this occupation of the seabed could occur by means of tunneling,¹⁰ though some States also laid claim to sedentary fisheries.¹¹ The nature of the seabed beyond the

² Tomas H. Heidar, Legal Aspects of Continental Shelf Limits, in: Myron. H Nordquist/John Norton Moore/ Tomas H. Heidar (eds.) Legal and Scientific Aspects of Continental Shelf Limits (2004), 19, 34.

³ See *Proelss* on Art. 55 MN 3 and on Art. 56 MN 34–36.

⁴ See *Trümpler* on Art. 3 MN 9–13.

⁵ Myron H. Nordquist/Satya N. Nandan/Shabtai Rosenne (eds.), United Nations Convention on the Law of the Sea 1982: A Commentary, vol. II (1993), 825.

⁶ ICJ, *Case Concerning the Continental Shelf* (Libyan Arab Jamahiriya v. Malta), Judgment of 3 June 1985, ICJ Reports (1985), 13, para. 33.

⁷ Robin R. Churchill/Alan V. Lowe, *The Law of the Sea* (3rd edn. 1999), 71; *Barnes* on Art. 2 MN 7.

⁸ Churchill/Lowe (note 7), 142. Indeed certain States had already begun, in the 19th century, to tunnel from *terra firma* beyond the limit of the territorial sea, see ICJ, *Case Concerning the Continental Shelf* (Tunisia v. Libyan Arab Jamahiriya), Judgment of 24 February 1982, ICJ Reports (1982), Dissenting Opinion of Judge Oda, 157, paras. 31–32: discussing the *Cornish Submarine Mines (First) Arbitration* of 1856; *Maggio* on Art. 85 MN 2–5.

⁹ Churchill/Lowe (note 7), 142–143; though problems abound with the ‘occupation’ doctrine as the basis of the legal right of coastal States, see *Hersch Lauterpacht*, Sovereignty over Submarine Areas, BYIL 27 (1950), 376, 414–423.

¹⁰ Edwin J. Cosford, *The Continental Shelf 1910–1945*, McGill Law Journal 4 (1958), 245, 258.

¹¹ For example France in respect of sponge fisheries beyond the territorial sea off Tunis, see Churchill/Lowe (note 7), 143.

territorial sea was described variously as *res communis* and *res nullius*, with neither position effectively solving the problems of the area or properly describing its legal status.¹²

Beginning in 1942 with the Treaty between the United Kingdom of Great Britain and Northern Ireland and Venezuela Relating to the Submarine Areas of the Gulf of Paria,¹³ the area that can now be described as the continental shelf underwent a flurry of claims and proclamations which sought to extend some form of coastal State rights or ownership beyond the traditional 3 NM territorial sea. The Gulf of Paria Treaty sought to divide the submarine areas of the Gulf, with Art. 1 describing this as 'denot[ing] the sea-bed and sub-soil outside of the territorial waters of the High Contracting Parties'¹⁴. Further, Art. 6 stated:

'Nothing in this Treaty shall be held to affect in any way the status of the waters of the Gulf of Paria or any rights of passage or navigation on the surface of the seas outside the territorial waters of the Contracting Parties.'

The Treaty was followed by a UK Order in Council¹⁵ which settled the annexation of the British part of the Gulf through a legislative instrument, stating that relevant part of 'the submarine area of the Gulf of Paria should be **annexed to and form part of His Majesty's dominions**.'¹⁶ Though not expressly, the language of annexation used here gives a strong indication that the British believed they were entitled to exercise territorial sovereignty over the Gulf.¹⁷

The significance of the Treaty and Order in Council cannot be understated, as previously 'the only assertion of exclusive economic right generally recognised beyond the territorial sea and not arrived at by tunnel from shore had been to sedentary fisheries'¹⁸ and further the treaty 'was the first legal act whereby rights of a territorial nature were claimed over zones beneath the high seas as an exception of the general regime prevailing therein.'¹⁹ The fact that the treaty explicitly distinguishes between the submarine areas (being the subsoil and sea bed) and the superjacent waters is important to note in the context of the development of the regime of the continental shelf.

The most important development in this flurry of State practice occurred in 1945 with the Truman Proclamation on the Policy of the United States with Respect to Natural Resources of the Subsoil and Sea Bed of the Continental Shelf.²⁰ The Proclamation did not declare a regime of annexation or territorial sovereignty over the continental shelf area, but rather that:

'the Government of the United States regards the natural resources of the subsoil and sea bed of the continental shelf beneath the high seas but contiguous to the coasts of the United States as appertaining to the United States, subject to its jurisdiction and control.'

This proclamation was not issued independently, but alongside another which addressed coastal State fisheries in certain areas of the high seas.²¹ Thus, the sharp distinction made between the continental shelf and the superjacent waters was emphasised by these proclamations not only through the express language of the continental shelf proclamation, but also in that fisheries in the waters superjacent to the continental shelf were treated in a separate instrument.

¹² See *Lauterpacht* (note 9), 414.

¹³ Treaty between the United Kingdom of Great Britain and Northern Ireland and Venezuela Relating to the Submarine Areas of the Gulf of Paria, 26th February 1942, LNTS 205, 121.

¹⁴ Emphasis added.

¹⁵ The Submarine Areas of the Gulf of Paria (Annexation) Order August 6, 1942.

¹⁶ Emphasis added.

¹⁷ See *Cosford* (note 10), 260.

¹⁸ *Ibid.*, 258: going on to state that even 'then only in certain limited circumstances based either on an historic claim or on effective occupation.'

¹⁹ *Ibid.*

²⁰ US Presidential Proclamation 2667, Policy of the United States With Respect to the Natural Resources of the Subsoil and Sea Bed of the Continental Shelf of 28 September 1945.

²¹ US Presidential Proclamation 2668, Policy of the United States with Respect to Coastal Fisheries in Certain Areas of the High Seas of 28 September 1945.

- 8 Following the Truman Proclamation, many more States made claims of varying nature in regard to this submarine area. By the time the negotiations for UNCLOS I had begun, ‘about twenty States, some acting in their own right and on behalf of dependant territories, had made such claims.’²² The variance of the claims provided no clear established practice,²³ and claims could be seen that sought to extend the jurisdiction or sovereignty of the coastal State not only to the continental shelf but also to the superjacent waters and even the airspace.²⁴ A survey of these proclamations and instruments found that in some the term ‘continental shelf’ was not used at all.²⁵ In others, no attempt to properly delineate the area in question was put forward, likely due to the ‘generally admitted elasticity of the notion of the continental shelf viewed as a geographic concept.’²⁶ Indeed, the problems with the delineation of the continental shelf as a maritime zone and the use of the term continental shelf for its legal regime are tied to the fact that this term is geographical, and refers to a geographical prolongation of land mass beyond the territorial sea. How far and to what extent a legal regime could be imposed on this thus far borderless and widely varied (from State to State) geographic formation posed certain logistical problems that are perhaps reflected in this varied State practice and were addressed differently in the CSC and UNCLOS.
- 9 The CSC was negotiated at UNCLOS I on the basis of the International Law Commission (ILC) Draft Articles Concerning the Law of the Sea.²⁷ In addressing this issue, the ILC accepted the practice of States that jurisdiction and control could be exercised beyond the limit of the territorial sea, but with the proviso that ‘such control and jurisdiction shall be exercised solely for the purpose of exploiting its resources; and it rejected any claim to sovereignty or jurisdiction over the superjacent waters.’²⁸ The ILC also mentioned the idea put forward by some that the resources of the submarine areas ‘should be entrusted, not to coastal States, but to agencies of the international community generally’, but the Commission then raised the argument that such internationalisation ‘would meet with insurmountable practical difficulties.’²⁹ In fact, under UNCLOS resources exploited from the Area (‘the seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction’ → Art. 1 (1)(1)) are subject to such a regime through the Authority (→ Part XI),³⁰ while coastal States are under an obligation to make payments or contributions to the Authority in respect of resources exploited from the continental shelf beyond 200 NM (→ Art. 82).³¹
- 10 The ILC Draft Articles contained a provision outlining that ‘the coastal State exercises over the continental shelf sovereign rights for the purpose of exploring and exploiting its natural resources.’³² In the commentary to the article, the ILC laid out that while a draft version of this provision from 1951 referred to the continental shelf as ‘subject to the exercise by the coastal State of control and jurisdiction for the purpose of exploring and exploiting its natural resources’³³, they rejected this language in favour of the more limited construction, as they:

²² Churchill/Lowe (note 7), 144.

²³ See Lauterpacht (note 9), 380–382 for a guide to the declarations made between 1945 and 1950.

²⁴ Churchill/Lowe (note 7), 144; particularly ‘Latin American and Central American Countries were often far more ambitious’, see *Arbitration between Petroleum Development (Trucial Coast) Ltd. and Sheikh of Abu Dhabi*, AJIL 47 (1953), 156, 157. An extreme example can be seen in the 1944 Proclamation of Argentina which ‘made an ambit claim to a 200 NM territorial sea and all resources found within it’: Donald R. Rothwell/Tim Stephens, *The International Law of the Sea* (2010), 101.

²⁵ Lauterpacht (note 9), 383.

²⁶ *Ibid.*

²⁷ ILC, Report of the International Law Commission: Articles Concerning the Law of the Sea, UN Doc. A/3159 (1956), GAOR 11th Sess. Suppl. 9, 4–12.

²⁸ ILC, Report of the International Law Commission: Commentaries to the Articles Concerning the Law of the Sea, UN Doc. A/3159 (1956), GAOR 11th Sess. Suppl. 9, 12, 40.

²⁹ *Ibid.*

³⁰ These resources are considered the common heritage of mankind, see Vöney/Höfelmeier on Art. 136 MN 14–21; Vöney/Höfelmeier on Art. 137 MN 12.

³¹ See further Chircop on Art. 82 MN 12–14.

³² ILC Law of the Sea Articles (note 27), 11 (Art. 68).

³³ ILC Law of the Sea Articles with Commentaries (note 28), 42 (Commentary to Art. 68).

‘desired to avoid language lending itself to interpretations alien to an object which the Commission considers to be of decisive importance, namely the safeguarding of the principle of the full freedom of the superjacent sea and the air space above it. Hence it was **unwilling to accept the sovereignty of the coastal State over the seabed and subsoil of the continental shelf**.’³⁴

The Commission felt their favoured construction preserved this freedom, while at the same time ensuring the coastal State had all rights necessary for, and those connected with, the exploration and exploitation of the continental shelf. The Commission went on to highlight in their commentary that these rights are exclusive to the coastal State, in that if they are not claimed, then they cannot be exercised by any other State without the consent of the coastal State, and that these rights ‘do not depend on occupation, effective or notional, or on any express proclamation.’³⁵ This language is mirrored in the CSC and then in UNCLOS. The ILC felt that it was unnecessary ‘to expatiate on the question of the nature and legal basis of these rights’, as the relevant considerations were too varied and particularly it was ‘not possible to base the sovereign rights of the coastal State exclusively on recent practice.’³⁶

At UNCLOS I, the position of the ILC was challenged by some States: Argentina, for example, argued that ‘sovereignty exercised over the continental shelf should be analogous to that exercised over the mainland territory, both by reason of the physical nature of the continental shelf and by reason of the nature of the rights vested in States’³⁷; while the delegation of the Federal Republic of Germany felt that the ‘sovereign rights’ formulation limited the freedoms of the high seas more than was ‘absolutely unavoidable.’³⁸ The issue of the nature of sovereign rights and how the draft article would function precisely when based on such rights was debated frequently throughout the meetings of the Fourth Committee³⁹ but no more precise definition was included in the text of the CSC.

The rights of the coastal State over the continental shelf in the CSC are laid out, as in the ILC Draft Articles, as being sovereign rights exercised ‘for the purpose of exploring and exploiting its natural resources.’⁴⁰ The issue of delineation is dealt with in terms of depth, defining the continental shelf as:

‘to the seabed and subsoil of the submarine areas adjacent to the coast but outside the area of the territorial sea, to a depth of 200 metres or, beyond that limit, to where the depth of the superjacent waters admits of the exploitation of natural resources of the said areas [...]’⁴¹

The definition given in the CSC may be regarded as imprecise,⁴² and it underwent significant change in the process of the drafting of UNCLOS. What is important to note, however, is that the rights of the coastal State in relation to the continental shelf in the CSC are tied to its natural resources, and that this is indicated even in the definition of the shelf.

The ILC Draft contained no definition of what exactly was meant by natural resources, though the issue did receive some attention in the Commission’s commentaries,⁴³ with the Commission deciding to keep the broader term ‘natural resources’ as opposed to ‘mineral

³⁴ *Ibid.* (emphasis added).

³⁵ *Ibid.*; for the historical importance of the notion of effective occupation in regards to the continental shelf, see *infra*, MN 4.

³⁶ ILC Law of the Sea Articles with Commentaries (note 27), 42 (Commentary to Art. 68).

³⁷ Statement of Mr. Ruiz Moreno (Argentina): UNCLOS I, Summary Records of the 1st to 5th Meetings of the Fourth Committee, UN Doc. A/CONF.13/C.4/SR.1-5 (1958), OR VI, 2 (Fourth Meeting); see *infra*, note 27.

³⁸ UNCLOS I, Federal Republic of Germany: Memorandum Concerning Draft Articles 67–73, UN Doc. A/CONF.13/C.4/L.1 (1958), OR VI, 125, 126.

³⁹ See generally, UNCLOS I, Summary Records of Meetings of the Fourth Committee (1958), OR VI.

⁴⁰ Art. 2 (1) CSC.

⁴¹ Art. 1 CSC; see further *Parson* on Art. 76 MN 8–9.

⁴² The formulation of the definition was even regarded as vague by some parties during the negotiations at UNCLOS I, see Statement of Mr. Sole (Union of South Africa): Summary Records of the 1st to 5th Meetings (note 37), 3; Statement of Miss Gutteridge (United Kingdom), *ibid.*, 4.

⁴³ ILC Law of the Sea Articles with Commentaries (note 27), 42 (Commentary to Art. 68).

resources’.⁴⁴ The issue of permanent attachment to the seabed had been discussed by the Commission, as had sedentary fisheries and the clear understanding that ‘the rights in question do not cover so-called bottom-fish and other fish which, although living in the sea, occasionally have their habitat at the bottom of the sea or are bred there’⁴⁵, though these issues were not addressed in the draft article.

- 14 At UNCLOS I, the precise content of the term was again subject to much debate, with some States supporting the position of the ILC.⁴⁶ However, not all States agreed; for example, the Burmese delegation sought to include that ‘[t]he term “natural resources” includes so-called bottom-fish’.⁴⁷ With a view to avoiding such divergent interpretation, the UK made a proposal that this term only be included in the future convention with a definition,⁴⁸ and then went on (with 5 other States) to make a proposal that read:

‘The natural resources referred to in these articles consist of mineral and other non-living resources of the seabed and the subsoil together with living organisms belonging to sedentary species, that is to say, 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; but Crustacea and swimming species are not included.’⁴⁹

The final sentence of the proposal was then deleted before it was adopted into the CSC. Art 2. CSC reads:

‘1. The coastal State exercises over the continental shelf sovereign rights for the purpose of exploring it and exploiting its natural resources.

2. The rights referred to in paragraph 1 of this article are exclusive in the sense that if the coastal State does not explore the continental shelf or exploit its natural resources, no one may undertake these activities, or make a claim to the continental shelf, without the express consent of the coastal State.

3. The rights of the coastal State over the continental shelf do not depend on occupation, effective or notional, or on any express proclamation.

4. The natural resources referred to in these articles consist of the mineral and other non-living resources of the seabed and subsoil together with living organisms belonging to sedentary species, that is to say, 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.’

- 15 Art. 77 UNCLOS was copied almost verbatim from the CSC. At the Sea-Bed Committee, some proposals were put forward which were divergent from this formula. For example, a Chinese proposal sought to treat the seabed and subsoil beyond the territorial sea as part of the ‘economic zone of the coastal State’⁵⁰, and a similar proposal in this respect was put forward by Australia and Norway.⁵¹ The language used in the proposals at the Sea-Bed Committee was however, for the most part,⁵² similar to that contained in Art. 2 CSC.⁵³
- 16 At UNCLOS III, proposals were also put forward that reflected the language of the CSC. The Informal Group of Juridical Experts (the Evenson Group) prepared a draft that incorporated only minor drafting changes from the CSC, along with the deletion of ‘or to make a claim to the continental shelf’ from Art. 2 (2) CSC.⁵⁴ This was then incorporated into

⁴⁴ *Ibid.*, para. 3.

⁴⁵ *Ibid.*

⁴⁶ See e.g. UNCLOS I, France: Proposal, UN Doc. A/CONF.13/C.4/L.7 (1958), OR VI, 128.

⁴⁷ UNCLOS I, Burma: Proposal, UN Doc. A/CONF.13/C.4/L.3 (1958), OR VI, 127; see also UNCLOS I, Yugoslavia: Proposal, UN Doc. A/CONF.13/C.4/L.13 (1958), OR VI, 130.

⁴⁸ UNCLOS I, United Kingdom of Great Britain and Northern Ireland: Proposal, A/CONF.13/C.4/L.27 (1958), L.27, 134.

⁴⁹ UNCLOS I, Australia *et al.*: Proposal, UN Doc. A/CONF.13/C.4/L.36 (1958), OR VI, 136.

⁵⁰ Sea-Bed Committee, China: Working Paper on Sea Area within Limits of National Jurisdiction, UN Doc. A/AC.138/SC.II/L.34 (1973), 2.

⁵¹ Sea-Bed Committee, Working Paper Submitted by the Delegations of Australia and Norway Containing Certain Basic Principles on an Economic Zone and on Delimitation, UN Doc. A/AC.138/SC.II/L.36 (1973).

⁵² See China: Working Paper (note 50), 2, which uses the language of ‘exclusive jurisdiction’ rather than ‘sovereign rights’.

⁵³ Nordquist/Nandan/Rosenne (note 5), 894.

⁵⁴ *Ibid.*

the Informal Single Negotiating Text,⁵⁵ and underwent only renumbering before it was adopted with the Convention as a whole.

There were further proposals during UNCLOS III that sought to include a paragraph which addressed sovereign rights of the coastal State over ‘any object of purely archaeological and historical nature on or under its continental shelf’⁵⁶, but this issue was ultimately addressed in Art. 303.⁵⁷

III. Elements

1. ‘The coastal State exercises over the continental shelf sovereign rights for the purpose of exploring it and exploiting its natural resources’

Art. 77 sets out the general rights regime for activities carried out on the continental shelf. The continental shelf is defined in Art. 76, and Art. 77 and the rest of Part VI go on to lay out the specific rights of coastal States in this maritime zone. The rights of the coastal State granted in respect of the natural resources can be said to exist due to the economic allocation of such resources to the coastal State.⁵⁸ The importance of the regime of the continental shelf cannot be understated, as it has brought ‘more than 30 % of the world’s seabed under the special and limited sovereign rights of coastal States.’⁵⁹

The sovereign rights referred to in Art. 77 (1) are limited to rights for the purpose of exploring and exploiting the natural resources of the continental shelf. Thus, the regime of the continental shelf in UNCLOS does not grant the coastal State exclusive rights over the continental shelf in general, but only in relation to the exploration and exploitation of natural resources.⁶⁰ In Part VI, some rights of the coastal State over the continental shelf are exclusive, such as the right to construct authorise and regulate the construction, operation and use of artificial islands on the continental shelf (→ Art. 80; Art. 60 (1)(a)),⁶¹ and the right to authorise and regulate drilling (→ Art. 81)⁶². The term ‘sovereign rights’ is also used in relation to the EEZ (→ Art. 56 (1)(a)), and the rights of the coastal State are similarly limited to rights ‘for the purpose of exploring and exploiting, conserving and managing the natural resources’ of the EEZ.

The term natural resources is defined in Art. 77 (4).⁶³ The exploration and exploitation of such resources on the continental shelf may take many forms, and may be carried out for example by drilling or tunneling in the subsoil or on the seabed, from *terra firma*, from vessels, or from artificial islands, installations or structures built either in the EEZ or on the shelf itself. The exploitation of oil, for example, comes with a risk of pollution,⁶⁴ and other provisions of the Convention ensure that where this occurs from seabed activities subject to national jurisdiction, coastal States are under an obligation to prevent, reduce and control such pollution (→ Art. 208).

⁵⁵ UNCLOS III, Informal Single Negotiating Text (Part II), UN Doc. A/CONF.62/WP.8/PART II (1975), OR IV, 152, 162–163 (Art. 63).

⁵⁶ UNCLOS III, Informal Proposal by Cape Verde, Greece, Italy, Malta, Portugal, Tunisia and Yugoslavia, UN Doc. C.2/Informal Meeting/43/Rev.2 (1980, mimeo.), reproduced in: Renate Platzöder (ed.), Third United Nations Conference on the Law of the Sea: Documents, vol. V (1984), 50.

⁵⁷ Nordquist/Nandan/Rosenne (note 5), 894; see further Scovazzi on Art. 303 MN 8–9.

⁵⁸ Peter-Tobias Stoll, The Continental Shelf, MPEPIL, para. 26, available at: <http://www.mpepil.com>.

⁵⁹ *Ibid.*, para. 1.

⁶⁰ It appears now fairly settled that the continental shelf (and the EEZ) are no longer regarded by States as territory, see Moira L. McConnell, The Law Applicable on the Continental Shelf, General Reports of the XVIIIth Congress of the International Academy of Comparative Law (2012), 453, 463.

⁶¹ See Maggio on Art. 80 MN 1–2, 7.

⁶² See Maggio on Art. 81 MN 5–6.

⁶³ See *supra*, MN 24–25.

⁶⁴ See generally Bruce C. Glavovic, Disasters on the Continental Shelf: Exploring New Frontiers, in: Nordquist *et al.* (eds.) The Regulation of Continental Shelf Development: Rethinking International Standards (2013), 225–258.

2. ‘no one may undertake these activities without the express consent of the coastal State’

- 21 The sovereign rights of the coastal State to explore and exploit the natural resources of the continental shelf are exclusive rights, and this is affirmed by the express inclusion of the fact that the express consent⁶⁵ of the coastal State is required if another State or private entity wishes to carry out such activities. This consent requirement is strengthened by other articles in Part VI, as they lay out the exclusive right of the coastal State to authorise the construction and operation artificial islands, installations and structures,⁶⁶ and authorise and regulate drilling on the continental shelf (→ Art. 81). The sovereign rights of the coastal State with regard to the natural resources of the continental shelf can be contrasted with the rights of the coastal State over the living resources in the EEZ, as under Art. 62 (2) coastal States without the capacity to harvest such resources are under an obligation to give other States access ‘to the surplus of the allowable catch’⁶⁷, while no such obligation exists with regard to the continental shelf.
- 22 Furthermore, although there is a general obligation on coastal States to grant their consent to marine scientific research (MSR) projects in their EEZs or on their continental shelves ‘in normal circumstances’ (→ Art. 246 (3))⁶⁸, a specific ground is recognised for the withholding of such consent where the envisaged project is ‘of **direct significance** for the exploration and exploitation of natural resources, whether living or non-living’⁶⁹. Art. 246 (5) thus extends the strict consent based regime (as opposed to the general obligation to grant consent in Art. 246 (3)) to any MSR projects that are of direct significance to the rights of the coastal State secured in Art. 77. Although Art. 77 makes reference to the requirement of coastal State consent to carry out exploring and exploiting natural resources, and Art. 246 concerns a consent regime which may only be significant to such exploration and exploitation, the two provisions clearly ensure that the sovereign rights of the coastal State, exercised for the purposes of exploring and exploiting the natural resources, are exclusive.

3. ‘The rights of the coastal State over the continental shelf do not depend on occupation, effective or notional, or on any express proclamation’

- 23 Art. 77 (3) further specifies the nature of the right of the coastal State over the continental shelf. In contrast to the territorial sea and EEZ which must be claimed,⁷⁰ the rights of the coastal State exercises over the continental shelf are inherent. The ICJ stated, in the *North Sea Continental Shelf Cases*, that the continental shelf of a coastal State is:

‘a natural prolongation of its land territory into and under the sea exist ipso facto and ab initio, by virtue of its sovereignty over the land, and as an extension of it in an exercise of sovereign rights for the purpose of exploring the seabed and exploiting its natural resources. **In short, there is here an inherent right.** In order to exercise it, no special legal process has to be gone through, nor have any special legal acts to be performed. Its existence can be declared (and many States have done this) but does not need to be constituted.’⁷¹

⁶⁵ The term express consent is only used in two other articles of the Convention: Art. 245 in relation to MSR in the territorial sea and Art. 265 in relation to dispute settlement and MSR. See *Huh/Nishimoto* on Art. 245 MN 11–12.

⁶⁶ Though only artificial islands for all purposes, installations and structures are more limited: see *Maggio* on Art. 80 MN 1.

⁶⁷ See *Harrison/Morgera* on Art. 62 MN 6–10.

⁶⁸ Which states ‘Coastal States shall, in normal circumstances, grant their consent to marine scientific research projects by other States or competent international organizations in their exclusive economic zone or on their continental shelf [...]’, see further *Huh/Nishimoto* on Art. 246 MN 23–24.

⁶⁹ Art. 246 (5) (a) (emphasis added). See *Huh/Nishimoto* on Art. 246 MN 31, 35.

⁷⁰ See *Proelss* on Art. 55 MN 3; *Trümpler* on Art. 3 MN 9–13.

⁷¹ ICJ, *North Sea Continental Shelf Cases* (Federal Republic of Germany v. Netherlands/Denmark), Judgment of 20 February 1969, ICJ Reports (1969), 3, 22 (para. 19, emphasis added); this subparagraph therefore ‘codifies the rule established in the *North Sea Continental Shelf Cases*’, see *Heidar* (note 2), 36.

This ‘inherent right’ can be viewed as a ‘distinct legal base’⁷² in comparison to the rights of the coastal State in the EEZ, a right ‘which clarifies that coastal States’ rights over the continental shelf do exist *ipso facto* whereas the rights of the EEZ requires to be claimed by the coastal State in question.’⁷³ The express mention of occupation and proclamation refer directly to the historical developments which led to the development of an international regime concerning the continental shelf.⁷⁴

4. ‘The natural resources referred to in this Part consist of [...]’

Art. 77 (4) explicitly lays out what is meant by natural resources when referred to in Part VI of the Convention. They consist of ‘mineral and other non-living resources of the seabed together with other living organisms belonging to sedentary species.’ This paragraph serves to reinforce the fact that the continental shelf regime only applies to the seabed and subsoil of the shelf, and not to any resources that are found in the water column above.

The further explanation of what is meant by ‘sedentary species’ as being ‘organisms which, at their harvestable stage, either are immobile on or under the sea-bed or are unable to move except in constant contact with the sea-bed or subsoil’, explicitly rules out any organisms and fisheries that are not in such contact, and are thus regulated by the regime of the EEZ in regards to fisheries (→ Arts. 62–67). Art. 68 specifically references Art. 77 (4) in clarifying that Part V does not apply to sedentary species,⁷⁵ and clarifying that they are not regulated by the fisheries regime established for the EEZ.⁷⁶ Sedentary species, as a notion, was developed in the context of the regime of the continental shelf⁷⁷ and is generally accepted as including ‘chanks, clams, oysters, mussels, scallops, sponges, corals, and crustaceans such as shrimps, prawns, lobsters, and crabs.’⁷⁸ However, there exists some ambiguity concerning crustaceans, as some argue that as they are able to swim they should not be included,⁷⁹ particularly as so-called ‘bottom fish’ are excluded.⁸⁰ Furthermore, the 2007 Report of the Secretary General on Oceans and the Law of the Sea⁸¹ made reference to the fact that:

‘The extent to which the definition of sedentary species under article 77 covers the complex and symbiotic web of life of deep-sea ecosystems may need to be addressed in order to clarify whether such ecosystems and organisms belong to the regime of the continental shelf or of the water column above it.’⁸²

This is of particular relevance in cases where the coastal State has not claimed an EEZ, or the continental shelf of the coastal State is claimed beyond 200 NM, as in these cases the waters above the shelf are high seas, and thus any biological resources found there would be subject to the regime of Part VII of the Convention.⁸³

As in many other areas of the UNCLOS, Part VI has been faced with challenges arising from developments in science and technology since its negotiation. In the context of the continental shelf, this is particularly pronounced with regards to the regime for genetic resources on the continental shelf.⁸⁴ As ‘living organisms belonging to sedentary species, that is to say, organisms which, at the harvestable stage, either are immobile on or under the

⁷² Stoll (note 58), para. 6.

⁷³ *Ibid.*

⁷⁴ See *infra*, MN 5–8.

⁷⁵ See further Harrison on Art. 68.

⁷⁶ L. Dolliver M. Nelson, Maritime Jurisdiction, MPEPIL, para. 54, available at: <http://www.mpepil.com>.

⁷⁷ Chie Kojima, Fisheries, Sedentary, MPEPIL, para. 1, available at: <http://www.mpepil.com>.

⁷⁸ *Ibid.*, para. 2.

⁷⁹ *Ibid.*

⁸⁰ See *infra* MN 13–14.

⁸¹ GA, Oceans and Law of the Sea: Report of the Secretary General, UN Doc. A/62/66 (2007).

⁸² *Ibid.*, 59.

⁸³ *Ibid.*

⁸⁴ For genetic resources in the Area, see Scovazzi on Art. 133 MN 14–22.

seabed or are unable to move except in constant physical contact with the seabed or the subsoil’ are included within the term ‘natural resources’ under Art. 77 and Part VI, it appears that in this area genetic resources **on the seabed** are to be treated as other living or non-living resources as regards the rights of the coastal State. Although not envisaged in the drafting of Art. 77, they appear to fit under the definition provided in the article. A further problem arises, however, in the context of hydro-thermal vent species,⁸⁵ which are not so easily classified as sedentary species and thus arguably not governed by the provisions in Part. VI.⁸⁶ WAGNER states:

‘Some of the species which inhabit hydrothermal vent communities, seep communities and deep sea sediment such as nematodes and molluscs will fulfil the definition of sedentary species and therefore fall under coastal State jurisdiction while others such as the micro-organisms which abound in hydrothermal plumes will not.’⁸⁷

Article 78
Legal status of the superjacent waters and air space and the rights and freedoms of other States

- 1. The rights of the coastal State over the continental shelf do not affect the legal status of the superjacent waters or of the air space above those waters.
- 2. The exercise of the rights of the coastal State over the continental shelf must not infringe or result in any unjustifiable interference with navigation and other rights and freedoms of other States as provided for in this Convention.

Bibliography: *Tomas H. Heidar*, Legal Aspects of Continental Shelf Limits, in: Myron. H Nordquist/John Norton Moore/Tomas H. Heidar (eds.) *Legal and Scientific Aspects of Continental Shelf Limits* (2004), 19–38; *Stephan Hobe*, Airspace, MPEPIL, available at: <http://www.mpepil.com>; Myron H. Nordquist/Satya N. Nandan/Shabtai Rosenne (eds.), *United Nations Convention on the Law of the Sea 1982: A Commentary*, vol. II (1993); *Donald R. Rothwell/Tim Stephens*, *The International Law of the Sea* (2010); *Peter-Tobias Stoll*, Continental Shelf, MPEPIL, available at: <http://www.mpepil.com>

Documents: ILC, Report of the International Law Commission: Commentaries to the Articles Concerning the Law of the Sea, UN Doc. A/3159 (1956), GAOR 11th Sess. Suppl. 9, 12–45; UN DOALOS, *Baselines: An Examination of the Relevant Provisions of the United Nations Convention on the Law of the Sea* (1989)

Cases: ICJ, *Fisheries Jurisdiction Case* (United Kingdom of Great Britain and Northern Ireland v. Iceland), Jurisdiction of the Court, Judgment of 2 February 1973, ICJ Reports (1973), 3; ICJ, *North Sea Continental Shelf Cases* (Federal Republic of Germany v. Netherlands/Denmark), Judgment of 20 February 1969, ICJ Reports (1969), 3

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⁸⁵ See *Alexander Proelss*, Marine Genetic Resources under the UNCLOS and CBD, GYIL 51 (2008), 417, 418–419.

⁸⁶ See *David K. Leary*, International Law and the Genetic Resources of the Deep Sea (2007), 96–94.

⁸⁷ *Robin Wagner*, Protecting the Diversity of the Depths: Environmental Regulation of Bioprospecting and Marine Scientific Research beyond National Jurisdiction, Ocean Yearbook 22 (2008), 411, 419.

I. Purpose and Function

Art. 78 serves to ensure that the legal status of the waters and air space over the continental shelf, and any rights or freedoms of other States in those waters, are not affected by the rights of the coastal State on the continental shelf, as '[t]he continental shelf only includes the seabed and the sea soil.'¹ The provision is partially declaratory, serving to reassure States that the extension of coastal State jurisdiction on the continental shelf will not affect the legal status of the superjacent waters and airspace over the continental shelf and thus interfere with their rights in this area, but at the same time also serves to provide distinct limitations to the rights of the coastal State laid out in the other provisions of Part VI of the Convention.²

Art. 78 (1) clarifies the way in which the legal regimes of the different maritime zones interact. Art. 78 (2), however, lays out a specific obligation as to the way in which the rights of the coastal States must be carried out in order to protect the rights and freedoms granted to other States in the Convention.

II. Historical Background

Despite some more far reaching claims by States,³ the basic premise of what is included in Art. 78 of the Convention was never hotly contested.⁴ The International Law Commission (ILC), in the commentaries to their Draft Articles concerning the Law of the Sea,⁵ recognised the sovereign right of coastal States over the continental shelf, while they, at the same time, 'rejected any claim to sovereignty or jurisdiction over the superjacent waters.'⁶ At the time of the development of the regime of the continental shelf, then defined as the seabed and subsoil of the submarine area adjacent to the coast but beyond the limits of the territorial sea,⁷ the waters superjacent to the shelf were high seas. Thus, Art. 3 of the 1958 Convention on the Continental Shelf (CSC) lays out that '[t]he rights of the coastal State over the continental shelf do not affect the legal status of the superjacent waters as high seas, or that of the air space above those waters.' The CSC goes on to lay out a more specific obligation than is found in Art. 78 UNCLOS. Art. 5 (1) states:

'The exploration of the continental shelf and the exploitation of its natural resources must not result in any unjustifiable interference with navigation, fishing or the conservation of the living resources of the sea, nor result in any interference with fundamental oceanographic or other scientific research carried out with the intention of publication.'

With the development of the regime of the exclusive economic zone (EEZ) at UNCLOS III, however, the approach changed. The classification of the waters superjacent to the continental shelf is now dependent on the extent of the EEZ claimed by the coastal State⁸/

¹ *Tomas H. Heidar*, Legal Aspects of Continental Shelf Limits, in: Myron. H Nordquist/John Norton Moore/*Tomas H. Heidar* (eds.) *Legal and Scientific Aspects of Continental Shelf Limits* (2004), 19, 35.

² Particularly Art. 77: see *Maggio* on Art. 77 MN 24.

³ For detail, see *Maggio* on Art. 77 MN 6-8.

⁴ And indeed, was confirmed by the International Court of Justice (ICJ) on several occasions, see ICJ, *North Sea Continental Shelf Cases* (Federal Republic of Germany v. Netherlands/Denmark), Judgment of 20 February 1969, ICJ Reports (1969), 3, 37 (para. 59); ICJ, *Fisheries Jurisdiction Case* (United Kingdom of Great Britain and Northern Ireland v. Iceland), Jurisdiction of the Court, Separate Opinion of Judge Sir Fitzmaurice, ICJ Reports (1973), 27 (para. 7).

⁵ ILC, Report of the International Law Commission: Commentaries to the Articles Concerning the Law of the Sea, UN Doc. A/3159 (1956), GAOR 11th Sess. Suppl. 9, 12-45.

⁶ *Ibid.*, 40.

⁷ See Art. 1 Convention on the Continental Shelf (CSC).

⁸ See Art. 57.

whether the continental shelf extends beyond 200 NM from the baseline used to measure the breadth of the territorial sea.⁹

- 5 During the drafting of the Convention, various proposals were made as to the precise formulation of what was to become Art. 78. A proposal by the United States in 1974¹⁰ sought to apply a provision related to the EEZ *mutatis mutandis*¹¹ to the continental shelf; the proposal provided for ‘the exercise of rights and the performance of duties by the coastal State without unjustifiable interference with navigation or other uses of the sea in the economic zone’.¹² However, this approach was not followed. The only major controversy in the draft that followed was whether the provision on the legal status of the superjacent waters and air space to the continental shelf would contain the wording ‘unjustifiable interference’.¹³ In the end, following a compromise proposal by the Chairman of Negotiating Group 6,¹⁴ this was included as Art. 78 (2) in the Informal Composite Negotiating Text (Revision 1).¹⁵ Only minor drafting changes were made before the provision was adopted with the Convention as a whole.¹⁶

III. Elements

1. ‘The rights of the coastal State over the continental shelf do not affect the legal status of [...]’

- 6 As outlined above, Art. 78 serves to declare that the rights of the coastal State over the continental shelf¹⁷ do not affect the legal status of the waters and airspace above the shelf. Art. 77 lays out the sovereign rights exercised by coastal States over the continental shelf for the purposes of exploring and exploiting its natural resources (Art. 77 (1)), defined in Art. 77 (4) as being ‘mineral and other non-living resources of the sea-bed and subsoil together with living organisms belonging to sedentary species’.¹⁸ Coastal States also have exclusive rights on the continental shelf in relation to the construction, authorisation and regulation of installations and structures for the purpose of exploring and exploiting its natural resources and artificial islands for all purposes (Art. 80), and authorisation and regulation of drilling for all purposes (Art. 81).
- 7 The legal status of the waters above the continental shelf is not determined by reference to the shelf, but rather the limits of the EEZ of the relevant coastal State. Coastal States must claim their EEZ (and can up to a limit of 200 NM (Art. 57))¹⁹, in contrast to the continental shelf, which the International Court of Justice described as:

‘a natural prolongation of its land territory into and under the sea exist ipso facto and ab initio, by virtue of its sovereignty over the land, and as an extension of it in an exercise of sovereign rights for the purpose of exploring the seabed and exploiting its natural resources. In short, there is here an inherent right. In order to exercise it, no special legal process has to be gone through, nor have any special legal acts to be performed. Its existence can be declared (and many States have done this) but does not need to be constituted.’²⁰

⁹ See Arts. 57 and 76.

¹⁰ Second Committee UNCLOS III, United States of America: Draft Articles for a Chapter on the Economic Zone and Continental Shelf, UN Doc. A/CONF.62/C.2/L.47 (1974), OR III, 222, 224 (Art. 26).

¹¹ See *Maggio* on Art. 80 MN 10.

¹² Myron H. Nordquist/Satya N. Nandan/Shabtai Rosenne (eds.), United Nations Convention on the Law of the Sea 1982: A Commentary, vol. II (1993), 903; USA: Draft Articles (note 10), 222 (Art. 8).

¹³ *Ibid.*, 903–906.

¹⁴ UNCLOS III, Compromise Suggestions by the Chairman of Negotiating Group 6, UN Doc. A/CONF.62/L.37 (1979), OR XI, 100, 101.

¹⁵ UNCLOS III, Informal Composite Negotiating Text (Revision 1), UN Doc. A/CONF.62/WP.10/REV.1 (1979), OR VIII, 55.

¹⁶ Nordquist/Nandan/Rosenne (note 12), 906.

¹⁷ For the definition of the continental shelf, see *Parson* on Art. 76 MN 26–33.

¹⁸ See further, *Maggio* on Art. 77 MN 24–25.

¹⁹ See *Proelss* on Art. 57.

²⁰ *North Sea Continental Shelf Cases* (note 4), 22 (para. 19).

Where no EEZ is claimed, or an EEZ is claimed but the continental shelf extends beyond this limit,²¹ the superjacent waters of the continental shelf beyond are governed by the regime of the high seas, set out in Part VII of the Convention.

The sovereign rights of the coastal State over the continental shelf exist for the purpose of 8 exploring and exploiting its natural resources, and the regimes of the continental shelf and EEZ provided for in the Convention ‘deviate[] from the classical law of the sea divide between full sovereign control over the territorial sea and the freedom of the high seas in establishing distinct spaces of limited powers in between.’²² In ensuring that the legal status of the superjacent waters to the continental shelf are not affected by the rights of the coastal State on the shelf, Art. 78 (1) cements this distinction.

2. ‘superjacent waters or [...] air space above those waters’

Superjacent waters have been defined by the UN Division for Ocean Affairs and the Law of the Sea as ‘waters lying immediately above the sea-bed or deep ocean floor up to the surface’²³, a definition which also corresponds to the water column.²⁴ The term ‘water column’ also appears in Art. 257 of the Convention in relation to marine scientific research in the waters beyond the limits of the EEZ: waters which may be superjacent to the continental shelf of the coastal State or the Area, depending on the limits of the EEZ and continental shelf in the case in question.²⁵

The sovereign air space of a State is tied to its sovereign territory, and therefore ‘the 10 horizontal delimitation is drawn along the territorial borders of a State including its territorial seas and archipelagic waters.’²⁶ Thus, the air space referred to in Art. 78 is not considered to belong to the coastal State. Where the superjacent waters to the continental shelf are high seas, the Art. 87 (1) (b) high seas freedom of overflight applies to the air space above these waters.²⁷ Where the superjacent waters to the continental shelf are the EEZ of a coastal State, Art. 58 of the Convention lays out that all States enjoy ‘the freedoms referred to in article 87 of navigation and overflight [...]’²⁸. Of further relevance in this context is Art. 2 of the International Convention on Civil Aviation which states that ‘for the purposes of this Convention the territory of a State shall be deemed to be the land areas and territorial waters adjacent thereto under the sovereignty, suzerainty, protection or mandate of such State.’

3. ‘must not infringe or result in any unjustifiable interference’

After laying out that the legal status of the superjacent waters and air space over the 11 continental shelf of a coastal State is not affected by the existence of the rights of the coastal State on the shelf in Art. 78 (1), Art. 78 (2) goes on to impose an additional obligation on coastal States not to infringe the rights and freedoms of other States in these areas in the exercise of their rights in relation to the continental shelf. This part of the provision is essentially a corollary to Arts. 58 and 87 which guarantee the freedoms of all States in the EEZ and on the high seas, subject to certain limitations.²⁹

The term ‘unjustifiable interference’ only appears in one other provision of the Conven- 12 tion: Art. 194 (4) in relation to measures to prevent, reduce or control pollution of the

²¹ See *Parson* on Art. 76 MN 37–40 for detail on the delineation of the continental shelf under the Convention beyond 200 NM from the baseline which measures the breadth of the territorial sea.

²² *Peter-Tobias Stoll*, *Continental Shelf*, MPEPIL, para. 24, available at: <http://www.mpepil.com>.

²³ UN DOALOS, *Baselines: An Examination of the Relevant Provisions of the United Nations Convention on the Law of the Sea* (1989), 67.

²⁴ Nordquist/Nandan/Rosenne (note 12), 906.

²⁵ For further information, see *Huh/Nishimoto* on Art. 257 MN 5, 9.

²⁶ *Stephan Hobe*, *Airspace*, MPEPIL, para. 5, available at: <http://www.mpepil.com>.

²⁷ see *Guilfoyle* on Art. 87 MN 10.

²⁸ Emphasis added, see *Proelss* on Art. 58 MN 9–15.

²⁹ For example, see Art. 58 (3) and Art. 87 (2).

marine environment. It provides coastal States with some leeway in how they exercise their rights over the continental shelf, but serves to protect the rights and freedoms of other States by ensuring that any interference with these rights and freedoms must be justifiable.³⁰

4. 'navigation and other rights and freedoms of other States as provided for in this Convention'

- 13 The rights and freedoms referred to in Art. 78 (2) are those found in Parts V and VII of the Convention in relation to the EEZ and high seas.³¹ The rights of overflight and navigation provided for in the EEZ are more restrictive than those on the high seas, as coastal States have some regulatory powers in the EEZ which may interfere with these rights.³²

Article 79 Submarine cables and pipelines on the continental shelf

1. All States are entitled to lay submarine cables and pipelines on the continental shelf, in accordance with the provisions of this article.

2. Subject to its right to take reasonable measures for the exploration of the continental shelf, the exploitation of its natural resources and the prevention, reduction and control of pollution from pipelines, the coastal State may not impede the laying or maintenance of such cables or pipelines.

3. The delineation of the course for the laying of such pipelines on the continental shelf is subject to the consent of the coastal State.

4. Nothing in this Part affects the right of the coastal State to establish conditions for cables or pipelines entering its territory or territorial sea, or its jurisdiction over cables and pipelines constructed or used in connection with the exploration of its continental shelf or exploitation of its resources or the operations of artificial islands, installations and structures under its jurisdiction.

5. When laying submarine cables or pipelines, States shall have due regard to cables or pipelines already in position. In particular, possibilities of repairing existing cables or pipelines shall not be prejudiced.

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³⁰ See Czybulka on Art. 194 MN 26–27.

³¹ See *supra*, MN 6.

³² Donald R. Rothwell/Tim Stephens, *The International Law of the Sea* (2010), 93.

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Documents: GA Res. 70/235 of 23 December 2015; *Lorna Inniss*(Coordinator)/*Alan Simcock* (Coordinator) et al., *The First Global Integrated Marine Assessment: World Ocean Assessment I* (2016), available at: http://www.un.org/Depts/los/global_reporting/WOA_RPROC/WOACompilation.pdf; *Lionel Carter/Douglas Burnett/Stephen Drew/Graham Marle/Lonnie Hagadorn/Deborah Bartlett-McNeil/Nigel Irvine*, *Submarine Cables and the Oceans: Connecting the World*, Report of the ICPC/UNEP/UNEP-WCMC (2009), available at: www.iscpc.org/documents/?id=132; ILC, Report of the International Law Commission: Articles Concerning the Law of the Sea, UN Doc. A/3159 (1956), GAOR 11th Sess. Suppl. 9, 4–12; ILC, Report of the International Law Commission: Commentaries to the Articles Concerning the Law of the Sea, UN Doc. A/3159 (1956), GAOR 11th Sess. Suppl. 9, 12–45

Cases: ICJ, *North Sea Continental Shelf Cases* (Federal Republic of Germany v. Netherlands/Denmark), Judgment of 20 February 1969, ICJ Reports (1969), 3; Sentencia del Tribunal Supremo, *Telefónica de España, S.A. v. Ministro de Medio Ambiente*, 1341/2004, available at: www.poderjudicial.es/search/doAction?action=contentpdf&database-match=TS&reference=97398&links=Telef%F3nica%20S.A.&optimize=20080710&publicinterface=true

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4. ‘The delineation of the course for the laying of such pipelines on the continental shelf is subject to the consent of the coastal State.’	23
5. ‘the right of the coastal State to establish conditions for cables and pipelines entering its territory or territorial sea, or its jurisdiction over cables and pipelines constructed or used in connection with the exploration of its continental shelf or exploitation of its resources or the operations of artificial islands, installations and structures under its jurisdiction.’	24
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I. Purpose and Function

The significance of submarine cables has been recognised since the first submarine telegraph cable had been laid in 1850. Nowadays, the global network of submarine fibre optic cables connects States, continents and islands, and transmits vast amounts of communication and information data, foremost enabling our daily internet connection.¹ Irrespective

¹ For a general overview on the development and significance of submarine cables, see *Douglas Burnett/Tara Davenport/Robert Beckmann*, Introduction: Why Submarine Cables?, in: Douglas R. Burnett/Robert C. Beckmann/Tara M. Davenport (eds.), *Submarine Cables: The Handbook of Law and Policy* (2014), 1, 1–15. For the recent acknowledgment of the global significance of submarine cables, see GA Res. 70/235 of 23 December 2015.

of the evident importance of the internet for our everyday life, there has been little public awareness of the physical vulnerability of this global infrastructure underlying our crucial communication and internet system. Solely events in the media, such as the WikiLeaks scandal in 2010, increase public attention, at least for the moment of their appearance.²

- 2 The coastal State enjoys sovereign rights over its continental shelf as far as exploration or exploitation of natural resources are concerned (Art. 77); other than that, the provisions regulating the high seas remain applicable. The general freedom of States to lay submarine cables and pipelines on the high seas is set out in Art. 87 (1)(c). It explicitly stipulates that the freedom is subject to Part VI; in this respect, Art. 79 is particularly relevant. Art. 79 *expressis verbis* reaffirms the right of all States to lay submarine cables and pipelines on the continental shelf of any State. At the same time, it provides specific regulations for the continental shelf in order to accommodate the interests of coastal States and States laying submarine cables or pipelines.³ Along with Art. 112, which addresses the right of States to lay submarine cables and pipelines on the bed of the high seas beyond the continental shelf, the provisions ensure the freedom contained in Art. 87 (1)(c).
- 3 Art. 79 constitutes one of several provisions in UNCLOS which addresses submarine cables and pipelines together. Although submarine cables and pipelines are distinct in design and function, the International Law Commission (ILC) extended its regulations regarding submarine cables to submarine pipelines.⁴ Likewise, UNCLOS largely regulates submarine cables and pipelines together and in the same provision.

II. Historical Background

- 4 In the 19th century, significant technological developments in the field of telecommunications led to an increasing international awareness of the necessity to protect cables as a critical means for transmitting communication data on the international plane, especially against attack or damage.⁵ Against this background, an early international agreement to protect submarine communication cables was reached with the adoption of the 1884 Convention for the Protection of Submarine Telegraph Cables.⁶ Its main objective was to require States to adopt national laws for the protection of submarine communication cables, and its provisions are considered to at least partially reflect customary international law.⁷
- 5 The use and importance of submarine cables significantly increased in the beginning of the 20th century. By the time the ILC began the work on its Draft Articles on the Law of the Sea,

² Cf. Yoshinobu Takei, Law and Policy for International Submarine Cables: An Asia-Pacific Perspective, *Asian Journal of International Law* 2 (2012), 205, 205.

³ See Rainer Lagoni, Pipelines, MPEPIL, para. 14, available at: www.mpepil.com; Tara Davenport, Submarine Cables and Law of the Sea: Problems in Law and Practice, *ODIL* 43 (2012), 201, 208.

⁴ According to Lagoni (note 3), para. 9, the ILC regulated submarine cables and pipelines together since it 'considered both as means of communication'.

⁵ Stewart Ash, The Development of Submarine Cables, in: Burnett/Beckmann/Davenport (note 1), 19, 19–28; Douglas R. Burnett/Robert C. Beckmann/Tara M. Davenport, Overview of the International Legal Regime Governing Submarine Cables, in: Burnett/Beckmann/Davenport (note 1), 63, 64; Wolff Heintschel von Heinegg, Protecting Critical Submarine Cyber Infrastructure: Legal Status and Protection of Submarine Communication Cables under International Law, in: Katharina Ziolkowski (ed.), *Peacetime Regime for State Activities in Cyberspace. International Law, International Relations and Diplomacy* (2013), 291, 296.

⁶ Convention for the Protection of Submarine Telegraph Cables, adopted 14 March 1884, TS 380 (entered into force 1 May 1888). For further information on this convention, see Burnett/Beckmann/Davenport (note 5), 65–69.

⁷ See Heintschel von Heinegg (note 5), 297, who considers all provisions to reflect customary international law, whereas Robert C. Beckmann, Submarine Cables: A Critically Important but Neglected Area of the Law of the Sea (2010), 3, available at: <http://cil.nus.edu.sg/wp/wp-content/uploads/2010/01/Beckman-PDF-ISIL-Submarine-Cables-rev-8-Jan-10.pdf>, assumes that only those provisions that were later adopted in subsequent treaties could reflect customary international law. Irrespective of the question of its customary nature, the convention remains in force for its thirty-seven parties.

submarine cables did not merely transmit telegraphic communication data, but moreover facilitated global telephonic communication.⁸ Additionally, the ILC explicitly referred to further types of submarine cables in its work, such as submarine high voltage power cables.⁹ The protection of submarine cables thus remained crucial and was discussed considerably by the ILC during its sessions.¹⁰ In this context, it was debated whether the provisions of the 1884 Convention for the Protection of Submarine Telegraph Cables should be incorporated; in the end, only Arts. II and IV, dealing with the breakage or injury of cables, as well as Art. V, concerned with the protection of cableships, were included.¹¹

The utilisation of submarine pipelines emerged later than submarine cables. The first submarine pipelines were laid off the coast of Haifa, Tripolis and in the Persian Gulf in 1934.¹² Unlike submarine telegraph cables, submarine pipelines were not regulated internationally prior to UNCLOS I.

In the ILC Draft Articles on the Law of the Sea of 1956, Art. 70 was concerned with the laying and maintenance of submarine cables on the continental shelf. Unlike Art. 61 of the draft articles, which addressed submarine cables and pipelines on the bed of the high seas, Art. 70 merely referred to submarine cables and disregarded submarine pipelines.¹³ However, beyond the limitation of Art. 70 to submarine cables, both provisions showed great similarities. As a consequence, the Second and Fourth Committees at UNCLOS I discussed in how far Arts. 61 (2) and 70 were necessary or whether either one could suffice by itself.¹⁴ In this respect, several States pointed out that it was unclear whether Art. 61 (2) was going to be adopted, and therefore caution should be exercised to declare Art. 70 as redundant at this early stage.¹⁵

Ultimately, separate provisions were included in the 1958 Convention on the Continental Shelf (CSC) and the 1958 Convention on the High Seas (CHS). The wording of Art. 4 CSC was expanded to include submarine pipelines; the remaining part corresponds to Art. 70 of the 1956 ILC draft articles. It reads:

‘Subject to its right to take reasonable measures for the exploration of the continental shelf and the exploitation of its natural resources, the coastal State may not impede the laying or maintenance of submarine cables or pipelines on the continental shelf.’

Additionally, Art. 26 CHS, which addresses submarine cables and pipelines on the bed of the high seas, was applicable to submarine cables and pipelines on the continental shelf.¹⁶ It reads:

⁸ *Burnett/Beckmann/Davenport* (note 5), 69.

⁹ ILC, Report of the International Law Commission: Commentaries to the Articles Concerning the Law of the Sea, UN Doc. A/3159 (1956), GAOR 11th Sess. Suppl. 9, 12, 38–39 (Commentary to Art. 61). Note that the explicit remark was made with regard to Art. 61 of the draft articles and thus in the context of submarine cables on the bed of the high seas. Since the continental shelf was at that time considered part of the bed of the high seas, the necessity of a concurrent interpretation of the notion ‘submarine cables’ that are laid on the continental shelf was evident.

¹⁰ ILC, Summary Records of the Third Session, ILC Yearbook (1951), vol. I, 363.

¹¹ The provisions were incorporated in Arts. 27–29 of the 1958 Convention on the High Seas. Since not all provisions had been incorporated, it has been argued that those provisions that were not included could not reflect customary international law. See *Beckmann* (note 7), 3.

¹² *Rainer Lagoni*, Festlandssockel und ausschließliche Wirtschaftszone, in: Wolfgang Graf Vitzthum (ed.), *Handbuch des Seerechts* (2006), 161, 201–202.

¹³ ILC Law of the Sea Articles with Commentaries (note 9), 41 (Art. 70).

¹⁴ UNCLOS I, Summary Records of the 26th to 30th Meetings of the Fourth Committee, UN Doc. A/CONF.13/C.4/SR.26–30 (1958), OR VI, 73, 78 (27th Meeting, paras. 5–55). See also UNCLOS I, Summary Records of the 11th to 15th Meetings of the Second Committee, UN Doc. A/CONF.13/C.2/SR.11–15 (1958), OR VI, 23, 30 (13th Meeting, paras. 10–26) UNCLOS I, Summary Records of the 31st to 37th Meetings of the Second Committee, UN Doc. A/CONF.13/C.2/SR.31–37 (1958), OR IV, 90, 94 (32nd Meeting, paras. 1–9).

¹⁵ Summary Records of the 26th to 30th Meetings of the Fourth Committee (note 14), 78 (27th Meeting, paras. 11, 13, 21, 23, 32, 38 and 46).

¹⁶ The CHS was applicable since the continental shelf was considered part of the bed of the high seas. Myron H. Nordquist/Sataya N. Nandan/Louis B. Sohn (eds.), *United Nations Convention on the Law of the Sea 1982: A Commentary*, vol. II (1993), 910.

‘1. All States shall be entitled to lay submarine cables and pipelines on the bed of the high seas.

2. Subject to its right to take reasonable measures for the exploration of the continental shelf and the exploitation of its natural resources, the coastal State may not impede the laying or maintenance of such cables and pipelines.

3. When laying such cables or pipelines the State in question shall pay due regard to cables or pipelines already in position on the seabed. In particular, possibilities of repairing existing cables or pipelines shall not be prejudiced.’

- 10 Art. 26 (2) CHS was taken verbatim from the 1956 ILC draft articles. With respect to this paragraph, the ILC remarked in its Commentary that ‘in order to avoid unjustified interference with the exploitation of the natural resources of the seabed and subsoil, it [the coastal State] may impose conditions concerning the route [of submarine cables and pipelines] to be followed.’¹⁷
- 11 The controversy as to whether the coastal State should have the right to impose conditions with regard to the route of submarine cables and pipelines, which had already emerged during the discussions at UNCLOS I, remained relevant in the course of the subsequent negotiations.¹⁸ At the 1973 session of the Sea-Bed Committee, China proposed that the route for laying submarine cables and pipelines on the continental shelf should be subject to the consent of the coastal State, constituting the first proposal of a State to incorporate the suggestion of the ILC to include a coastal State’s right to impose conditions in this regard.¹⁹
- 12 At UNCLOS III in 1974, Provision 72 Formula C in the Main Trends Working Paper additionally included that a coastal State may impede the laying or repair of submarine cables and pipelines if the impediment constitutes a reasonable measure for the prevention of pollution.²⁰
- 13 In 1975 at the Third Session of the Conference, Art. 6 of the final revision of the texts on the continental shelf produced by the Evensen Group limited the wording in regard to the imposition of conditions as to the route as well as reasonable measures for the prevention of pollution to activities concerning submarine pipelines.²¹
- 14 The provision regulating submarine cables and pipelines on the continental shelf for the most part reached its final version in the Informal Composite Negotiating Text in 1977, renumbered as Art. 79.²² Remarkably, the provisions regulating submarine cables (and pipelines) were incorporated into UNCLOS during a time where the significance of submarine communication cables diminished considerably as most communication data was transmitted by satellite connection.²³ It was due to the contact between the cable industry and their respective delegations to the negotiations of UNCLOS that the representatives were aware of the considerable technological developments in the field of fibre optic cables and its potential impact on the future of the global communication technology, which encouraged maintaining certain provisions on submarine cables.²⁴

¹⁷ ILC Law of the Sea Articles with Commentaries (note 9), 41 (Art. 70).

¹⁸ For the discussions during UNCLOS I, see Summary Records of the 26th to 30th Meetings of the Fourth Committee (note 14), 78 (27th Meeting, paras. 16, 33, 35, 37, 43 and 47).

¹⁹ Sea-Bed Committee, Working Paper Submitted by the Chinese Delegation: Sea Area within the Limits of National Jurisdiction, UN Doc. A/AC.138/SC.II/L.34 (1973), GAOR 26th Sess. Suppl. 21 (A/9021-III), 71, 74.

²⁰ UNCLOS III, Statement of Activities of the Conference During its First and Second Sessions, UN Doc. A/CONF.62/L.8/REV.1 (1974), OR III, 93, 107, 118 (Annex II, Appendix I [A/CONF.62/C.2/WP.1], Provision 72).

²¹ UNCLOS III, Art. 6 (Informal Group of Juridical Experts) (1975, mimeo.), reproduced in Renate Platzöder (ed.), Third United Nations Conference on the Law of the Sea: Documents, vol. XI (1987), 502.

²² UNCLOS III, Informal Composite Negotiating Text, UN Doc. A/CONF.62/WP.10 (1977), OR VIII, 1, 17.

²³ On the historical background of the development of the communication infrastructure after 1986, see *Ash* (note 5), 33–39.

²⁴ *Burnett/Beckmann/Davenport* (note 5), 74–75.

III. Elements

1. ‘All States are entitled to lay submarine cables and pipelines on the continental shelf, in accordance with the provisions of this article.’

Art. 79 (1) entitles ‘all States’ to lay submarine cables and pipelines on the continental shelf. Congruent with the interpretation of Art. 112 (1), the expression ‘all States’ has to be understood broadly in a way that it can also include the nationals of States who are in fact laying submarine cables and pipelines on the continental shelf.²⁵

UNCLOS provides neither a definition of submarine cables nor submarine pipelines. The generic notion ‘submarine cables’ is to be understood broadly in order to be flexible enough to adapt to future technological developments. The Oxford Dictionary describes a ‘cable’ as ‘an insulated wire or wires having a protective casing and used for transmitting electricity or communication signals’.²⁶ Although no explicit definition has been provided in the Convention, the historical documents confirm that the notion ‘submarine cables’ as used in UNCLOS includes different types and designs of underwater wires, serving different purposes and using different technologies.²⁷ In its work, the ILC mentioned specific types of potential submarine cables in the context of Art. 61 of the Draft Articles on the Law of the Sea, namely ‘telegraph and telephone cables, but also [...] high-voltage power cables.’²⁸ Moreover, it is generally assumed that submarine cables in terms of UNCLOS can serve purposes beyond transmitting telecommunication data or electricity, such as marine scientific research or military cables.²⁹ In addition, submarine cables can use different technologies: The first communication cables still transmitted electrical signals on a copper wire, whereas nowadays communication cables send light impulses through fibre optic cables.³⁰ It has not been doubted that both types of cables are encompassed by the term ‘submarine cables’.

In comparison to submarine cables, submarine pipelines are considered to pose a greater threat to the marine environment.³¹ A submarine pipeline has been defined as ‘a line of pipes for conveying water, gas, oil, etc. under water.’³² Essential pump installations constitute an integral part of the pipeline, with the consequence that the provisions regulating submarine pipelines govern the pump installations and the regulations governing installations and structures do not apply.³³

In general, submarine cables and pipelines are not considered installations and structures in terms of UNCLOS, and the Convention provides different pertinent regulations for them.³⁴ On

²⁵ Myron H. Nordquist/Sataya N. Nandan/Louis B. Sohn (eds.), *United Nations Convention on the Law of the Sea 1982: A Commentary*, vol. III (1995), 264. For the elaboration on the notion ‘all States’ in Art. 112 (1), see *Guilfoyle/Miles* on Art. 112 MN 7.

²⁶ Angus Stevenson (ed.), *Oxford Dictionary of English* (3rd edn. 2010), 243.

²⁷ *Heintschel von Heinegg* (note 5), 296–297.

²⁸ ILC Law of the Sea Articles with Commentaries (note 9), 38–39 (Art. 71). Note that the Convention text generally uses the generic term ‘submarine cables’ except for Art. 113.

²⁹ *Lagoni* (note 12), 203. For further information, see also *Lionel Carter/Alfred H. A. Soons*, *Marine Scientific Research Cables*, in: *Burnett/Beckmann/Davenport* (note 1), 323, 323–337; *J. Ashley Roach*, *Military Cables*, in: *Burnett/Beckmann/Davenport* (note 1), 339, 339–349.

³⁰ On the technological development of telegraphic and telecommunication cables, see for example *Ash* (note 5), 19–39.

³¹ *Beckmann* (note 7), 6; *Lagoni* (note 3), para. 9.

³² George K. Walker (ed.), *Definitions for the Law of the Sea. Terms Not Defined by the 1982 Convention* (2012), 313. See also *Lagoni* (note 3), para. 9, who describes that ‘submarine pipelines are distinct from submarine cables because they are used for the transport of liquids or gas, whereas cables serve the transmission of energy and telecommunications’.

³³ *Lagoni* (note 12), 205.

³⁴ See *Lagoni* (note 3), para. 10; *Takei* (note 2), 209. For a more differentiated view on ‘[t]he applicability of the concept of artificial installations and structures to submarine cables’, see *Alexander Lott*, *Marine Environmental Protection and Transboundary Pipeline Projects: A Case Study of the Nord Stream Pipeline*, *Merkourios – International and European Environmental Law* 27 (2011), 55, 57.

the continental shelf, the coastal State has the exclusive right to construct and to authorise installations and structures, whereas all States enjoy the right to lay submarine cables and pipelines.³⁵

- 19 Art. 79 (1) affirms the right of all States to lay submarine cables and pipelines on the continental shelf.³⁶ Although the wording in Art. 79 (1) merely provides that States are entitled to lay submarine cables and pipelines, it can be assumed that the provision also includes the right to maintain and repair them.³⁷ This follows from a systematic interpretation of Art. 79 (1), as it is apparent that the remaining paragraphs in Art. 79 presume that the right to repair and maintain submarine cables and pipelines is necessarily included.³⁸ In this respect, the laying of submarine cables and pipelines necessarily refers to new cables and pipelines, whereas maintenance refers to either new or already existing cables and pipelines.³⁹

2. ‘reasonable measures’

- 20 Art. 79 (2) provides that the coastal State may take ‘reasonable measures’. It is not further explained what is considered reasonable or what criteria should be applied to determine the reasonableness.⁴⁰ The vagueness of the notion was addressed during the ILC negotiations.⁴¹ In this regard, it was noted that ‘[s]ince it was impossible to foresee all the situations that might arise with regard to article 70 [of the 1956 ILC draft articles], no more definite criterion than that of reasonableness could be established for the measures which

³⁵ Arts. 60 and 80 UNCLOS.

³⁶ Submarine cables are either laid on the seabed or buried in its subsoil. ‘The right to lay submarine cables’ covers both installation methods. See, however, *Takei* (note 2), 208, who proposes that ‘differences in purpose and installation method may lead to the need for different types of regulatory measures.’

³⁷ On the extent of the right to conduct cable route surveys on the continental shelf, see *Beckmann* (note 7), 9–10. See also *Heintschel von Heinegg* (note 5), 302–304, who requests to include the right to replace existing submarine cables.

³⁸ See *Beckmann* (note 7), 6; *Lagoni*, Legal Aspects of Submarine High Voltage Direct Current (HVDC) Cables (1998), 18; *Umberto Leanza*, Marine Scientific Research and the Right to Lay Submarine Cables and Pipelines, in: Norman A. Martínez Gutiérrez, *Serving the Rule of Maritime Law. Essays in Honour of Professor David Joseph Attard* (2010), 129, 131. See also *Burnett/Beckmann/Davenport* (note 5), 79.

³⁹ Nordquist/Nandan/Sohn (note 16), 915.

⁴⁰ See *Lagoni* (note 12), 208, who points out that the scope of the right to take reasonable measures depends on the circumstances of each individual case. On the critical question whether the coastal State may apply domestic laws on conservation measures, such as for example marine protected areas, to submarine pipelines on its continental shelf, see: *Alexander Proelss*, Pipelines and Protected Sea Areas, in: Richard Caddell/Rhidian Thomas (eds.), *Shipping, Law and the Marine Environment in the 21 Century: Emerging Challenges for the Law of the Sea – Legal Implications and Liabilities*, 283–292. For further elaborations on reasonable measures in terms of Art. 79 (2), see for example *Beckmann* (note 7), 6, who is of the opinion that ‘it would seem reasonable for a coastal State to impose restrictions on the laying of cables in its richest fishing grounds or coral reef areas in its EEZ and to put restrictions on the laying of cables in areas designated for off-shore exploration for oil and gas.’ Additionally he argues that it follows from a systematic interpretation of paragraph 3 that the reasonable measure must not include a consent requirement for the delineation of the route of submarine cables. See also note 55. Furthermore, see *Heintschel von Heinegg* (note 5), 306, who suggests that ‘a measure would be unreasonable, if it resulted in the impossibility of laying a submarine cable, or if the costs would increase disproportionately’ or in case of ‘a measure of a discriminatory character’. See also *Davenport* (note 3), 212–214, on a discussion whether the requirement of permits for laying or repairing submarine cables or surveying cable routes can be considered ‘reasonable measures’ in terms of Art. 79 (2), and whether environmental measures on the continental shelf, such as the designation of marine protected areas, can be imposed on submarine cable operations in accordance with Art. 79. On the question whether a systematic interpretation of paragraph 3 implies that a reasonable measure must not include a consent requirement for the delineation of the route of submarine cables, see note 55.

⁴¹ UNCLOS I, Summary Records of the 1st to 5th Meetings of the Fourth Committee, UN Doc. A/AC.13/C.4/SR.1–5 (1958), OR IV, 1, 2 (4th Meeting, para. 8); UNCLOS I, Summary Records of the 6th to 10th Meetings of the Fourth Committee, UN Doc. A/AC.13/C.4/SR.6–10 (1958), OR IV, 7, 9 (7th Meeting, para. 4); *ibid.*, 19 (10th Meeting, para. 33); Summary Records of the 26th to 30th Meetings of the Fourth Committee (note 14), 27th Meeting, para. 28.

coastal States might take.’⁴² It was also pointed out that ‘similarly vague expressions, equally open to interpretation, were used in private law.’⁴³ Beyond the reasonable measures in terms of paragraph 2, the coastal State may not impede the laying, repair or maintenance of submarine cables and pipelines. The prohibition to impede their laying and maintenance is considered to be part of customary international law, as was confirmed by the International Court of Justice (ICJ) in the *North Sea Continental Shelf Cases* with respect to the predecessor provision Art. 4 (2) CSC.⁴⁴

3. ‘reduction and control of pollution from pipelines’

Art. 79 (2) is one of two paragraphs within Art. 79 where the Convention text differentiates between submarine cables and pipelines.⁴⁵ According to Art. 79 (2), the coastal State may not impede the laying and maintenance of submarine cables and pipelines ‘subject to its right to take reasonable measures for the exploration of the continental shelf [and] the exploitation of its natural resources’. Only with respect to submarine pipelines the paragraph further stipulates that the coastal State may subject pipeline operations to ‘reasonable measures for the [...] reduction and control of pollution from pipelines’.⁴⁶ This provision reflects the assumption that submarine cables, unlike submarine pipelines, do not pose a considerable threat to the marine environment.⁴⁷ The primary risk in connection with submarine pipelines is posed by their ecologically sensitive contents, such as oil or gas, which in case of damage can lead to a severe disturbance of the marine ecosystem.⁴⁸ In this context, Art. 208 provides further specific regulations addressing pollution from seabed activities subject to national jurisdiction.⁴⁹ However, it has been suggested that:

‘[i]n congested areas, the repair of submarine cables, in particular, might lead to damage to existing submarine pipelines and consequent pollution from these pipelines, if conducted without due care. In view of such possibilities, coastal states should be entitled to take reasonable measures to prevent, reduce, and control pollution from pipelines in relation not only to the laying and repairs of submarine pipelines, but also to submarine cables under Article 79(2).’⁵⁰

⁴² Miss Whiteman (Representative of the USA): UNCLOS I, Summary Records of the 26th to 30th Meetings of the Fourth Committee, UN Doc. A/CONF.13/C.4/SR.26-30 (1958), OR VI, 73, 78 (27th Meeting, para. 28).

⁴³ Mr. Alvarez Aybar (Representative of the Dominican Republic): Summary Records of the 6th to 10th Meetings of the Fourth Committee (note 42), 9 (7th Meeting, para. 4).

⁴⁴ ICJ, *North Sea Continental Shelf Cases* (Federal Republic of Germany v. Netherlands/Denmark), Judgment of 20 February 1969, ICJ Reports (1969), 3, 39 (para. 65).

⁴⁵ See also Art. 79 (3).

⁴⁶ Certainly ships laying cables could be concerned since measures preventing pollution can address all types of vessels. *Davenport* (note 3), 213.

⁴⁷ *Beckmann* (note 7), 6; *Burnett/Beckmann/Davenport* (note 5), 81; *Lagoni* (note 3), para. 9. For a closer analysis of the environmental impact of submarine cables, see the Report of the United Nations Environment Program (UNEP) and the International Cable Protection Committee (ICPC), which analyses the effects of submarine cables on the marine environment. *Lionel Carter et al.*, Submarine Cables and the Oceans: Connecting the World, Report of the ICPC/UNEP/UNEP-WCMC (2009), available at: www.iscpc.org/documents/?id=132. Note, however, that a distinction between submarine communication and submarine power cables might be necessary. Cf. *Alan Simcock*, Chapter 19: Submarine Cables and Pipelines, in: *Lorna Inniss et al.*, The First Global Integrated Marine Assessment: World Ocean Assessment I (2016), available at: http://www.un.org/Depts/los/global_reporting/WOA_RPROC/WOACompilation.pdf.

⁴⁸ See also *Proelss* (note 40), 276, who emphasises that ‘the risk of losing benthic habitats as a result of large-scale shifting of sediments while pipelines are being laid must not be underestimated’.

⁴⁹ *Nordquist/Nandan/Sohn* (note 16), 915.

⁵⁰ *Takei* (note 2), 211.

- 22 Unlike the removal of abandoned or disused offshore installations or structures,⁵¹ there is no general rule on disused submarine cables or pipelines.⁵² The abandonment of unused submarine cables or pipelines is not considered dumping.⁵³

4. ‘The delineation of the course for the laying of such pipelines on the continental shelf is subject to the consent of the coastal State.’

- 23 The route selection for the laying of submarine cables and pipelines is an essential part of the comprehensive laying operations.⁵⁴ According to Art. 79 (3), the delineation of the submarine pipeline route is subject to the consent of the coastal State. Alongside paragraph 2, Art. 79 (3) provides specific regulation only concerning submarine pipelines.⁵⁵ *Argumentum e contrario*, the delineation of the course for laying submarine cables must not be subject to the consent of the coastal State. As can be seen from the *travaux préparatoires*, the delineation of the course for the laying of submarine cables was explicitly proposed and discussed during the negotiations but ultimately deliberately omitted in the Convention text.⁵⁶ Although the coastal State has a wide discretion when it comes to the route of the submarine pipeline, it must not result in the right of the laying State being completely without effect.⁵⁷

5. ‘the right of the coastal State to establish conditions for cables and pipelines entering its territory or territorial sea, or its jurisdiction over cables and pipelines constructed or used in connection with the exploration of its continental shelf or exploitation of its resources or the operations of artificial islands, installations and structures under its jurisdiction.’

- 24 Art. 79 (4) provides additional rights of coastal States to regulate submarine cables and pipelines on their continental shelves and thus makes the freedom to lay submarine cables and pipelines subject to further restrictions. The paragraph addresses two distinct matters:⁵⁸ first, ‘the right of the coastal State to establish conditions for cables and pipelines entering its territory or territorial sea’; and second, the coastal State’s ‘jurisdiction over

⁵¹ Art. 60 (3).

⁵² J. M. Anderson, Decommissioning Pipelines and Subsea Equipment: Legislative Issues and Decommissioning Processes, *The International Journal of the Society for Underwater Technology* 25(2) (2002), 105, 107. There are, however, other international treaties or national laws regulating especially the leaving of unused submarine pipelines, see for example Annex III Art. 5 (1) OSPAR. On the question whether marine protected areas such as OSPAR can regulate the laying and operation of submarine cables beyond the territorial sea, see Lionel Carter/Douglas Burnett/Tara Davenport, The Relationship between Submarine Cables and the Environment, in: Burnett/Beckmann/Davenport (note 1), 179, 207–212.

⁵³ Art. 1 (4.2.2) 1996 Protocol to the 1972 Convention on the Prevention of Marine Pollution by Dumping of Wastes and Other Matter, adopted 7 November 1996, 2006 ATS 11 (entered into force 24 March 2006). See also Douglas Burnett, Out-of-Service Submarine Cables, in: Burnett/Beckmann/Davenport (note 1), 213, 219–220.

⁵⁴ With respect to submarine cables, see Graham Evans/Monique Page, The Planning and Surveying of Submarine Cable Routes, in: Burnett/Beckmann/Davenport (note 1), 93, 94–95. The same general considerations apply to submarine pipelines.

⁵⁵ See Takei (note 2), 212–213, who is of the opinion that, *inter alia*, Art. 79 (4) can entitle the coastal State to establish conditions for the route of submarine cables on the continental shelf that enter its territorial sea. See also Lagoni (note 40), 21, who argues that the coastal State may at least indirectly influence the landing cable route by determining the landing point according to Art. 79 (4). However, see Beckmann (note 7), 7, who argues that it follows from paragraph 3 that the coastal State must not include a consent requirement for the delineation of the route of submarine cables; accordingly this includes that a reasonable measure in terms of paragraph 2 may not regulate the course of submarine pipelines.

⁵⁶ See note 18. Nonetheless, as highlighted by Davenport (note 3), 212, as well as Takei (note 2), 213–214, several coastal States have adopted national laws and regulations requiring its consent for the route of submarine cables.

⁵⁷ Lagoni (note 3), para. 14.

⁵⁸ Nordquist/Nandan/Sohn (note 16), 915.

cables and pipelines constructed or used in connection with the exploration of its continental shelf or exploitation of its resources or the operations of artificial islands, installations and structures under its jurisdiction.’ The first part addresses the coastal State’s sovereignty over its territorial sea and territory, whereas the second concerns the coastal State’s sovereign rights over the natural resources located on its continental shelf.⁵⁹

The first part affirms the coastal State’s right to establish conditions beyond resource-related matters for submarine cables and pipelines entering its territory or territorial sea in accordance with the principle that the coastal State enjoys sovereignty in these areas.⁶⁰ The additional conditions may only apply to the cables and pipelines within the coastal State’s territory or territorial sea. It has been pointed out that the wording of Art. 79 (4) could be interpreted in such a way that the respective additional conditions that are being established in respect of cables and pipelines in the territorial sea or territory of the coastal State could extend to apply to the part of the submarine cable or pipeline laying on the continental shelf.⁶¹ However, as has been emphasised

‘such an interpretation would defeat the purpose of allowing the coastal State to only subject the laying and repair of submarine cables on the continental shelf to “reasonable measures for the exploration of the continental shelf and the exploitation of its natural resources” [...] and would allow the coastal State to delineate the cable route, which is expressly not allowed’.⁶²

Some coastal States have adopted national legislation contrary to Art. 79 (4).⁶³ In this context, the Spanish Supreme Court has decided that the Spanish Ministry of the Environment was not entitled to impose a fee on submarine telecommunication cables beyond Spain’s territorial sea.⁶⁴

The second part of Art. 79 (4) provides that coastal States still enjoy ‘jurisdiction over cables and pipelines constructed or used in connection with the exploration of its continental shelf or exploitation of its resources or the operations of artificial islands, installations and structures under its jurisdiction.’ Submarine cables and pipelines directly connecting different States do not generally fall under Art. 79 (4). However, these cables and pipelines can fall into its scope if they also connect, for example, platforms or installations such as offshore windfarms that are under the jurisdiction of the coastal State.⁶⁵

6. ‘due regard to cables or pipelines already in position.’

Art. 79 (5) protects existing submarine cables and pipelines. It provides that States ‘shall have due regard to cables and pipelines already in position.’⁶⁶ Art. 79 (5) applies to the high seas.⁶⁷ In this respect, it has been noted that ‘[t]his obligation is similar to that one relating to the high seas as provided for in Art. 112 (2) UNCLOS [...]. But on the continental shelf the protection of such cables and pipelines *vis-à-vis* the laying of new ones goes beyond this general obligation.’⁶⁸ Additionally, when exercising the right to lay, repair or maintain

⁵⁹ *Ibid.*

⁶⁰ *Lagoni* (note 40), 18, refers to those cables as ‘landing cables’ in contrast to ‘transit cables’. See also *Proelss* (note 40), 287–291.

⁶¹ *Beckmann* (note 7), 7.

⁶² *Burnett/Beckmann/Davenport* (note 5), 83. Regarding the debate on whether the coastal State can influence the route of submarine cables, see note 55.

⁶³ *Davenport* (note 3), 211–212.

⁶⁴ Sentencia del Tribunal Supremo, *Telefónica de España, S.A. v. Ministro de Medio Ambiente*, 1341/2004, 3, available at: www.poderjudicial.es/search/doAction?action=contentpdf&databasematch=TS&reference=97398&-links=Telef%F3nica%20S.A.&optimize=20080710&publicinterface=true (in Spanish).

⁶⁵ *Burnett/Beckmann/Davenport* (note 5), 83.

⁶⁶ See *Lagoni* (note 39), 22, who writes in regard to Art. 79 (5) that due regard shall be exercised by ‘[t]he owner of a submarine cable that is being laid on the continental shelf’. (emphasis added).

⁶⁷ Art. 112 (2). The remaining paragraphs of Art. 79 do not apply. *Takei* (note 2), 215.

⁶⁸ See *Lagoni* (note 40), 22.

submarine cables and pipelines on the continental shelf, the State exercising that right also has to pay due regard to further interests of other States and their internationally lawful uses of the sea in this area.⁶⁹

Article 80
Artificial islands, installations and structures on the continental shelf

Article 60 applies *mutatis mutandis* to artificial islands, installations and structures on the continental shelf

Bibliography: Robert Beckman, Global Legal Regime on the Decommissioning of Offshore Installations and Structures, in: Myron H. Nordquist/John Norton Moore/Aldo Chircop/Ronán Long (eds.) The Regulation of Continental Shelf Development: Rethinking International Standards (2013), 259–281; Rene Jean Dupuy/Daniel Vignes (eds.), A Handbook on the New Law of the Sea, vol. 1 (1991); Peter Ehlers, Baltic Sea, MPEPIL, available at <http://www.mpepil.com>; Alex G. Oude Elferink, Artificial Islands, Installations and Structures, MPEPIL, available at: <http://www.mpepil.com>; Andreas Kannen/Hartwig Kremer/Kira Gee/Marcus Lange, Renewable Energy and Marine Spatial Planning: Scientific and Legal Implications, in Myron H. Nordquist/John Norton Moore/Aldo Chircop/Ronán Long (eds.) The Regulation of Continental Shelf Development: Rethinking International Standards (2013), 153–178; Myron H. Nordquist/Satya N. Nandan/Shabtai Rosenne (eds.), United Nations Convention on the Law of the Sea 1982: A Commentary, vol. II (1993); Nikos Papadakis, The International Legal Regime of Artificial Islands (1977); Tullio Treves, Military Installations on the Seabed, AJIL 74 (1980), 808–857

Documents: Baltic Master, Offshore Windfarm Development and the Issue of Maritime Safety (2007), available at: http://www.balticmaster.org/media/files/general_files_713.pdf; European Wind Energy Association, Enabling Offshore Wind Developments (2012), 114–115, available at: <http://www2.ewea.org/documents/offshore%20-%20EWEA%20version%20.pdf>; ILC, Report of the International Law Commission: Articles Concerning the Law of the Sea, UN Doc. A/3159 (1956), GAOR 11th Sess. Suppl. 9, 4–12; ILC, Report of the International Law Commission: Commentaries to the Articles Concerning the Law of the Sea, UN Doc. A/3159 (1956), GAOR 11th Sess. Suppl. 9, 12–45; IMO, Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and in the Exclusive Economic Zone, IMO Res. A.672(16) of 19 October 1989

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I. Purpose and Function

- 1 Through its application of Art. 60, Art. 80 sets out the exclusive right of the coastal State to construct, authorise and regulate the construction, operation and use of artificial islands, installations and structures (Art. 60 (1)) on the continental shelf. In relation to installations and structures, this right is exclusive to coastal States for the purposes of exploration and exploitation, conservation, and management of natural resources, whether living or non-living (Art. 56 (1)(a)), and for other economic purposes (Art. 60 (1)(b)). In regards to artificial islands (Art. 60 (1)(a)), and installations and structures constructed by other States which may interfere with the exercise of the rights of the coastal State (Art. 60 (1) (c)), the exclusive right of the coastal State is not limited to such purposes.

⁶⁹ Art. 78 (2). With respect to submarine pipelines, see *Lagoni* (note 3), para. 15. The same considerations apply to submarine cables. Note that the laying, repairing or maintenance of submarine cables and pipelines must not interfere with the rights of other States on the continental shelf or in the superjacent waters (EEZ).

Art. 60 grants coastal States these exclusive rights in relation to the exclusive economic zone (EEZ), which may be claimed up to a 200 NM limit from the baselines from which the breadth of the territorial sea is drawn (→ Art. 57; Arts. 5-7). Thus, Art. 80 applies *de facto* only in situations where the coastal State has not claimed an EEZ, or where the continental shelf of the coastal State extends beyond the claimed EEZ.¹ Where the coastal State has not claimed an EEZ or the continental Shelf extends beyond the EEZ, the superjacent waters to the continental shelf are high seas (→ Art. 86). On the high seas, Art. 87 (1)(d) lays out that all States have the freedom to construct artificial islands and other installations permitted in international law subject to the provisions of Part VI of the Convention. The invocation of Part VI on the continental shelf ensures that the exclusive right of coastal States contained in Art. 80 continues to apply in such areas.

Art. 60 furthermore lays out a regime for artificial islands, installations and structures in the EEZ which, through Art. 80, also applies to such constructions on the continental shelf beyond the EEZ, or where there is no EEZ. This regime includes jurisdictional and navigational issues, alongside the obligation to remove any installations which are abandoned and disused.

The exclusive right of coastal States in regard to artificial islands, installations and structures on the continental shelf, as laid out in Arts. 60 and 80, serves to strengthen the right contained in Art. 77 (1) to explore and exploit the natural resources of the continental shelf² through its facilitation.

II. Historical Background

The content of Art. 80, by way of application of Art. 60 to the continental shelf, finds its genesis in Art. 5 of the 1958 Geneva Convention on the Continental Shelf (CSC). The CSC was itself negotiated on the basis of the 1956 International Law Commission (ILC) Draft Articles concerning the Law of the Sea.³ In the ILC's commentaries to the draft articles, following arguments put forward by governments, it was recognised that 'the coastal State may exercise control and jurisdiction over the continental shelf, with the proviso that such control and jurisdiction be exercised solely for the purposes of exploiting its resources.'⁴ On this basis, Art. 71 (2) of the ILC Articles read, in its operative part, 'the coastal State is entitled to construct and maintain on the continental shelf installations necessary for the exploration and exploitation of its resources'⁵. Upon incorporation into the CSC, the formulation was broadened, stating that 'the coastal State is entitled to construct and maintain or operate on the continental shelf installations and other devices necessary for its exploration and exploitation of its natural resources'⁶. Both provisions also contain rules in relation to navigation, regulation and jurisdiction for such installations.⁷ Art. 5 CSC then formed the basis for Art. 60 UNCLOS.⁸

At the Sea-Bed Committee, following a Belgian proposal, the question of artificial islands was included on the list of subjects to be considered by the future conference on the law of the sea.⁹ The Belgian proposal further highlighted the two major problems regarding artificial

¹ Art. 60 is, however, broader in scope, see *infra*, MN 15.

² See further *Maggio* on Art. 77 MN 18-20.

³ ILC, Report of the International Law Commission: Articles Concerning the Law of the Sea, UN Doc. A/3159 (1956), GAOR 11th Sess. Suppl. 9, 4-12.

⁴ ILC, Report of the International Law Commission: Commentaries to the Articles Concerning the Law of the Sea, UN Doc. A/3159 (1956), GAOR 11th Sess. Suppl. 9, 12, 40.

⁵ ILC Law of the Sea Articles (note 3), 9.

⁶ Art. 5 (2) CSC.

⁷ See: Art. 5 CSC; ILC Law of the Sea Articles (note 3), 9 (Art. 71); generally *Proelss* on Art. 60.

⁸ Myron H. Nordquist/Satya N. Nandan/Shabtai Rosenne (eds.), United Nations Convention on the Law of the Sea 1982: A Commentary, vol. II (1993), 920.

⁹ Sea-Bed Committee, Artificial Islands and Installations: Working Paper Submitted by Belgium, UN Doc. A/AC.138/91 (1973).

islands: jurisdiction over islands erected beyond the territorial sea, and how potential difficulties should be resolved in relation to navigation, fishing etc. which may arise through the construction of artificial islands.¹⁰

- 7 During the negotiations of the Sea-Bed Committee and at UNCLOS III, some delegations favoured a formulation that recognised the ‘exclusive right’ of coastal States in relation to this issue, rather than using the language of entitlement.¹¹ By the time the Second Committee produced the Main Trends Working Paper,¹² the two alternate formations had developed:

‘Formula A

The coastal State is entitled to construct, maintain or operate on or over the continental shelf installations and other devices necessary for the exercise of its rights over the same, to establish safety zones around such devices and installations, and to take in those zones measures necessary for their protection. Ships of all nationalities shall respect these safety zones, which may extend up to ... around the installations or devices.

Formula B

The coastal State shall have the exclusive right to authorize and regulate on the continental shelf the construction, operation and use of artificial islands and installations for the purpose of exploration or exploitation of natural resources or for other economic purposes, and of any installations which may interfere with the exercise of the rights of the coastal State.[...].¹³

- 8 However, at the Third Session of the Conference the development of the regime of the EEZ led to a change in the way the continental shelf in the EEZ maritime zone and the continental shelf seaward of that zone were treated.¹⁴ The development of the regime of the EEZ at UNCLOS III will be dealt with separately in this commentary.¹⁵ It is important to note here, however, that during the negotiations an attempt was made to differentiate the rights granted in the articles that were to become Arts. 60 and 80, with a more limited right of coastal States being recognised on the continental shelf beyond the limit of the EEZ.¹⁶ This approach, following a series of informal negotiations,¹⁷ was not accepted nor included in the Informal Single Negotiating Text (ISNT).¹⁸ The ISNT text read: ‘The provisions of article 48 shall apply *mutatis mutandis* to artificial islands, installations and structures on the continental shelf.’¹⁹ Following this, only renumbering occurred before the provision was adopted with the Convention as a whole.
- 9 At various stages of the negotiations proposals were put forward in order to clarify the position of artificial islands, installations and structures on the continental shelf constructed by other States for military purposes.²⁰ A further proposal was made by the USSR that

¹⁰ *Ibid.*, 1–3.

¹¹ See: Sea-Bed Committee, Argentina: Draft Articles, UN Doc. A/AC.138/SC.II/L.37 (1973), 4, making the permission of the coastal State necessary; Sea-Bed Committee, United States of America: Draft Articles for a Chapter on the Rights and Duties of States in the Coastal Seabed Economic Area, UN Doc. A/AC.138/SC.II/L.35 (1973), 1, with Art. 1 (3) using the term ‘exclusive right’; UNCLOS III, Tentative Draft Articles for a Convention on the Law of the Sea (1974, mimeo.), reproduced in: Renate Platzöder (ed.), Third United Nations Conference on the Law of the Sea: Documents, vol. XI (1987), 393, 407–408, with two alternate formulations, one subjecting the emplacement and use of any installations by any other State to the prior authorisation by the coastal State (Art. 29, Alternative A), and the other referring to the ‘exclusive right’ of coastal States to authorise and regulate such installations (Art. 29, Alternative B).

¹² UNCLOS III, Statement of Activities of the Conference during its First and Second Sessions, UN Doc. A/CONF.62/L.8/REV.1 (1974), OR III, 93 (Annex II Appendix I, Working Paper of the Second Committee: Main Trends).

¹³ *Ibid.*, 118 (Provision 74).

¹⁴ Nordquist/Nandan/Rosenne (note 8), 923.

¹⁵ See *Proelss* on Art. 55; and more specifically in relation to artificial islands, installations and structures, *Proelss* on Art. 60.

¹⁶ UNCLOS III, The Continental Shelf (1975, mimeo.), reproduced in: Platzöder (note 11), 501, 503 (Art. 8).

¹⁷ Nordquist/Nandan/Rosenne (note 8), 924.

¹⁸ UNCLOS III, Informal Single Negotiating Text, UN Doc. A/CONF.62/WP.8/PART II (1975), OR. IV, 152.

¹⁹ *Ibid.*, 163 (Art. 66).

²⁰ Second Committee UNCLOS III, Algeria *et al.*: Revised Draft Article on the Continental Shelf, UN Doc. A/CONF.62/L.42/REV.1 (1974) OR. III, 220: ‘No State shall be entitled to construct, maintain, deploy or operate on

included a peaceful purposes obligation in relation to artificial islands, installations and structures on the continental shelf.²¹ None of these proposals were accepted. The status of military installations on the continental shelf is addressed below.²²

III. Elements

1. ‘Article 60 applies *mutatis mutandis*’

The application of Art. 60 *mutatis mutandis* to the continental shelf through Art. 80 is of 10 relevance, as outlined above, when either the coastal State has not claimed an EEZ, or the continental shelf margin extends further than the EEZ that has been claimed. Art. 80 applies the rights contained in Art. 60 to the entire continental shelf, but these are only of relevance where Art. 60 does not apply, i.e. where there is continental shelf but no EEZ.²³ *Mutatis mutandis* is a Latin term meaning ‘changing what has to be changed,’ or ‘with the necessary modifications’. The necessary modifications to Art. 60 can safely be said to include replacing ‘In the exclusive economic zone’ (Art. 60 (1)) for ‘on the continental shelf’, ‘in the zone’ (Art. 60 (1)(c)) for ‘on the continental shelf’, but also include more substantial alternations.²⁴

Art. 60, and therefore Art. 80 in its application on the continental shelf, lays out: the 11 exclusive right of coastal States to construct authorise and regulate the construction, operation and use of artificial islands (Art. 60 (1)(a)), installations and structures on the continental shelf for the purposes of exploring and exploiting its natural resources (Art. 60 (1)(b)), and installations and structures which may interfere with the exercise of rights of the coastal State on the continental shelf (Art. 60 (1)(c)). Furthermore, the coastal State shall have exclusive jurisdiction over such constructions, with special mention being made of jurisdiction in regards to customs, fiscal, health, safety and immigration laws and regulations (Art. 60 (2)). In order to address the safety of navigation around such constructions, the coastal State is under obligation to give due notice of the construction of such artificial islands, installations and structures, and give warning where they will be maintained permanently (Art. 60 (2)). Any disused or abandoned structures must also be removed (Art. 60 (2)).²⁵ There are, furthermore, recommendations and guidelines for coastal States in relation to the establishment of safety zones (Art. 60 (4) to (7)), and an obligation on all ships to respect such zones (Art. 60 (6)).²⁶

2. ‘artificial islands, installations and structures’

The phrase ‘artificial islands, installations and structures’ appears in several other provisions of the Convention,²⁷ but the terms therein are not explicitly defined anywhere. It has 12

or over the continental shelf of another State any military installations or devices or any other installations for whatever purposes without the consent of the coastal State.’; Second Committee UNCLOS III, Mexico: Article 67 bis (1976, mimeo.), reproduced in: Renate Platzöder (ed.), Third United Nations Conference on the Law of the Sea: Documents, vol. IV (1983), 325.

²¹ UNCLOS III, USSR: Informal Proposal, UN Doc. NG6/8 (1979, mimeo.), reproduced in Renate Platzöder (ed.), Third United Nations Conference on the Law of the Sea: Documents, vol. IX (1986), 377, 378 (Art. 80 (3)).

²² See *infra*, MN 16.

²³ See *infra*, MN 15.

²⁴ *Ibid.*

²⁵ See also IMO, Guidelines and Standards for the Removal of Offshore Installations and Structures on the Continental Shelf and in the Exclusive Economic Zone, IMO Res. A.672(16) of 19 October 1989, for the ‘generally accepted international standards established in this regard by the competent international organization’ mentioned in Art. 60 (2); Robert Beckman, Global Legal Regime on the Decommissioning of Offshore Installations and Structures, in: Nordquist *et al.* (eds.) The Regulation of Continental Shelf Development: Rethinking International Standards (2013), 259–281.

²⁶ For detailed analysis of these elements, see *Proelss* on Art. 60 MN 24–32.

²⁷ Arts. 56, 79, 208, 214 and 246.

been argued that ‘the vague and otherwise undefined designation of these items gives reason to suppose that they are designed to meet economic needs.’²⁸

- 13 The term ‘artificial islands’ appears in further provisions, and, in light of the definition of islands contained in Art. 121 as ‘naturally formed area[s] of land, surrounded by water, which [are] above water at high tide’²⁹, should be considered to apply to areas of land that are not naturally formed.³⁰ There is significant importance³¹ in distinguishing artificial islands from islands as governed by the Part VIII Regime of Islands in the Convention, as islands have their own territorial sea, EEZ and continental shelf. Art. 60 (8) clarifies explicitly that artificial islands do not have the status of islands, and ‘have no territorial sea of their own, and their presence does not affect the delimitation of the territorial sea, exclusive economic zone or the continental shelf.’ Artificial islands should be considered to be ‘built from man-made or natural materials that are piled on the seabed to form an area of land.’³²
- 14 Installations and structures should be distinguished from artificial islands, as a separate legal regime applies to them. Whereas under Arts. 60 (1)(a) and 80 the coastal State has exclusive right to construct, authorise and regulate the construction, operation and use of artificial islands on the continental shelf and in the EEZ for all purposes, Art. 60 (1)(b) and (c) limit the right of coastal States in relation to installations and structures which have the purpose of exploring and exploiting natural resources and other economic purposes, or to installations and structures which may interfere with the exercise of the rights of the coastal State in that zone. This means that, unless interfering with the rights of the coastal State, installations or structures built by other States for the purposes of conducting marine scientific research³³ or for military purposes³⁴ in the EEZ or on the continental shelf are not subject to the exclusive right of coastal States as laid out in Art. 60 (1). What precisely constitutes an installation or a structure is a complex issue and has not been treated consistently.³⁵

3. ‘on the continental shelf’

- 15 The artificial islands, installations and structures referred to in Art. 80 must be on the continental shelf, meaning attached to the seabed. Therefore, any installations or structures beyond the limit of the EEZ, not attached to the seabed but above the continental shelf of a coastal State, are not covered by the Art. 80 but rather fall under the high seas regime, and Art. 87 particularly. This means that Art. 60 is broader in scope than Art. 80, and that its application *mutatis mutandis* to artificial islands installations and structures on the continental shelf is necessarily limited to such constructions that are attached to the seabed. However, as the continental shelf of some coastal States extends beyond 200 NM (→ Art. 76), Art. 80 can in some respects be seen to be broader than Art. 60.

4. Military installations and structures

- 16 The precise status of military installations and structures on the seabed has been described as elusive, due to both the reluctance of States to directly address the issue and due to the focus of the law of the sea, particularly in the Convention, on the economic

²⁸ Rene Jean Dupuy/Daniel Vignes (eds.), *A Handbook on the New Law of the Sea*, vol. 1 (1991), 280.

²⁹ See further *Talmon* on Art. 121 MN 7–26.

³⁰ Alex G. Oude Elferink, *Artificial Islands, Installations and Structures*, MPEPIL, para. 3, available at: <http://www.mpepil.com>.

³¹ Nikos Papadakis, *The International Legal Regime of Artificial Islands* (1977), 5.

³² *Elferink* (note 30), para. 5.

³³ For the consent regime in relation to marine scientific research projects on the continental shelf and in the EEZ, see *Huh/Nishimoto* on Art. 246 MN 9–33.

³⁴ See *infra*, MN 16.

³⁵ *Elferink* (note 30), paras. 3, 7. *Elferink* states that ‘[t]heir categorization may depend on such factors as whether the unit is self-propelled or not, its mode of operation and the kind of activity being regulated.

purposes of the oceans.³⁶ Due to the language of Art. 60 (1)(a), **artificial islands** are subject to the authorisation of the coastal State for all purposes, including military purposes, 'and cannot be built or operated against the coastal State's will.'³⁷ Where military **installations or structures** are constructed on the continental shelf by another State, the coastal State will have the exclusive right to authorize and regulate their construction, operation and use if they interfere with the coastal State's exercise of their rights on the continental shelf (Art. 60 (1)(c)).³⁸ There is no general exclusive right of coastal States recognised in the Convention in relation to installations and structures on their continental shelf or in their EEZ. This limitation of the right of the coastal State can be explained 'by the interest of maritime States in the deployment of military devices in the exclusive economic zone of other States.'³⁹ However, although there is no explicit restriction on the ability of States to construct installations and structures in the EEZs or on the continental shelves of other States, some States maintain that the construction or deployment of such installations is not permitted.⁴⁰

5. Offshore wind farms

In the current quest for increased renewable energy production capabilities, many States 17 are choosing to move wind production offshore. The wind farms that are being built are often in the territorial sea, but can and are also being constructed in the EEZ or on the continental shelf beyond the limits of the territorial sea.⁴¹ Offshore wind turbines may be attached to the seabed (invoking Art. 80), or floating (Art. 60). Art. 80, through Art. 60, lays out the exclusive right of coastal States to construct, authorise and regulate the installations and other structures on the continental shelf for the purposes provided in Art. 56 and other economic purposes. Art. 56 (1)(a) states that coastal States have rights '[...] with regard to other activities for the economic exploitation and exploration of the zone, such as the production from energy from water, currents and winds'.⁴² Therefore it is clear that where these offshore wind farms are constructed on the continental shelf (or in the EEZ) of a coastal State, this must be done with the authorisation of the coastal State.⁴³ Offshore wind parks have the possibility of creating serious issues concerning interference with the freedom of navigation and safety at sea.⁴⁴ In this regard, the provisions of Art. 60 in relation to due notice, removal, safety zones and non-interference with recognised sea lanes essential to international navigation are of importance.

³⁶ Tullio Treves, *Military Installations on the Seabed*, AJIL 74 (1980), 808, 811.

³⁷ *Ibid.*, 840.

³⁸ See *supra*, MN 14.

³⁹ *Elferink* (note 30), para. 12.

⁴⁰ *Ibid.*

⁴¹ As can be evidenced in the Baltic Sea, where wind parks have already been constructed in the Danish and Swedish sectors of the sea. See Peter Ehlers, *Baltic Sea, MPEPIL*, para. 13, available at <http://www.mpepil.com>.

⁴² See further *Proelss* on Art. 56 MN 17–19.

⁴³ For detail, see European Wind Energy Association, *Enabling Offshore Wind Developments* (2012), 114–115, available at: <http://www2.ewea.org/documents/offshore%20-%20EWEA%20version%20.pdf>.

⁴⁴ This is particularly an issue in the Baltic Sea, and the European Union has partially funded a Project called Baltic Master which has addressed itself with this issue in recent years. See generally *Baltic Master, Offshore Windfarm Development and the Issue of Maritime Safety* (2007), available at: http://www.balticmaster.org/media/files/general_files_713.pdf. See further: *Andreas Kannen et al.*, *Renewable Energy and Marine Spatial Planning: Scientific and Legal Implications*, in: Nordquist *et al.* (note 25), 153–178.

Article 81
Drilling on the Continental Shelf

The coastal State shall have the exclusive right to authorize and regulate drilling on the continental shelf for all purposes.

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Cases: *Arbitration between Petroleum Development (Trucial Coast) Ltd. and Sheikh of Abu Dhabi*, AJIL 47 (1953), 156–159; ICJ, *Aegean Sea Continental Shelf Case* (Greece v. Turkey) Judgment of 19 December 1978, ICJ Reports (1978), 3

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I. Purpose and Function

- 1 Art. 81 sets out the exclusive right of the coastal State to authorise and regulate drilling on the continental Shelf. The article is complementary to Art. 77, which sets out the sovereign rights of coastal States on the continental shelf for the purposes of exploring and exploiting its natural resources, but extends the scope of the right to drilling ‘for all purposes.’

II. Historical Background

The issue of drilling on the continental shelf, though being very important in practical terms, was not addressed in the 1958 Convention on the Continental Shelf, or in the 1956 International Law Commission (ILC) Draft Articles concerning the Law of the Sea¹ on which the 1958 Convention was based. During the negotiations at UNCLOS I, drilling was mentioned by certain delegations² but was generally understood to be ‘one of the principal methods of exploiting the mineral resources of the seabed and subsoil.’³ Indeed, it has been argued that developments in offshore drilling were one of the main factors that ‘stimulated development of the legal regime for exploration and exploitation of the continental shelf.’⁴

The issue first arose in the negotiations of the Sea-Bed Committee in a proposal of the United States,⁵ which included the exclusive right to authorise and regulate ‘drilling for purposes other than exploration and exploitation of resources’,⁶ mirroring the present right contained in Art. 81. At UNCLOS III, the United States similarly proposed that: ‘The coastal State shall have the exclusive right to authorize and regulate drilling for all purposes in the economic zone’⁷, with another provision of that proposal applying this right *mutatis mutandis* to the continental shelf.⁸

The provision was adapted and included in the 1975 Main Trends Working Paper⁹ as Provision 78, Formula B. The draft provision read: ‘The coastal State shall have the exclusive right to authorize and regulate drilling on the continental shelf for all purposes.’¹⁰ In the following negotiations of the Conference, the article was renumbered and then adopted with the Convention as a whole.¹¹

III. Elements

1. ‘shall have the exclusive right to authorize and regulate’

Art. 81 lays out the exclusive right of the coastal State to authorize and regulate drilling on the continental shelf for all purposes. It should be noted that the wording of the provision

¹ See ILC, Report of the International Law Commission: Commentaries to the Articles Concerning the Law of the Sea, UN Doc. A/3159 (1956), GAOR 11th Sess. Suppl. 9, 12, 44–45, for the discussion of the ILC in general on the regime of the continental shelf.

² For example, see Statement of Mr. Samad (Pakistan): UNCLOS I, Summary Records of the 6th to 10th Meetings of the Fourth Committee, UN Doc. A/CONF.13/C.4/SR6-10 (1958), OR VI, 7, 19 (Twelfth Meeting, para. 1), stating that drilling on continental shelf ‘inevitably led to some curtailment of the freedom of navigation, and therefore raised complex legal considerations.’

³ Statement of Mr. Rosenne (Israel): *Ibid.*, 17 (Ninth Meeting, para. 27).

⁴ David Ong, Towards an International Law for the Conservation of Offshore Hydrocarbon Resources within the Continental Shelf?, in: David Freestone/Richard Barnes/David Ond (eds.), *The Law of the Sea: Progress and Prospects* (2006), 93.

⁵ Sea-Bed Committee, United States: Draft Articles for a Chapter on the Rights and Duties of States in the Coastal Seabed Area, UN Doc. A/AC.138/SC.II/L.35 (1973).

⁶ *Ibid.*, 1 (Art. 1 (3)(b)). It should be noted, however, that this proposal was not directly in reference to the regime that now covers the continental shelf but rather what the US termed the coastal seabed economic area. The later development of the regime of the exclusive economic zone (EEZ) means that what was under consideration by the US at this time is now treated as distinct maritime zones under the Convention.

⁷ Second Committee UNCLOS III, United States of America: Draft Articles for a Chapter on the Economic Zone and the Continental Shelf, UN Doc. A/CONF.62/C.2/L.47 (1974), OR III, 222 (Art. 4).

⁸ *Ibid.*, 225 (Art. 26).

⁹ UNCLOS III, Documents Statement of Activities of the Conference during its First and Second Sessions, UN Doc. A/CONF.62/L.8/REV.1 (1974), OR III, 93, 107.

¹⁰ *Ibid.*, 119.

¹¹ Myron H. Nordquist/Satya N. Nandan/Shabtai Rosenne (eds.), *United Nations Convention on the Law of the Sea 1982: A Commentary*, vol. II (1993), 928.

refers to an ‘exclusive right’, rather than a ‘sovereign right’ as referred to in Art. 77 (1).¹² As at its core, a sovereign right is a right that is exclusive to one State over a particular area or in relation to particular conduct, it is not clear that there is a difference in meaning between the two terms, except perhaps in terms of scope. The rights of the coastal State over the continental shelf laid out in Art. 77 are limited to sovereign rights ‘for the purpose of exploring it and exploiting its natural resources.’ The right contained in Art. 81 is not so limited,¹³ as is the case with the rights of the coastal State in regard to the exclusive right to construct, authorise and regulate the construction and use of artificial islands (→ Art. 80; Art. 60 (1)(a)) which are also held by the coastal State for all purposes.¹⁴

- 6 Unlike the regime for marine scientific research (MSR) contained in the Convention (Part XIII), there are no specific obligations laid out for how regulation and authorisation should be carried out by the coastal State, and no obligation that they must allow other States to drill on their continental shelf.¹⁵ In regard to the MSR regime, all States have a right to conduct MSR projects, including on the continental shelf (though this right is not automatic and is subject to the consent of the coastal State, which must be granted ‘in normal circumstances, see Art. 246 (2)¹⁶), whereas no similar right exists in regards to drilling on the continental shelf. According to Art. 246 (5)(b), if the MSR project proposed by the researching State involves ‘drilling into the continental shelf’, then the coastal State has discretion to withhold its consent to the MSR project.¹⁷

2. ‘drilling on the continental shelf for all purposes’

- 7 The exclusive right of coastal States to authorise and regulate drilling on the continental shelf laid out in Art. 81 applies to the continental shelf as defined in Art. 76.¹⁸ The seabed beyond the limits of the continental shelf, and beyond the limits of national jurisdiction, is the Area (→ Art. (1)(1)), and any activities carried out therein must be carried out for the benefit of mankind (→ Art. 140) and in line with Part XI of the Convention. As there is no comparable provision to Art. 81 in Part V of the Convention governing the EEZ, it was suggested, prior to the adoption of the Convention, that when the natural limit of the continental shelf comes within the limit of the claimed EEZ:

‘It seems safe to assume that the coastal [S]tate would have identical powers over drilling beyond its continental shelf margin but within 200 miles off shore as it would with regard to drilling operations on the continental shelf.’¹⁹

This is indeed the case as the geographical features of the continental shelf within 200 NM are irrelevant as regards to the definition of the continental shelf under the Convention. ‘[W]here the outer edge of the continental margin does not extend to that distance’, the distance of 200 NM from the baselines from which the breadth of the territorial sea is measured is deemed to be the outer edge of the continental shelf of the coastal State under the Convention (→ Art. 76 (1)).

- 8 Drilling on the continental shelf will often be conducted by private entities for oil, gas or other purposes. The activities of these private entities are generally regulated by the coastal State through national legislation, as coastal States ‘have significant regulatory autonomy in

¹² See *Maggio* on Art. 77 MN 18–20.

¹³ Although writing in reference to marine scientific research, Dupuy/Vignes also adopt the position that ‘sovereign rights’ are more limited than ‘exclusive rights’, see Daniel Vignes/R. D. Dupuy (eds.), *Handbook on the New Law of the Sea*, vol. II (1991), 1132.

¹⁴ See *Maggio* on Art. 80 MN 1.

¹⁵ For detail of the MSR regime, see generally the commentary to Part XII, and specifically *Huh/Nishimoto* on Art. 246 MN 33 in regards to MSR on the continental shelf.

¹⁶ See further *Huh/Nishimoto* on Art. 246 MN 23–24.

¹⁷ See *Huh/Nishimoto* on Art. 246 MN 28–32.

¹⁸ See *Parson* on Art. 76 MN 26–33.

¹⁹ *Peter N. Swan*, *Ocean Oil and Gas Drilling and the Law* (1979), 206.

these areas [the contiguous zone, the EEZ and the continental shelf] if their legislation is tied to natural resources or other economic activities or protection and preservation of the marine environment²⁰. A dispute arose in 1953 in relation to drilling on the continental shelf, as the Sheikh of Abu Dhabi had, in 1939, entered into a contract with a private entity (a British company), granting it ‘exclusive right for 75 years to drill for oil in “the whole of the lands which belong to the rule of the Ruler of Abu Dhabi and its dependencies and all the islands and the sea waters which belong to that area.”’²¹ The Arbitrator, LORD ASQUITH OF BISHOPSTONE, ruled in this case that as the doctrine of the continental shelf had not yet been developed at the time of the agreement, the right of the private company to drill in that maritime zone could not be read into the contract.²² Furthermore, one of the main points of contention that led to the initiation of proceedings in the *Aegean Sea Continental Shelf Case*²³ at the International Court of Justice was the Turkish government granting licenses to private companies in order to ‘carry out exploration for petroleum in submarine areas of the Aegean Sea, including areas which encroached upon the continental shelf’²⁴ – which the Greek government claimed was part of the Greek continental shelf.²⁵

However, there do exist some international standards²⁶ that are relevant in the context of offshore drilling, particularly regarding pollution.²⁷ Under Art. 208 (5), States are required to ‘establish global and regional rules, standards and recommended practices and procedures to prevent, reduce and control pollution of the marine environment’, especially through competent international organisations. The International Maritime Organization (IMO) is of particular relevance in this context, but as of yet it appears to have failed to engage with the sort of pollution envisaged in Art. 208 (5) that arises from the exploration and exploitation of natural resources, stating in 2012 that such pollution is ‘not the direct concern of the IMO’.²⁸ The IMO has, however, adopted a number of instruments with regard to hydrocarbon exploration and oil and gas drilling, such as the 2009 Code for the Construction and Equipment of Mobile Offshore Drilling Units.²⁹

Offshore oil production accounts for about 30 per cent of the total world oil production, and offshore gas production for about half of the world production of natural gas.³⁰ In order to carry out drilling projects, artificial islands, installations or structures, such as offshore oil platforms and oil rigs, will normally be required.³¹ The rules governing the construction, authorisation and regulation of the operation and use of such artificial islands, installations and structures are laid out in Arts. 60 and 80 in relation to the continental shelf.³² As new technology develops, the potential for moving the platforms and equipment required for drilling, extraction and processing of oil to the seabed is quickly

²⁰ Moira L. McConnell, *The Law Applicable on the Continental Shelf*, General Reports of the XVIIIth Congress of the International Academy of Comparative Law (2012), 458. For detail of the national legislation reviews on which this report was based see, Moira L. McConnell *et al.*, Special Theme: National Studies of the Law Applicable on the Continental Shelf and in the EEZ, *Ocean Yearbook* 25 (2011), 221–480. For detail of the Australian regulatory framework on the continental shelf, see Tim Stephens, *The Continental Shelf*, in: Rachel Baird/Donald R Rothwell (eds.), *Australian Coastal and Marine Law* (2012), Ch. 7.

²¹ *Arbitration between Petroleum Development (Trucial Coast) Ltd. and Sheikh of Abu Dhabi*, AJIL 47 (1953), 156.

²² *Ibid.*, 158.

²³ ICJ, *Aegean Sea Continental Shelf Case* (Greece v. Turkey) Judgment of 19 December 1978, ICJ Reports (1978), 3.

²⁴ *Ibid.*, 9 (para. 16).

²⁵ The dispute between Greece and Turkey in relation to the Aegean is on-going.

²⁶ See generally J. Ashley Roach, *International Standards for Offshore Drilling*, in: Nordquist *et al.* (eds.), *The Regulation of Continental Shelf Development: Rethinking International Standards* (2013), 105–150.

²⁷ See *infra*, MN 12.

²⁸ See IMO, *Implications of the United Nations Convention on the Law of the Sea for the International Maritime Organization*, IMO Doc. LEG/MISC.7 (2012), 18; Roach (note 26), 107–108.

²⁹ For further detail, see Roach (note 26), 108–122.

³⁰ UNEP, *UNEP Factsheet: How is Crude Oil Found and Extracted?*, available at: <http://oils.gpa.unep.org/facts/extraction.htm#NRC>.

³¹ Nordquist/Nandan/Rosenne (note 11), 928.

³² For further detail, see Maggio on Art. 80 and Proelss on Art. 60.

becoming a reality.³³ Such platforms would continue to be governed by the rules contained in Arts. 60 and 80. In other instances, often in the preliminary stages when searching for oil or gas traps,³⁴ the drilling occurs from ‘drillships’ or other movable drilling rigs that are classified as ships or vessels.³⁵

- 11 Where States share continental shelf boundaries, shared oil resources can occur in reservoirs which cross these boundaries. For example, in the North Sea the United Kingdom and Norway share a continental shelf boundary over which the Frigg, Statfjord and Murchison oil and gas fields lie.³⁶ The delimitation of such boundaries is governed by Art. 83, which obligates States with opposite or adjacent continental shelves to delimit them by agreement (Art. 83 (1)) or, if agreement cannot be reached, according to the procedures provided for in Part XV of the Convention on dispute settlement (Art. 83 (2)).³⁷ In practice, many such agreements exist and have been concluded both prior to and after the Convention was adopted, for example, the Agreement between the Government of the United Kingdom of Great Britain and Northern Ireland and the Government of the Kingdom of Norway relating to the Delimitation of the Continental Shelf.³⁸ In relation to the shared oil resources spanning the boundary of the shelf between Norway and the UK, the two governments have entered into separate, more specific treaties, such as the Agreement Relating to the Exploitation of the Frigg Fields Reservoir and the Transmission of Gas therefrom to the United Kingdom.³⁹ Boundary delineation and delimitation in the Arctic for the purposes of oil extraction currently constitutes the most import example in this regard. The 2010 Barents Sea Agreement between Norway and the Russian Federation has been described as a ‘state-of-the-art bilateral treaty that will effectively address cross-border hydrocarbon-field exploitation’⁴⁰ by establishing ‘the parameters of their unitization agreements and consider[ing] the critical terms before the pressure of developing a particular hydrocarbon field arises.’⁴¹
- 12 As drilling on the continental shelf will often be carried out for the purposes of extracting oil, the risk of pollution from drilling is a serious environmental concern.⁴² Following the general obligation set out in Arts. 192 and 194 (1) to protect and preserve the marine environment and

³³ Allan Rentcome/Rick McLin, *The New Technology Frontier: Moving Oil and Gas Production to the Seabed: Rockwell Automation Report* (2011), available at: http://literature.rockwellautomation.com/idc/groups/literature/documents/wp/oag-wp006_-en-p.pdf.

³⁴ UNEP Factsheet (note 30).

³⁵ See, for example, the specifications of the rigs belonging to the fleet of the Transocean Company, available at: <http://www.deepwater.com/fw/main/Our-Rigs-14.html>, which all have flag States – a requirement for ships (Art. 92 (1)).

³⁶ *Swan* (note 19), 198.

³⁷ For further information, see *Tanaka* on Art. 83 MN 19.

³⁸ Agreement between the Government of the United Kingdom of Great Britain and Northern Ireland and the Government of the Kingdom of Norway relating to the Delimitation of the Continental Shelf between the two Countries, 10 March 1965, UKTS 71 (1965).

³⁹ Agreement between the Government of the United Kingdom of Great Britain and Northern Ireland and the Government of Norway relating to the Exploitation of the Frigg Fields Reservoir and the Transmission of Gas therefrom to the United Kingdom, 10 May 1976, UKTS 113. (1976). It should be noted, however, that following an agreement between the two governments the Frigg Field is has been decommissioned, see Total E&P Norge AS, *Frigg Field Cessation Plan* (2003), available at https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/43408/frigg-dp.pdf. This treaty was considered to be a template for future agreements, see *Swan* (note 18), 200.

⁴⁰ *Timothy J. Tyler et al.*, *Developing Arctic Hydrocarbon Resources: Delineating and Delimiting Boundaries for Field Development in the Arctic*, in: *Nordquist et al.* (note 26), 319, 320.

⁴¹ *Ibid.*, 348 (emphasis added).

⁴² The 2010 *Deepwater Horizon* incident, for example, was deemed the largest oil spill of its kind. ‘Oil flowed from the well for 87 days. Two drilling ships, numerous oil containment vessels, and flotilla of support vessels were deployed to control the source of the well, while 835 skimmers and approximately 9000 vessels were involved in the cleanup. In the single most demanding day of the response over 6000 vessels, 82 helicopters and 20 fixed wing aircraft and over 47,849 personnel/responders were assigned; 88,522 square miles of fisheries were closed[...]: US National Response Team, *On Scene Coordinator Report: Deepwater Horizon Oil Spill* (2011), vi, available at: http://www.uscg.mil/foia/docs/dwh/fosc_dwh_report.pdf. In course of the disaster a total of 4.9 million barrels of oil were released, *ibid.*, 33.

take all necessary measures to prevent, reduce and control pollution, Art. 194 (3)(b) and (c) aim specifically to ensure that such measures include those designed to minimize to the fullest extent possible pollution from installations and vessels.⁴³ More specifically, pollution from activities carried out on the continental shelf is governed by Art. 208 as a sea-bed activity subject to the jurisdiction of the coastal State. This is also the governing provision when carried out from artificial islands, installations or structures,⁴⁴ but Art. 211 may govern where the pollution occurs from vessels involved in drilling,⁴⁵ though likely after drilling and extraction phase.

The process of carbon capture and storage (CCS) is currently being explored as a means of reducing the environmental harm caused by the release of waste carbon dioxide into the atmosphere. In pursuit of environmental policies to *inter alia* reduce the effects of climate change and ocean acidification, CCS storage has been carried out in geological formations in the subsoil of the seabed.⁴⁶ Though it may be interpreted as pollution under Art. 1 (1)(4) of the Convention,⁴⁷ the better approach is that, through a balancing application of the precautionary principle, CSS 'is not generally prohibited under the UNCLOS regime if and to the extent which is conducted within the framework of balancing of values governed by a proper reading of the precautionary principle.'⁴⁸ How CCS on the continental shelf is regulated by the provisions of the Convention is not immediately apparent, as such activities were not envisaged at the time of drafting, and therefore there is no single provision to address such an issue. It is difficult to base the authority of the coastal State to carry out such activities on Art. 77 (1), as under Art. 77 (4) 'the use of such storage space in subsoil geological formations cannot be considered to constitute the exploitation of a natural resource'⁴⁹. However, through the application of Arts. 60, 80, 81 and 85 of the Convention in giving coastal States rights⁵⁰ in relation to the artificial islands, installations and structures, drilling and tunnelling on the continental shelf:

'If one merges the legal consequences deriving from the aforementioned provisions, and given the factual similarities with resource exploitation activities, it is submitted that the coastal State has the exclusive competence to regulate and conduct all CCS activities on the continental shelf.'⁵¹

Certainly, it is clear that the wording of Art. 81 ('for all purposes') dictates that any drilling required for a CCS project would be under the exclusive right of the coastal State to authorise and regulate.

Article 82

Payments and contributions with respect to the exploitation of the continental shelf beyond 200 nautical miles

1. The coastal State shall make payments or contributions in kind in respect of the exploitation of the non-living resources of the continental shelf beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured.

⁴³ See further *Czybulka* on Art. 194 MN 22–25.

⁴⁴ See *Wacht* on Art. 208 MN 9–10.

⁴⁵ See *Bartenstein* on Art. 211.

⁴⁶ *Peter-Tobias Stoll*, The Continental Shelf, MPEPIL, para. 41, available at: <http://www.mpepil.com>.

⁴⁷ Defined as 'the introduction by man, directly or indirectly, of substances or energy into the marine environment [...] which results in or is likely to result in deleterious effects as harm to living resources and marine life [...]', see further *Tanaka* on Art. 1 MN 12–15.

⁴⁸ *Alexander Proelss/Kerstin Güssow*, Carbon Capture and Storage from the Perspective of International Law, EYIEL 2 (2011), 151, 154.

⁴⁹ *Stoll* (note 46), para. 41.

⁵⁰ The precise rights of the coastal State vary under each article, for detail see *Proelss* on Art. 60, *Maggio* on Art. 80 and on Art. 85; see also *supra* MN 5–6.

⁵¹ *Proelss/Güssow* (note 48), 156; see also *Stoll* (note 46), para. 41, stating that 'coastal States may authorize and regulate such activities on the basis on their authority [deriving from these provisions]'.

2. The payments and contributions shall be made annually with respect to all production at a site after the first five years of production at that site. For the sixth year, the rate of payment or contribution shall be 1 per cent of the value or volume of production at the site. The rate shall increase by 1 per cent for each subsequent year until the twelfth year and shall remain at 7 per cent thereafter. Production does not include resources used in connection with exploitation.

3. A developing State which is a net importer of a mineral resource produced from its continental shelf is exempt from making such payments or contributions in respect of that mineral resource.

4. The payments or contributions shall be made through the Authority, which shall distribute them to States Parties to this Convention, on the basis of equitable sharing criteria, taking into account the interests and needs of developing States, particularly the least developed and the land-locked among them.

Bibliography: *Aldo Chircop*, Energy Policy and International Royalty: A Dormant Servitude Relevant for Offshore Development, in: Myron H. Nordquist/John Norton Moore/Alexander Skaridov (eds.), *International Energy Policy, the Arctic and the Law of the Sea* (2005), 247–270; *Aldo Chircop*, Operationalizing Article 82 of the United Nations Convention on the Law of the Sea: A New Role for the International Seabed Authority?, *Ocean Yearbook* 18 (2004), 395–412; *Aldo Chircop/Bruce Marchand*, International Royalty and Continental Shelf Limits: Emerging Issues for the Canadian Offshore, *Dalhousie L.J.* 26 (2003), 273–302; *Michael W. Lodge*, The International Seabed Authority and Article 82 of the United Nations Convention on the Law of the Sea, *IJMCL* 21 (2006), 323–333; Myron H. Nordquist/Choon-ho Park (eds.), *Reports of the United States Delegation to the Third United Nations Conference on the Law of the Sea* (1983); Myron H. Nordquist/Satya N. Nandan/Shabtai Rosenne (eds.), *United Nations Convention on the Law of the Sea 1982: A Commentary*, vol. II (1993); *Arvid Pardo*, *Common Heritage: Selected Papers on Oceans and World Order 1967–1974* (1975)

Documents: GA, Declaration of Principles Governing the Sea-Bed and the Ocean Floor, and the Subsoil Thereof, beyond the Limits of National Jurisdiction, GA Res. A 2749 (XXV) of 17 December 1970; ILA Outer Continental Shelf Committee: Report on Article 82 of the UN Convention on the Law of the Sea, Rio de Janeiro Conference (2008); ISA, Implementation of Article 82 of the United Nations Convention on the Law of the Sea, Technical Study No. 12 (2012); ISA, Issues Associated with the Implementation of Article 82 of the United Nations Convention on the Law of the Sea, Technical Study: No. 4 (2009); ISA, A Study of Key Terms in Article 82 of the United Nations Convention on the Law of the Sea, authored by *Wylie Spicer/Elizabeth McIsaac*, ISA Technical Study No. 15 (2016); ISA, Non-Living Resources of the Continental Shelf Beyond 200 Nautical Miles: Speculations on the Implementation of Article 82 of the United Nations Convention on the Law of the Sea, Technical Study: No. 5 (2010); ISA, Report of the Secretary-General of the International Seabed Authority under Article 166, Paragraph 4, of the United Nations Convention on the Law of the Sea, ISA Doc. ISBA/16/A/2 (2010)

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I. Purpose and Function

Art. 82 is an unprecedented provision in international treaty law because it establishes an international obligation attaching to the 'sovereign right' to explore and exploit non-living resources within national jurisdiction (→ Art. 77). The obligation attaches to coastal States Parties that enjoy an extended continental shelf (ECS), i.e., a continental shelf that extends beyond 200 NM to the outer limit of the continental margin, as defined in accordance with Art. 76. The obligation consists of the making of payments or contributions in relation to production from non-living resource development on the ECS in accordance with a pre-set scale. The payments and contributions, which are made through the International Seabed Authority (ISA or the Authority), are intended for the benefit of States Parties, especially for developing countries. It is an important provision in the regime of the continental shelf not only on account of its novelty, but also because its inclusion in UNCLOS was an integral part of the compromise that found consensus on Art. 76.¹ Effectively, Art. 82 is the *quid pro quo* of Art. 76, and the relationship between the two provisions helped achieve consensus on the 'package deal' of the Third United Nations Conference on the Law of the Sea (1973–1982).

UNCLOS provides little guidance as to how Art. 82 is to be implemented. This is due to a number of factors, namely: it is drafted in general terms; it is a provision that reflects a compromise in relation to another provision; agreement was reached after extended negotiations dating back to the Sea-Bed Committee (1968–1973) tasked by the UN General Assembly with the preparation of the negotiation agenda of UNCLOS III; it was negotiated at a time when the benefits were perceived to accrue in the distant future. Accordingly, the text of Art. 82 reflects more the need for a compromise than the practicalities of guiding the implementation of a complex provision. Its interpretation and eventual implementation require an understanding of its historical background, rationale and spirit that led to its adoption, albeit in a contemporary context.

II. Historical Background

The philosophical and diplomatic backdrop of Art. 82 can be traced back to the seminal speech of Ambassador ARVID PARDO, Permanent Representative of Malta to the United Nations, delivered in the First Political Committee of the United Nations General Assembly on 1 November 1967.² In that speech PARDO proposed that the 'seabed and the ocean floor are a common heritage of mankind and should be used and exploited for peaceful purposes and for the exclusive benefit of mankind as a whole' and with preferential consideration for the needs of developing countries in the allocation of financial benefits derived from development of the international seabed area's (the Area) resources.³ PARDO's proposal triggered a chain of events that led to the 1970 Declaration of Principles Governing the Sea-Bed and the Ocean Floor, and the Subsoil thereof, beyond the Limits of National Jurisdiction, which declared that the seabed and subsoil beyond national jurisdiction was common heritage of mankind, beyond national appropriation, and highlighted equitable sharing of benefits derived from the Area by all States, 'taking into particular consideration the interests and needs of the developing countries.'⁴ As a result of these early initiatives, in subsequent multilateral conference negotiations any expan-

¹ Cf. Parson on Art. 76.

² Statement of Mr. Pardo (Malta): GA, 1515th Meeting of the First Committee, UN Doc. A/C.1/PV.1515 (1967), GAOR, 22nd Sess., 1–15; GA, 1516th Meeting of the First Committee, UN Doc. A/C.1/PV.1516 (1967), GAOR, 22nd Sess., 1–3.

³ *Ibid.*; for elaborations on the concept of 'common heritage of mankind', see also Lagoni on the Preamble MN 31–35.

⁴ GA Res. 2749 (XXV) of 17 December 1970.

sion of coastal State jurisdiction over adjacent marine areas, most notably the eventual exclusive economic zone (EEZ)⁵ and ECS, would be perceived by many States to occur at the expense of the Area and the common heritage of mankind.⁶ A balance between coastal State extended jurisdictional rights and limits to their spatial extent and accompanying responsibilities would be at the core of subsequent conference diplomacy and the emergence of Art. 82.

- 4 The need to achieve this balance was evident at an early stage in the Sea-Bed Committee. Since the beginning, there had been concern that as long as the limits of national maritime jurisdiction remained uncertain, they were likely to be pushed further seawards at the expense of the Area and the common heritage of mankind, potentially conflicting with the 1970 Declaration of Principles. Whereas coastal States stood to benefit, whether due to their broad margins or simply because they enjoyed open ocean areas opposite their coasts, land-locked and geographically disadvantaged States were unlikely to benefit. Most of the latter were developing States and the hope was that they would share the benefits accruing from the development of the Area.
- 5 On 25 May 1970, President RICHARD NIXON proposed a trusteeship zone for ocean space between the continental shelf beyond a depth of 200 metres and the Area, over which the coastal State would act as trustee for the international community and in return would receive a share of revenues from resource development in that space.⁷ Although this initiative did not receive sufficient support, the idea that coastal States could share revenues from development off their coasts with the international community would subsist as a potential *quid pro quo* for extended jurisdiction.⁸ In 1971 Malta submitted a proposal for a Draft Ocean Space Treaty, the first proposal for an all-encompassing convention, which included a provision creating an obligation on coastal States to transfer a portion of the revenue from natural resource development within national jurisdiction to the International Ocean Space Institutions.⁹ PARDO proposed that contributions could be made based on different scales in four zones: Area 1–100 NM from the coast: no contribution; Area 2 – 100–150 NM: 25%; Area 3 – 150–170 NM: 50%; Area 4 – 175–200 NM: 75%.¹⁰ The central idea of revenue sharing was articulated in one form or another by other delegations. A Canadian call for a moratorium on new claims beyond existing limits, including registration of existing claims, but without prejudice to future legal development, did not receive support.¹¹ That proposal also included

⁵ The regime of the EEZ is now dealt with in Part V of the Convention.

⁶ The regime of the Area is now dealt with in Part XI of the Convention. For further information on the common heritage of mankind, see generally *Vöney/Höfelmeier* on Art. 136.

⁷ Sea-Bed Committee, Letter Dated 25 May 1970 from the Representative of the United States of America Addressed to the Chairman of the Committee, UN Doc. A/AC.138/22 (1970). See explanatory comments made by the US Delegation: Sea-Bed Committee, Summary Records of the Twenty-Ninth to Forty-Fourth Meetings, UN Doc. A/AC.138/SR.29–44 (1970), 9–12 (29th Meeting).

⁸ Some delegations expressed strong views against, e.g., Sri Lanka: Sea-Bed Committee, Summary Records of the Twenty-Ninth to Forty-Fourth Meetings, UN Doc. A/AC.138/SR.29–44 (1970), 51–54 (34th Meeting) and Statement of Mr. Warioba (Tanzania): Sea-Bed Committee, Summary Records of the Fifth to the Thirty-First Meetings, UN Doc. A/AC.138/SC.I/SR.5–31 (1971), 237–242 (18th Meeting). The Netherlands expressed interest in the possible compromise underlying the intermediate zone proposed: Sea-Bed Committee, Summary Records of the Thirty-Second to Forty-Seventh Meetings, UN Doc. A/AC.138/SC.I/SR.32–47 (1972), 122–123 (41st Meeting). The US delegation responded to some of the comments made on its proposal: Sea-Bed Committee, Summary Records of the Fifth to the Thirty-First Meetings, UN Doc. A/AC.138/SC.I/SR.5–31 (1971), 201–202 (16th Meeting). Later it added that ‘[a]n equitable system must also make provision for the sharing of revenues from important areas of the continental margin; those revenues would be collected by the coastal State, and a portion would be paid to the International Authority’, Sea-Bed Committee, Summary Records of the Thirty-Second to Forty-Seventh Meetings, UN Doc. A/AC.138/SC.I/SR.32–47 (1972), 124 (41st Meeting).

⁹ Sea-Bed Committee, Draft Ocean Space Treaty: Working Paper Submitted by Malta, UN Doc. A/AC.138/53 (1971), 38.

¹⁰ *Arvid Pardo*, *The Common Heritage: Selected Papers on Oceans and World Order 1967–1974* (1975), 219–220.

¹¹ Sea-Bed Committee, Summary Records of the Forty-Fifth to the Sixtieth Meetings, UN Doc. A/AC.138/SR.45–60 (1971), 198–199 (58th Meeting). See Canada’s comment in: Sea-Bed Committee, Summary Records of the Sixty-First to the Sixty-Seventh Meetings, UN Doc. A/AC.138/SR.61–67 (1971), 64–65 (65th Meeting); Sea-Bed Committee, United States: Draft Articles for a Chapter on the Rights and Duties of States in the Coastal Sea-Bed Economic Area, UN Doc. A/AC.138/SC.II/L.35 (1973), 3 (Article 2(e)).

a voluntary international development tax, payable to the future Authority, based on a fixed percentage of revenue from seabed areas beyond national jurisdiction claimed at the time.¹²

By the end of the 82nd meeting in August 1972, Sub-Committee I reported that in the interests of an equitable system of sharing the US-proposed intermediate zone had to include at least a portion of the continental margin from which there would be provision for revenue-sharing.¹³ At this time there appeared to be wide agreement that the territorial sea should extend to 12 NM and that a further zone that would fall under national jurisdiction should extend to 200 NM. Although prepared to accept extended jurisdiction, the US emphasized the importance of rights accompanied by responsibilities and remained in favour of equitable sharing of revenues from mineral resource exploitation on the continental margin, 'particularly for the benefit of developing countries'.¹⁴ It submitted new draft articles setting out a package of rights and responsibilities, including revenue-sharing as one of the responsibilities.¹⁵ The US was of the view that the recognition of broad management rights for coastal States over the seabed, including where it extended beyond 200 NM, should be accompanied by measures such as revenue-sharing, which would safeguard the interests of other States.¹⁶ Revenue-sharing was seen as an important element to solve the limits of jurisdiction of coastal States, although at the time few States supported this principle, and which was left for the future conference to address. Land-locked and geographically disadvantaged Afghanistan, Austria, Belgium, Bolivia, Nepal and Singapore also proposed draft articles of their own with proposals for revenue-sharing of both living and non-living resources in relation to areas of extended jurisdiction.¹⁷ In relation to non-living resources, they proposed a differential rate for areas within 40 NM or the 200-metre isobath and areas beyond, with percentages to be negotiated, and which the Authority would distribute on the basis of equitable sharing criteria.¹⁸ The point was stressed that the extended jurisdiction occurred at the expense of the Area and that the coastal State's 'contribution to the international authority should therefore offset the loss sustained by the regime applicable to the common heritage'.¹⁹ The Netherlands submitted a proposal concerning the intermediate zone with a similar provision.²⁰ By the end of the Sea-Bed Committee's deliberations, the idea appeared to resonate in national delegations and was included in the UNCLOS III agenda for negotiations.²¹

Whereas the EEZ limit was accepted at an early stage and resulted in substantial State practice,²² the outer limit of the ECS remained a hard core issue in the Second Committee of UNCLOS III until late in the Conference. Leading on from the concerns in the Sea-Bed Committee that the continental shelf regime as it had developed to date had primarily served the interests of developed States, several developed and developing land-locked and geographically disadvantaged States continued to oppose the ECS, and in the alternative advocated

¹² Summary Records of the Forty-Fifth to the Sixtieth Meetings (note 11), 201 (58th Meeting).

¹³ Sea-Bed Committee, Report of Sub-Committee I, UN Doc. A/AC.138/82 (1972), 13.

¹⁴ Sea-Bed Committee, Summary Records of the Seventy-Seventh to the Eighty-Ninth Meetings, UN Doc. A/AC.138/SR.77-89 (1972), 63.

¹⁵ US Draft Articles (note 11).

¹⁶ Sea-Bed Committee, Provisional Summary Record of the Sixty-Fifth Meeting, UN Doc. A/AC.138/SC.II/SR.65 (1973), 11-15.

¹⁷ Sea-Bed Committee, Draft Article on Resource Jurisdiction of Coastal States beyond the Territorial Sea Proposed by the Delegations of Afghanistan *et al.*, UN Doc. A/AC.138/SC.II/L.39 (1973).

¹⁸ *Ibid.*, 2-3 (Article. III). See the comments of the Austrian Delegation in: Seabed Committee, Provisional Summary Record of the Sixty-Eighth Meeting, UN Doc. A/AC.138/SC.II/SR.68 (1973), 4-12, especially 6 and 10-11.

¹⁹ Provisional Summary Record of the Sixty-Eighth Meeting (note 18), 10.

²⁰ Sea-Bed Committee, Netherlands: Proposal Concerning the Intermediate Zone, UN Doc. A/AC.138/SC.II/L.59 (1973), 3 (Article 8). The Netherlands further emphasized that revenue-sharing should be on a global rather than on a regional basis as proposed by others: Sea-Bed Committee, Provisional Summary Record of the Seventy-Second Meeting, UN Doc. A/AC.138/SC.II/SR.72 (1973), 4 *et seq.*

²¹ Myron H. Nordquist/Choon-ho Park (eds.), Reports of the United States Delegation to the Third United Nations Conference on the Law of the Sea, Law of the Sea Institute Occasional Paper No. 33 (1983), 45. See also Myron H. Nordquist/Satya N. Nandan/Shabtai Rosenne (eds.), United Nations Convention on the Law of the Sea 1982: A Commentary, vol. II (1993), 933.

²² For a detailed account of the history of the regime of the EEZ, see *Proelss* on Art. 55 MN 5.13.

for a system of equitable compensation.²³ Even where a State recognized the entitlement of a coastal State to the continental margin, there remained the view that there should be a right of access to resources, possibly utilising joint ventures at the regional or sub-regional level,²⁴ or that the natural resources of the ECS should be shared in some respect.²⁵ Some States questioned whether there was need to establish the Authority where the ECS greatly reduced the Area.²⁶ Some other coastal States sympathised with these concerns while yet others perceived and objected to a regime of ‘mixed ownership’.²⁷

- 8 The position of the US in support of revenue-sharing developed in the Sea-Bed Committee was continued, and in 1974 it advanced a proposal that reiterated extended coastal State jurisdiction over the continental margin in exchange for revenue-sharing.²⁸ The Netherlands proposed a scale of contributions by the coastal State based on distance and depth. Later that year, the Conference Bureau prepared an informal working paper, drawing on negotiations from the Sea-Bed Committee and UNCLOS III sessions to date, proposing key principles for compromise text, namely that the coastal State should make contributions out of the revenue from non-living resource development, that the contributions would be based on a scale (without specifying rates or spatial application) and that accruing benefits would be distributed by the Authority.²⁹ A revised version of the working paper referred to the continental shelf outside the territorial sea or the 200-metre isobath.³⁰ A further revision of the working paper completed by the end of the second session continued to evidence substantial division of views, with two formulae that were diametrically opposed. Formula A proposed revenue contributions for distribution by the Authority on the same basis as revenues derived from the Area, whereas Formula B stated that coastal State sovereign rights over the continental shelf were exclusive and revenues derived therefrom would not be subject to revenue-sharing.³¹
- 9 The breakthrough emerged in the Informal Single Negotiating Text (ISNT), produced at the third session in 1975.³² The principle of contribution in exchange of an entitlement to the ECS was accepted, but the future Art. 76 formula for determining the outer limits of the ECS was not agreed upon at this stage.³³ While holding on to their position on resource-sharing, land-locked and geographically disadvantaged States negotiated for a coastal State obligation to make payments or contributions in kind. An Austrian-led proposal for a 5 % rate for the area within 200 NM, and 10 % for beyond, was not supported.³⁴ The US proposed that the

²³ For example, as expressed by Mr. Chao (Singapore): Second Committee UNCLOS III, 18th Meeting, UN Doc. A/CONF.62/C.2/SR.18 (1974), OR II, 149, 151; Statement of Mr. Ochan (Uganda): *ibid.*

²⁴ Second Committee UNCLOS III, Austria: Article 63 bis (ISNT II) (11 April 1976, mimeo.), reproduced in: Renate Platzöder (ed.), Third United Nations Conference on the Law of the Sea: Documents, vol. IV (1983), 323; Second Committee UNCLOS III, Austria: Article 63 bis (ISNT II) (28 April 1976, mimeo.), reproduced in: *ibid.*; Second Committee UNCLOS III, Group of Land-Locked and Geographically Disadvantaged States: Article 63 bis (ISNT II) (mimeo.), reproduced in: *ibid.*, 324; Second Committee UNCLOS III, Austria: Article 63 bis (ISNT II): Compromise Text (1976, mimeo.), reproduced in: *ibid.*, 325; Second Committee UNCLOS III, Austria: Article 69 (ISNT II) (1976, mimeo.), reproduced in: *ibid.*, 325–326; Second Committee UNCLOS III, United States: Article 69 (ISNT II) (mimeo.), reproduced in: *ibid.*, 326; Second Committee UNCLOS III, Group of Land-Locked and Geographically Disadvantaged States: Article 69 (ISNT II) (mimeo.), reproduced in: *ibid.*, 327.

²⁵ Statement of Mr. Ballah (Trinidad and Tobago): 18th Meeting (note 23), 154–155.

²⁶ Statement of Mr. Caflisch (Switzerland): Second Committee UNCLOS III, 19th Meeting, UN Doc. A/CONF.62/C.2/SR.19 (1974), OR II, 156, 157.

²⁷ Statement of Mr. Ukyawamin (Burma): 18th Meeting (note 23), 155.

²⁸ Nordquist/Park (note 21), 69, 72 (Report on the Second Session).

²⁹ Second Committee UNCLOS III, Formulation of Main Trends, UN Doc. Informal Working Paper No. 3 (1974, mimeo.), reproduced in: Renate Platzöder (ed.), Third United Nations Conference on the Law of the Sea: Documents, vol. III (1982), 288, 292 (Provision XII).

³⁰ *Ibid.*, 301 (Provision XIII, Formula B).

³¹ Second Committee UNCLOS III, Formulation of Main Trends, UN Doc. Informal Working Paper No. 4/REV. 2 (1974, mimeo.), reproduced in: Platzöder (note 29), 332, 362 (Provision VIII, Formula B).

³² UNCLOS III, Informal Single Negotiating Text (Part II), UN Doc. A/CONF.62/WP.8/PART II (1975), OR IV, 152.

³³ *Ibid.*, 162–163.

³⁴ Austria: Article 69 (note 24).

form of the payment or contribution should be left to the coastal State and the procedure agreed upon by State parties.³⁵ Whereas the former was accepted, the latter was not and today constitutes an implementation issue. The possibility that a coastal State might not honour its obligation was anticipated, but there was no agreement on empowering the Authority to act in this regard.³⁶ There was agreement on a graduated scale of payments to be made to the Authority or another international organization for distribution to developing countries, but there was no agreement on exempting developing coastal States from the obligation. The US was of the view that the justification of an initial grace period of five years was to enable the developers to recover initial development costs of the resource. The contribution, based on well-head value, would then commence on the sixth year of production at an incremental rate of one percent per year until the ceiling of five percent was reached in the tenth year. Subsequent negotiations in 1976–1979 resolved most differences over coastal State contributions and spatial application, but some issues remained. Negotiating Team 6 was established by the Second Committee to focus on outstanding issues and this included linkage to the emerging Art. 76 formula for the definition of the outer limits of the continental shelf.³⁷

In 1976, the Revised Single Negotiating Text (RSNT) included much of the content of 10 Art. 82 with a clear focus on the ECS only.³⁸ The US proposal for a grace period and a graduated scale with a postponed application, including basing the payment or contribution on value or volume, provided the general direction for subsequent negotiations until the first version of the Informal Composite Negotiating Text (ICNT).³⁹ There continued to be different views on exemptions for certain developing States and whether the Authority would be the recipient of the payments and contributions, with a possible alternative recipient being an entity of the UN to be identified.⁴⁰ Other differences included the possible supervision through independent accountancy⁴¹ and a ceiling of seven per cent. The latter would be accepted in the first revision of the ICNT, which also produced the fully negotiated text of Art. 82 as it appeared in subsequent drafts.⁴² Land-locked and geographically disadvantaged States made a last and unsuccessful effort to advance the idea of a new international economic order by establishing a Common Heritage Fund (CHF), capturing both the EEZ and continental shelf.⁴³ The proposal also stated that the payments and contributions were to be made to the fund through the Authority for distribution to developing countries according to equitable sharing criteria.⁴⁴ From this point there was no further substantive change to the text of Art. 82.

³⁵ United States: Article 69 (note 24).

³⁶ Group of Land-Locked and Geographically Disadvantaged States: Article 69 (note 24).

³⁷ Nordquist/Park (note 21), 150.

³⁸ UNCLOS III, Revised Single Negotiating Text (Part II), UN Doc. A/CONF.62/WP.8/REV.1/PART II (1976), OR V, 151, 164.

³⁹ UNCLOS III, Informal Composite Negotiating Text, UN Doc. A/CONF.62/WP.10 (1977), OR VIII.

⁴⁰ Second Committee UNCLOS III, Austria: Article 70 (RSNT II) (mimeo.), reproduced in: Platzöder (note 24), 471; Second Committee UNCLOS III, United States: Article 70 (RSNT II) (1977, mimeo.), reproduced in: *ibid.*

⁴¹ Second Committee UNCLOS III, Netherlands: Article 82 (ICNT) (1979, mimeo.), reproduced in: Platzöder (note 24), 516.

⁴² UNCLOS III, Informal Composite Negotiating Text (Revision 1), UN Doc. A/CONF.62/WP.10/REV.1 (1979), OR VIII, 56. The subsequent negotiating texts were: UNCLOS III, Informal Composite Negotiating Text (Revision Two), UN Doc. A/CONF.62/WP.10/REV. 2 (1980), OR VIII, 58; UNCLOS III, Draft Convention on the Law of the Sea (Informal Text), UN Doc. A/CONF.62/WP.10/REV.3 (1980), OR VIII, 33; UNCLOS III, Draft Convention on the Law of the Sea, UN Doc. A/CONF.62/L.78 (1981), OR XV, 172, 189.

⁴³ Originally a proposal from Nepal in 1978, supported by Afghanistan, Austria, Bolivia, Lesotho, Singapore, Uganda, Upper Volta and Zambia: Second Committee UNCLOS III, Organizing Committee of the Group for the Common Heritage Fund: Letter to All Heads of Delegations (1980, mimeo.), reproduced in: Platzöder (note 24), 531. See also Second Committee UNCLOS III, Group for the Common Heritage Fund: Background Paper on the Common Heritage Fund Proposal (1980), reproduced in: *ibid.*, 528–530.

⁴⁴ Background Paper on the Common Heritage Fund Proposal (note 43), 528.

III. Elements

1. Introduction

- 11 Art. 82 is challenging due to the fact that there is no jurisprudence on point to guide the Authority (→ Section 4, Part XI), or for that matter coastal States captured by Art. 82, in the implementation of this provision. There is sparse State practice on the implementation of this provision and it largely relates to the practice of the US, a non-party to the UNCLOS, regarding leases in the Gulf of Mexico.⁴⁵ The obligation is implemented in the form of a 'lease stipulation' providing for royalty payments as contingent on the event the US becomes a party to UNCLOS prior to or during the life of a lease. There is relatively little scholarly literature on the provision.⁴⁶ The Authority has published four relevant technical studies, three focusing on the implementation of Art. 82⁴⁷ and a third consisting of an updated study on the resources of the ECS.⁴⁸ The Authority convened a meeting of experts at Chatham House in 2009 which turned out to be seminal for its future work on the provision.⁴⁹ At the sixteenth session of the Assembly of the Authority (26 April–7 May 2010) the Secretary-General proposed that in the context of the programme of work for 2011–2013 an expert group of representatives of Member States, members of the Legal and Technical Commission and other experts be convened to consider and help draft recommendations to the Council and Assembly on the implementation of Art. 82 by the Authority.⁵⁰ A separate meeting of experts was convened in Beijing in 2013.⁵¹ At the twenty-first session of the Assembly in 2015, the Beijing meeting of experts was recalled, in particular the recommendation that a study of terminological issues be undertaken and that the Secretariat hoped to progress that work in 2015.⁵² In 2016 the Authority issued a new technical study focusing on key terms in Article 82.⁵³ The ISA technical studies can be expected to play an important role in building understanding of the complexities of implementation of this provision, possibly in relation to different types of non-living resources of the extended continental shelf, together with guidance from the *travaux préparatoires*, principles of general international law and principles and practices of treaty interpretation. The interpretation and implementation of the provision will need to be guided by a pragmatic and functional approach.

⁴⁵ Discussed in: ISA, Issues Associated with the Implementation of Article 82 of the United Nations Convention on the Law of the Sea, Technical Study No. 4 (2009), 3–8 and 45 *et seq.* Prior to the US, New Zealand was the first State to directly legislate Article 82 in the Continental Shelf of 1964, 1962 No. 28. More recently Canada and Norway announced the Article 82 obligation in calls for bids to new offshore exploration on the ECS.

⁴⁶ E.g., and directly on point: *Aldo Chircop*, Energy Policy and International Royalty: A Dormant Servitude Relevant for Offshore Development, in: Myron H. Nordquist/John Norton Moore/Alexander Skaridov (eds.), *International Energy Policy, the Arctic and the Law of the Sea* (2005), 247–270; *Aldo Chircop*, Operationalizing Article 82 of the United Nations Convention on the Law of the Sea: A New Role for the International Seabed Authority?, *Ocean Yearbook* 18 (2004), 395–412; *Aldo Chircop/Bruce Marchand*, International Royalty and Continental Shelf Limits: Emerging Issues for the Canadian Offshore, *Dalhousie L.J.* 26 (2003), 273–302; *Michael W. Lodge*, The International Seabed Authority and Article 82 of the United Nations Convention on the Law of the Sea, *IJMC* 21 (2006), 323–333; Nordquist/Nandan/Rosenne (note 21), 930–947.

⁴⁷ ISA Technical Study No. 4 (note 45); ISA, Implementation of Article 82 of the United Nations Convention on the Law of the Sea, Technical Study No. 12 (2012); ISA, A Study of Key Terms in Article 82 of the United Nations Convention on the Law of the Sea, authored by Wylie Spicer/Elizabeth McIsaac, ISA Technical Study No. 15 (2016).

⁴⁸ ISA, Non-Living Resources of the Continental Shelf Beyond 200 Nautical Miles: Speculations on the Implementation of Article 82 of the United Nations Convention on the Law of the Sea, ISA Technical Study No. 5 (2010).

⁴⁹ ISA Technical Study No. 4 (note 45).

⁵⁰ ISA, Report of the Secretary-General of the International Seabed Authority under Article 166, Paragraph 4, of the United Nations Convention on the Law of the Sea, ISA Doc. ISBA/16/A/2 (2010), 20 (para. 75).

⁵¹ Technical Study No. 12 (note 47).

⁵² Report of the Secretary-General of the International Seabed Authority under article 166, paragraph 4, of the United Nations Convention on the Law of the Sea, ISA Doc ISBA/21/A/2, 3 June 2015, 3.

⁵³ ISA Technical Study No. 15 (note 47).

2. ‘The coastal State shall make payments or contributions in kind in respect of the exploitation of the non-living resources of the [extended] continental shelf’

Subject to the rule in Art. 82 (3), the coastal State exploiting non-living resources of its ECS has the obligation to make payments or contributions with respect to production, in accordance with the scale set out in the article. The obligation is not qualified and therefore can reasonably be interpreted to apply to those States undertaking such activity without having completed the process of defining the outer limits of the ECS in accordance with Art. 76. The choice of discharging the obligation through the making of payments or contributions in kind rests with the ECS State. Although ‘in kind’ is undefined in the Convention, the negotiating history suggests that it was intended to refer to an actual share of the resource produced.

While the Authority is authorised by Art. 82 (4) to receive payments and contributions, it has not been empowered to establish a mandatory procedure to be followed by the ECS State. The ECS State and the Authority will need to engage in consultations regarding the making of payments or contributions and the Authority’s exercise of its functions in receiving them. The Authority is empowered to develop rules, regulations and procedures which will apply from the moment of receipt and until they are disbursed to eligible State parties and other beneficiaries designated in the Convention.⁵⁴

UNCLOS is also silent on assessment of payments and contributions in kind. The assessment of the amount due rests with the ECS State as a necessary element of its obligation, and because it has access to or control of resource characteristics, production volume and related value. However, because it is an obligation owed to other State Parties of the Convention and the Authority needs to receive payments and contributions to be able to discharge its own responsibilities, it is reasonable to expect the ECS State to inform the Authority of how the amounts due are determined, the currency concerned (which should be convertible to enable the disbursements to beneficiaries) and the schedule for payments or contributions.⁵⁵ Further, in the case of contributions in kind, and although the Convention is silent on arrangements for the contribution in kind, the Authority would need reasonable notice to make appropriate arrangements. For example, the Authority will need to make arrangements for the receipt of the share of the resource, transportation needs and risk management arrangements (e.g., insurance). There would be costs associated with receiving, holding, brokerage and distributing the contributions, which are not directly addressed in Art. 82. At the Beijing international technical workshop convened in 2013 by the ISA the complexities of contributions in kind were considered and it was recommended that ECS States, ‘while enjoying the exclusive choice to make payments or contributions in kind, should be encouraged to opt to make payments in the interests of simplicity and efficiency of implementation.’⁵⁶

3. ‘payments and contributions shall be made annually [...] after the first five years’

Art. 82 requires that payments and contributions in kind be made on an annual basis. A possible interpretation of timing of payments and contributions is the practice of the US lease stipulations for the Gulf of Mexico, where the Bureau of Ocean Energy Management, Regulation and Enforcement (BOEMRE) receives the contingent royalty at the end of the production lease year, which consists of 365 days, commencing on full production.⁵⁷

⁵⁴ Arts. 160(2)(f)(i) and 162(2)(o)(i). See further *Schatz* on Art. 157 MN 6–8.

⁵⁵ On the issue of convertible currency see ILA Outer Continental Shelf Committee: Report on Article 82 of the UN Convention on the Law of the Sea, Rio de Janeiro Conference (2008), para. 2.10, available at <http://www.ila-hq.org/en/committees/index.cfm/cid/33>.

⁵⁶ ISA Technical Study No. 12 (note 47), 31.

⁵⁷ United States Lease Stipulations (Gulf of Mexico, 2008), reproduced in: ISA Implementation of Article 82 (note 45), 7–8 (paras. 3, 9). The predecessor of BOEMRE at the time the leases were issued was the Minerals Management Service (MMS).

- 16 Art. 82 does not expressly stipulate whether payments and contributions are determined on the basis of gross or net production.⁵⁸ The reference to ‘all production’ leads to the inference that the gross is intended,⁵⁹ and this interpretation, especially when considered together with the grace period, is supported by the records of the UNCLOS III. The five-year grace period was clearly intended to enable producers to recover a substantial portion of their development costs. There was specific consideration of determining payment and contribution amounts on net production as an alternative, but negotiators opted for a simpler approach which minimized accounting exercises which were expected to be different from one jurisdiction to another.⁶⁰ Related to this interpretation matter is the phrase ‘value or volume of production’ and whether utilization of one or the other produces the same amount to be paid or contributed. Part of the difficulty is the lack of clarity concerning value of production. It is possible that the intended meaning is the well-head value, presumably according to prevailing market prices, which is consistent with oil and gas production.⁶¹ However, it is not clear that this interpretation would apply to other mineral resources. In any case, in calculating production, Art. 82 expressly excludes production of resources used in connection with exploitation.⁶²

4. ‘[f]or the sixth year, the rate of payment or contribution shall be 1 per cent of the value or volume of production at the site’ and ‘shall increase by 1 per cent for each subsequent year’

- 17 The Art. 82 obligation commences at one percent on the sixth year of production and thereafter increases at the rate of one percent per year until the rate of seven percent is reached. It is applicable to production at a site, but again it is not clear what ‘site’ actually refers to. In relation to hydrocarbons, it could relate to a well or field, as distinct from a license area. Different wells or fields in the same license area might not be brought into production at the same time. A narrow interpretation would thus trigger separate applications of the obligation for each well or field. It also does not differentiate between fields that might be layered in whole or in part over each other. A more reasonable and realistic construction is that site refers to a license area (in the case of hydrocarbons) because fiscal arrangements tend to be defined in legislation as well as the contractual arrangement for the license area concerned.

5. ‘[the rate] shall remain at 7 per cent’

- 18 The highest rate is seven percent, commencing on the thirteenth year of production. Producers are provided relief for production costs only during the first five years of production, although clearly such costs will continue to be incurred throughout the life of the field, but presumably at lower rates than the initial development period. The length of the five-year grace period and the incremental scale, although initially inspired by offshore development and production practices, are more reflective of the compromise needed to complete the UNCLOS III package deal than actual practice. Alternative approaches failed to secure broad support.⁶³

⁵⁸ *Chircop/Marchand* (note 46), 297–298.

⁵⁹ *Ibid.*; ILA Outer Continental Shelf Committee Report (note 51), para. 2.8 comes to a similar conclusion on this point.

⁶⁰ Formulation of Main Trends (note 31), 362 (Provision VIII, Formula A); Nordquist/Park (note 21), 98–100.

⁶¹ Nordquist/Park (note 21), 98–99.

⁶² E. g., a portion of the resource used to generate energy for production, gas re-injected into the well to enhance production and gas which is flared. *Chircop/Marchand* (note 46), 296.

⁶³ E. g., an Austrian proposal that would have applied different rates for production at various distances: *ibid.*, 289.

6. ‘[a] developing State which is a net importer [...] is exempt from making such payments’

During the Sea-Bed Committee and UNCLOS III, negotiations considered whether the Art. 82 obligation should apply to developing States.⁶⁴ The final compromise text provides an exemption to developing States⁶⁵ exploiting non-living resources of the ECS that are net importers of the mineral resource produced and which would otherwise be captured by Art. 82. There is a minor inconsistency in Art. 82 (3) concerning the reference to mineral resource, as at the same time the obligation as a whole applies to all non-living resources. This discrepancy, if it can be considered as such, has been explained by an ISA technical study which offers an interpretation penned to the broader concept of non-living resources. This study correctly points out that UNCLOS III negotiations did not differentiate between non-living and mineral resources.⁶⁶ The reference to mineral resource serves to emphasize the specificity of the exemption with reference to production from a particular non-living resource that qualifies for the exemption. Accordingly, the exemption does not extend to production from all non-living resources by developing States.

Presumably, a developing State enjoying the exemption is still entitled to benefit from payments and contributions made by other State Parties because there is no express disqualification in the Convention. At the most, the Authority might consider this hypothetical situation in developing equitable criteria for the distribution of payments and contributions to beneficiaries.

7. ‘payments or contributions shall be made through the Authority’

An important element in Art. 82 (4) is that payments and contributions are made **through, not to** the Authority. The difference is between payments and contributions received, held in trust by the Authority until they are distributed to the beneficiaries identified in UNCLOS, and payments and contributions made to the Authority for the purpose of discharging its own mandate. This matter was debated at length in the Sea-Bed Committee and UNCLOS III and the alternative argument that payments should be made to the Authority did not secure sufficient support. The consequence is that Art. 82 does not expressly provide the Authority with the right to deduct part of the payments and contributions to cover its own costs in administering its responsibilities in this provision. However, it is submitted that such a narrow interpretation is unreasonable, impractical and possibly not consistent with the spirit of the provision and UNCLOS as a whole. The Authority administers Art. 82 responsibilities on behalf of State Parties and for the purpose of distributing benefits to State Parties. If its costs cannot be recovered from the payments and contributions themselves, then the costs of administering the provision would have to be covered from the assessed contributions of State Parties to the Authority.⁶⁷

Although not expressly stated, the implementation of Art. 82 will require cooperation between the ECS State concerned and the Authority. Procedures for the determination and making of payments and contributions will need to be established. Both the ECS State and the Authority will need to develop internal procedures for the discharge of their respective responsibilities and for jointly addressing overlapping responsibilities. Art. 82 does not provide guidance for procedures for the determination of due amounts, regularity of payments, form and timing of payment or contribution amounts, and so on. While the Convention establishes a duty of good faith for all State Parties in exercising their rights and performing their obligations (→ Art. 300), the implementation of Art. 82 requires a working

⁶⁴ Nordquist/Nandan/Rosenne (note 21), 932–947.

⁶⁵ See *infra*, MN 25–27.

⁶⁶ ISA Technical Study No. 4 (note 45), 36.

⁶⁷ See generally *Ferrara* on Art. 171.

relationship between ECS States and the Authority because, as noted earlier, the implementation of the Authority's responsibilities are dependent on those of the ECS State. It should also be borne in mind that the Authority, although enjoying its own legal personality, effectively consists of the totality of its membership, represented through the Assembly and Council. Thus the Authority, as well as State Parties, should be informed of how the Art. 82 obligation is to be performed consistently with the provisions of the Convention.

- 23 Because of the complexity of Art. 82 and interdependence of the respective obligations of ECS States and the Authority, the payments, contributions and receiving procedures aspects of this provision call for a novel implementation process. Two ISA technical studies explore the possibility of a model agreement between the ECS State and the Authority.⁶⁸ For its part, and because it is the common focal point for the receipt of payments and contributions by all eligible ECS States, the Authority could develop a framework arrangement in consultation with State Parties. The Council is authorised by the Convention to develop rules, regulations and procedures in relation to Art. 82 and within this power it is in a position to recommend such a framework to the Assembly, without trenching on those aspects of Art. 82 which are clearly ECS State prerogatives, such as the option to make payments or contributions in kind.
- 24 The Council is the executive organ of the Authority tasked with recommending

‘to the Assembly rules, regulations and procedures on the equitable sharing of financial and other economic benefits derived from activities in the Area and the payments and contributions made pursuant to Article 82, taking into particular consideration the interests and needs of developing States and peoples who have not attained full independence or other self-governing status’.⁶⁹

The potential role of the Council as initiator of the process of implementation of Art. 82, at least insofar as the role of the Authority is concerned, is clear. It is anticipated that the Authority will need to develop an implementing framework and process. The Assembly is empowered with final consideration and approval of any such rules, regulations and procedures proposed by the Council, and may request the Council to reconsider recommendations.⁷⁰

8. ‘shall distribute them to States Parties to this Convention [...] taking into account the interests and needs of developing States’

- 25 The sharing of marine resources has been a central issue in the development of the international law of the sea since Malta's 1967 initiative, and this provision is central to that discourse. Art. 82 (4) provides the Authority with the duty and power to distribute the payments and contributions made by ECS States to other State Parties of the Convention. It is required to do so in accordance with equitable sharing criteria ‘taking into account the interests and needs of developing States, particularly the least developed and the land-locked among them.’ There is inconsistency between the designated beneficiaries in Art. 82 (4) and those listed in the duty of the Council to make recommendations to the Assembly in this regard in Art. 162 (2)(o)(i). This latter provision includes ‘taking into particular consideration the interests and needs of developing States and peoples who have not attained full independence or other self-governing status.’ One ISA technical study proposes that ‘the inconsistency should not be read as substantive because the two provisions provide criteria that are cumulatively applicable to the distribution of benefits in Article 82.’⁷¹

⁶⁸ ISA Technical Study No. 4 (note 45), 45–67, proposed an ‘Article 82 Agreement’. Subsequently, ISA Technical Study No. 12 (note 47), 31, recommended that the ISA ‘explore further the concept of a Memorandum of Understanding between an OCS State and the ISA, or a guidance document, and take steps to prepare a draft for discussion, bearing in mind that such instruments will be essentially voluntary and aim to provide practical guidelines and advice to assist OCS States in the implementation of Article 82.’

⁶⁹ Art. 162 (2)(o)(i). See generally *van Doorn* on Art. 162.

⁷⁰ Art. 160(2)(f)(i).

⁷¹ ISA Technical Study No. 4 (note 45), 39.

While the Authority will need to develop equitable sharing criteria, the Convention provides little guidance in this regard, other than references to States at different levels of economic development (i.e., developing States), geographical constraints (i.e., land-locked States) and peoples who have not yet attained independence or other self-governing status. The Authority is mandated to distribute benefits to State Parties and not to a sub-national entity. Identifying needs and interests imposes another level of political and socio-economic complexity, suggesting that the criteria will need to have broad-based political support. Existing economic development indices currently in use by intergovernmental organizations could be of assistance to the Authority in developing equitable criteria. It is conceivable that the Authority might need to develop its own index because it has to take into consideration the designation of land-locked developing State Parties as a beneficiary group. One ISA technical study attempts to address some of these issues and identifies a tentative ranking as follows:

- '(1) least developed land-locked State Parties and peoples who have not attained full independence or other self-governing status;
- (2) other developing State Parties (including other land-locked developing states); and
- (3) other State Parties (including newly industrialized, developed land-locked, developed states generally).'⁷²

Art. 82 and the powers conferred on the Authority for its implementation, while providing general guidance for the distribution of benefits, do not indicate purposes for the use of those benefits or empower the Authority with identifying such purposes. Similarly, the Convention, in particular the powers granted to the Council and Assembly, do not include an overseeing role over how beneficiaries utilise the benefits distributed by the Authority or an obligation on beneficiaries to report on the use of payments and contributions. During the negotiation of this provision at UNCLOS III, and also earlier in the Sea-Bed Committee, some States were of the view that the benefits should simply be distributed to States without accompanying conditions. One ISA technical study notes that 'it will be difficult to develop equitable sharing criteria with reference to interests and needs without a sense of the application of the payments and contributions.'⁷³ In this regard, the study suggested that the Millennium Development Goals could serve as guidance in identifying purposes for the benefits that are transferred. Nor is it clear in the Convention how benefits should be transferred, for example whether as direct payment to a State or possibly through an international development programme or institution. State Parties to the Convention will need to provide guidance to the Authority on these issues in a contemporary context.⁷⁴

Article 83

Delimitation of the continental shelf between States with opposite or adjacent coasts

1. The delimitation of the continental shelf between States with opposite or adjacent coasts shall be effected by agreement on the basis of international law, as referred to in Article 38 of the Statute of the International Court of Justice, in order to achieve an equitable solution.

2. If no agreement can be reached within a reasonable period of time, the States concerned shall resort to the procedures provided for in Part XV.

3. Pending agreement as provided for in paragraph 1, the States concerned, in a spirit of understanding and cooperation, shall make every effort to enter into provisional arrange-

⁷² *Ibid.*, 39–40.

⁷³ *Ibid.*, 42. See also ISA Technical Study 12 (note 47), 31–32. This study suggested that the Finance Committee of the ISA may have a role to play.

⁷⁴ For more in-depth consideration of the tasks that lie ahead of the Authority, see *ibid.*, 53 *et seq.*; Lodge (note 46), 323–333; Chircop, Operationalizing Article 82 (note 46), 395–412.

ments of a practical nature and, during this transitional period, not to jeopardize or hamper the reaching of the final agreement. Such arrangements shall be without prejudice to the final delimitation.

4. Where there is an agreement in force between the States concerned, questions relating to the delimitation of the continental shelf shall be determined in accordance with the provisions of that agreement.

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Cases: *Arbitration between Barbados and the Republic of Trinidad and Tobago, Relating to the Delimitation of the Exclusive Economic Zone and the Continental Shelf between Them* (2006), RIAA XXVII, 147; *Arbitration between Guyana and Suriname* (Guyana v. Suriname) (2007), RIAA XXX, 1; *Arbitration under the Timor Treaty* (Timor-Leste v. Australia) (pending); *Award of the Arbitral Tribunal in the Second Stage – Maritime Delimitation* (Eritrea v. Yemen), 17 December 1999, RIAA XXII, 335; *Case Concerning the Delimitation of the Continental Shelf between the United Kingdom of Great Britain and Northern Ireland, and the French Republic* (1977), RIAA XVIII, 3; *Case Concerning the Delimitation of Maritime Boundary between Guinea-Bissau and Senegal*, 31 July 1989, RIAA XX, 119; *Conciliation between The Democratic Republic of Timor-Leste and The Commonwealth of Australia* (pending); *Delimitation of the Maritime Boundary between Guinea and Guinea-Bissau* (1985), RIAA XIX, 149; *Delimitation of Maritime Areas between Canada and France* (1992), RIAA XXI, 265; ICJ, *Aegean Sea Continental Shelf Case* (Greece v. Turkey), Interim Protection, Order of 11 September 1976, ICJ Reports (1976), 3; ICJ, *Case Concerning the Continental Shelf* (Libyan Arab Jamahiriya/Malta), Judgment of 3 June 1985, ICJ Reports (1985), 13; ICJ, *Continental Shelf* (Tunisia/Libyan Arab Jamahiriya), Judgment of 24 February 1982, ICJ

Reports (1982), 18; ICJ, *Delimitation of the Maritime Boundary in the Gulf of Maine Area* (Canada v. United States of America), Judgment of 12 October 1984, ICJ Reports (1984), 246; ICJ, *Land and Maritime Boundary between Cameroon and Nigeria* (Cameroon v. Nigeria: Equatorial Guinea intervening), Judgment of 10 October 2002, ICJ Reports (2002), 303; ICJ, *Case Concerning Maritime Delimitation and Territorial Questions between Qatar and Bahrain* (Qatar v. Bahrain), Merits, Judgment of 16 March 2001, ICJ Reports (2001), 40; ICJ, *Maritime Delimitation in the Area between Greenland and Jan Mayen* (Denmark v. Norway), Judgment of 14 June 1993, ICJ Reports (1993), 38; ICJ, *Maritime Delimitation in the Black Sea* (Romania v. Ukraine), Judgment of 3 February 2009, ICJ Reports (2009), 61; ICJ, *Maritime Dispute* (Peru v. Chile), Judgment of 24 January 2014, ICJ Reports (2014), 3; ICJ, *North Sea Continental Shelf Cases* (Federal Republic of Germany v. Netherlands/Denmark), Judgment of 20 February 1969, ICJ Reports (1969), 3; ICJ, *Question of the Delimitation of the Continental Shelf between Nicaragua and Colombia beyond 200 Nautical Miles from the Nicaraguan Coast* (Nicaragua v. Colombia) (pending); ICJ, *Territorial and Maritime Dispute* (Nicaragua v. Colombia), Judgment of 19 November 2012, ICJ Reports (2012), 624; ICJ, *Territorial and Maritime Dispute between Nicaragua and Honduras in the Caribbean Sea* (Nicaragua v. Honduras), Judgment of 8 October 2007, ICJ Reports (2007), 659; *In the Matter of the Bay of Bengal Maritime Boundary Arbitration between the People's Republic of Bangladesh and the Republic of India* (2014), available at: <http://www.pca-cpa.org>; ITLOS, *Dispute Concerning Delimitation of the Maritime Boundary between Bangladesh and Myanmar in the Bay of Bengal* (Bangladesh v. Myanmar), Judgment of 14 March 2012, ITLOS Reports 12 (2012), 4; PCA, *Grisbådarna Case* (Norway v. Sweden), Award of 23 October 1909, RIAA XI, 147

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I. Purpose and Function

Art. 83 provides rules concerning the delimitation of the continental shelf. Art. 83 is essentially identical to Art. 74 regarding the delimitation of the exclusive economic zone (EEZ).¹ It follows that the delimitation of the continental shelf and that of the EEZ are governed by the same rules.² Whilst Art. 76 deals with the definition and determination of the outer limits of the continental shelf,³ Art 83 provides rules concerning the delimitation where the legal title over the continental shelf overlaps with that of another State. Like Art. 74, Art. 83 consists of four provisions. Art 83 (1) contains a substantive rule governing the delimitation of the continental shelf. Art. 83 (2) relates to a procedural rule with regard to the settlement of disputes concerning the continental shelf delimitation. Art. 83 (3) deals with

¹ For further detail, see *Tanaka* on Art. 74.

² Thus the commentary on Art. 83 partly overlaps *Tanaka* on Art. 74. For a legislative history of these provisions, see Myron H. Nordquist/Satya N. Nandan/Shabtai Rosenne (eds.), *United Nations Convention on the Law of the Sea 1982: A Commentary*, vol. II (1993), 952 *et seq*; S. P. Jagota, *Maritime Boundary* (1985), 219–272; Gerald J. Tanja, *The Legal Determination of International Maritime Boundaries* (1990), 81–116; Yoshifumi Tanaka, *Predictability and Flexibility in the Law of Maritime Delimitation* (2006), 44–47; Shunji Yanai, *International Law Concerning Maritime Boundary Delimitation*, in: David Joseph Attard/Malgosia Fitzmaurice/Norman A Martínez Gutiérrez (eds.), *The IMLI Manual on International Maritime Law, Volume I: The Law of the Sea* (2014), 309–312; Thomas Cottier, *Equitable Principles of Maritime Delimitation: The Quest for Distributive Justice in International Law* (2015), 213–217. See also Dissenting Opinion of Judge Oda in: ICJ, *Continental Shelf* (Tunisia/Libyan Arab Jamahiriya), Judgment of 24 February 1982, ICJ Reports (1982), 18, paras. 131–145.

³ See *Parson* on Art. 76 MN 26–33.

provisional arrangements before reaching the final agreement. Finally, Art. 83 (4) concerns the relationship between Art. 83 and the special agreement concerning the delimitation of the continental shelf. Without rules governing maritime delimitation in spaces where coastal State jurisdictions overlap, the legal uses of maritime spaces cannot be enjoyed effectively. Maritime delimitation thus occupies the central place within the law of the sea. In this sense, Art. 83, along with Art. 74, is of particular importance in the Convention.

II. Historical Background

- 2 Maritime delimitation began to take place around the beginning of the twentieth century.⁴ The 1909 *Grisbådarna* arbitration between Norway and Sweden is an early case in this field.⁵ However, it was after World War II when the delimitation of the continental shelf was really at issue in international law. On 28 September 1945, the United States took the decisive step with the Truman Proclamation to extend its jurisdiction over the natural resources on the continental shelf. The action of the United States created a chain reaction and the continental shelf was rapidly crystallised as a legal institution.⁶ Yet claims over the continental shelf created a problem with the delimitation of the continental shelf since coastal State jurisdiction with regard to the continental shelf overlaps in many parts of the world oceans. At UNCLOS I, rules concerning the delimitation of the territorial sea, the contiguous zone and the continental shelf were enshrined in Arts. 12 and 24 (3) of the Convention on the Territorial Sea and the Contiguous Zone (CTSZ) and in Art. 6 of the Convention on the Continental Shelf (CSC), respectively. Like Art. 12 of the Convention on the Territorial Sea and the Contiguous Zone concerning the delimitation of the territorial sea, Art. 6 CSC provides the triple rule of ‘agreement–equidistance (median line)–special circumstances’ as follows:⁷

‘1. Where the same continental shelf is adjacent to the territories of two or more States whose coasts are opposite each other, the boundary of the continental shelf appertaining to such States shall be determined by agreement between them. In the absence of agreement, and unless another boundary line is justified by special circumstances, the boundary is the median line, every point of which is equidistant from the nearest points of the baselines from which the breadth of the territorial sea of each State is measured.

2. Where the same continental shelf is adjacent to the territories of two adjacent States, the boundary of the continental shelf shall be determined by agreement between them. In the absence of agreement, and unless another boundary line is justified by special circumstances, the boundary shall be determined by application of the principle of equidistance from the nearest points of the baselines from which the breadth of the territorial sea of each State is measured.’

Yet, the relationship between the element of ‘equidistance’ and that of ‘special circumstances’ remained less clear. Nor did Art. 6 CSC give a clear meaning for special circumstances. Hence, Art. 6 CSC contained some elements of uncertainty. Furthermore, the customary law character of the equidistance method was denied by the International Court of Justice (ICJ) in the 1969 *North Sea Continental Shelf Cases*. Thus, as will be seen below, the centrality of the equidistance method in the delimitation of the continental shelf became controversial at UNCLOS III.

- 3 At UNCLOS III, the negotiations concerning the delimitation of the EEZ and those relating to the delimitation of the continental shelf at the UNCLOS III were carried out together.⁸ Like Art. 74 (1), the legislative history of Art. 83 (1) was characterised by the confrontation between the supporters of ‘equidistance’ and the supporters of ‘equitable principles’.⁹ At the Ninth

⁴ For a general analysis of State practice in this period, see *Daniel P. O’Connell*, *The International Law of the Sea*, vol. II (1984), 663–73; *Tanja* (note 2), 1–20; *Tanaka* (note 2), 19–32.

⁵ PCA, *Grisbådarna Case* (Norway v. Sweden), Award of 23 October 1909, RIAA XI, 147.

⁶ US Presidential Proclamation 2667, Policy of the United States With Respect to the Natural Resources of the Subsoil and Sea Bed of the Continental Shelf of 28 September 1945; see further *Maggio* on Art. 77 MN 4–8.

⁷ Entered into force 10 June 1964.

⁸ Nordquist/Nandan/Rosenne (note 2), 801.

⁹ For a more detailed review of the legislative process of Art. 74 and 83, see *Tanaka* on Art. 74 MN 4–9.

Session, on the basis of the proposal of the Chairman of Negotiating Group 7, Art. 83 (1), along with Art. 74 (1), of the Informal Composite Negotiating Text (ICNT)/Revision 2 provided that:

‘The delimitation of the continental shelf between States with opposite or adjacent coasts shall be effected by agreement in conformity with international law. Such an agreement shall be in accordance with equitable principles, employing the median or equidistance line, where appropriate, and taking account of all circumstances prevailing in the area concerned.’¹⁰

Yet the text remained controversial and no consensus was reached on this matter. In 1981, one year before the adoption of UNCLOS, T. T. B. KOH, President of UNCLOS III, proposed a draft article which would bring about a compromise and his proposal enjoyed widespread and substantial support in the two most interested groups of delegations and in the Conference as a whole.¹¹ On 28 August 1981, the draft was eventually incorporated into the Draft Convention,¹² which became, finally, Art. 83 (1) in the Convention.

The legislative history of Art. 83 (3) was nearly parallel to that of Art. 74 (3).¹³ The Informal Single Negotiating Text (ISNT), Part II, of 1975 stipulated that: ‘Pending agreement, no State is entitled to extend its continental shelf beyond the median line or the equidistance line’.¹⁴ This provision seemed to imply that the coastal State is entitled to claim its continental shelf up to the median line or the equidistance line within areas where delimitation was not or could not be effected. Subsequently, however, the reference to ‘the median line or the equidistance line’ was omitted in the Revised Single Negotiating Text (RSNT), Part II, of 1976. Art. 71 (3) of the RSNT stipulated that: ‘Pending agreement or settlement, the States concerned shall make provisional arrangements, taking into account the provisions of paragraph 1’.¹⁵ Although the text of this provision remained unchanged in the ICNT 1977¹⁶ and in the ICNT Revision 1, of 1979,¹⁷ the text was modified in the ICNT Revision 2 of 1980, as follows:¹⁸

‘Pending agreement as provided for in paragraph 1, the States concerned, in a spirit of understanding and co-operation, shall make every effort to enter into provisional arrangements of a practical nature and, during this transitional period, not to jeopardize or hamper the reaching of the final agreement. Such arrangements shall be without prejudice to the final delimitation.’

The formulation remained unchanged in the 1981 Draft Convention¹⁹ and it eventually became Art. 83 (3).

Art. 83 (2) was formulated at a comparatively early stage and the same text of the provision was provided in the ICNT of 1977. After this point, no change was made to this provision. By the same token, the text of Art. 83 (4) remained unchanged from the ISNT Part II, of 1975.

¹⁰ UNCLOS III, Informal Composite Negotiating Text, UN Doc. A/CONF.62/WP.10 (1980) OR VIII, 1, 16 and 17.

¹¹ UNCLOS III, 154th Plenary Meeting, UN Doc. A/CONF.62/SR.154 (1981), 39, 39–42 (Report of the President on the Consultations on Delimitation). See also UNCLOS III, Proposal on Delimitation, UN Doc. A/CONF.62/WP.11 (1981, mimeo.), in: Renate Platzöder (ed.), Third United Nations Conference on the Law of the Sea: Documents, vol. IX (1986), 474; Tanja (note 2), 114–115.

¹² UNCLOS III, Draft Convention on the Law of the Sea, UN Doc. A/CONF.62/L.78 (1981), OR XV, 172, 187.

¹³ See also Tanaka on Art. 74 MN 4–9.

¹⁴ UNCLOS III, Informal Single Negotiating Text (Part II), UN Doc. A/CONF.62/WP.8/PART II (1975), OR IV, 152, 162 (Art. 70 (3)).

¹⁵ UNCLOS III, Revised Single Negotiating Text (Part II), UN Doc. A/CONF.62/WP.8/REV.1/PART II (1976), OR V, 151, 164.

¹⁶ UNCLOS III, Informal Composite Negotiating Text, UN Doc. A/CONF.62/WP.10 (1977), OR VIII, 17 (Art. 83 (3)).

¹⁷ UNCLOS III, Informal Composite Negotiating Text (Revision 1), UN Doc. A/CONF.62/WP.10/REV.1 (1979), OR VIII, 57 (Art. 83 (3)).

¹⁸ UNCLOS III, Informal Composite Negotiating Text (Revision 2), UN Doc. A/CONF.62/WP.10/REV.2/CORR. 2 (1980), OR VIII, 59 (Art. 83 (3)).

¹⁹ UNCLOS III, Draft Convention on the Law of the Sea (Informal Text), UN Doc. A/CONF.62/WP.10/REV.3 (1980), OR VIII, 189 (Art. 74 (3)).

III. Elements

1. ‘The delimitation of the continental shelf’

- 6 In light of the difference between the ‘equities’ pertaining to the sea-bed and those relating to water spaces, the application of an identical rule does not necessarily mean that the delimitation line on the continental shelf will coincide with that of the EEZ. For example, marine living resources may be relevant for the EEZ boundary, whilst a continental shelf boundary may require consideration of the location of mineral deposits. In that case, a delimitation line that is equitable for the superjacent waters is not necessarily equitable for the seabed. A divergence of elements relevant for the seabed and superjacent waters creates the risk of creating two competing lines and creates a situation where part of the EEZ belongs to one State may overlap part of another State’s continental shelf.²⁰ However, judicial practice suggests that international courts and tribunals have always drawn a single maritime boundary both for the EEZ and the continental shelf.²¹ In practice, with a few exceptions, a considerable majority of maritime delimitation treaties establish a single maritime boundary. Notable exceptions include: the 1978 Torres Strait Treaty between Australia and Papua New Guinea²² and the 1997 Perth Treaty between Australia and Indonesia on the Timor and Arafura Seas.²³ The Torres Strait Treaty drew four different boundaries: (i) a seabed jurisdiction boundary, (ii) a fisheries jurisdiction boundary, (iii) a single maritime boundary for both the seabed and fisheries, and (iv) a protected zone boundary. The seabed jurisdiction boundary and the fisheries jurisdiction boundary do not coincide. As a consequence, in the ‘top hat’ area where the boundaries for the seabed and the superjacent waters were separated, Australia exercises fisheries jurisdiction, while Papua New Guinea has seabed jurisdiction. The Perth Treaty also established continental shelf and EEZ boundaries which do not coincide.²⁴ Furthermore, the 1970 Agreement between Indonesia and Malaysia creates a sharp triangular zone where Malaysia’s territorial sea overlaps Indonesia’s continental shelf.²⁵

2. ‘between States with opposite or adjacent coasts’

- 7 In earlier cases concerning maritime delimitation, international courts and tribunals attached great importance to the distinction between opposite and adjacent coasts when evaluating the relevance of the application of the equidistance method. International courts and tribunals have been less favourable to the application of the equidistance method to delimitation between States with adjacent coasts, even though they have applied to that

²⁰ Tanaka (note 2) 15–16.

²¹ See Tanaka on Art. 74 MN 10.

²² Treaty between Australia and the Independent State of Papua New Guinea Concerning Sovereignty and Maritime Boundaries in the Area between the Two Countries, Including the Area Known as Torres Straits, And Related Matters, 18 December 1978, ILM 18 (1997), 291. See also *Choon-ho Park*, Central Pacific and East Asian Maritime Boundaries, in: Jonathan I. Charney/Lewis M. Alexander (eds.), *International Maritime Boundaries*, vol. I (1993), 929–934 (Australia–Papua New Guinea); *Henry Burmester*, Torres Strait Treaty: Ocean Boundary Delimitation by Agreement, AJIL 76 (1982), 321; *Ben Milligan*, The Australia–Papua New Guinea Torres Strait Treaty: A Model for Cooperative Management of the South China Sea?, in: Robert C. Beckman (ed.), *Beyond Territorial Disputes in the South China Sea: Legal Frameworks for the Joint Development of Hydrocarbon Resources* (2013), 268.

²³ Treaty between the Government of Australia and the Government of Indonesia Establishing an Exclusive Economic Zone Boundary and Certain Seabed Boundaries of 14 March 1997, ILM 36 (1997), 1053 (not in force); Jonathan I. Charney/Robert W. Smith (eds.), *International Maritime Boundaries*, vol. IV (2002), 2714.

²⁴ See Tanaka (note 2), 338–343; *Max Herriman/Martin Tsamenyi*, The 1997 Australia–Indonesia Maritime Boundary Treaty: A Secure Legal Regime for Offshore Resource Development? ODIL 29 (1998), 361; *Victor Prescott*, Current Legal Developments: Australia/Indonesia, IJMCL 12 (1997), 533.

²⁵ Treaty between the Republic of Indonesia and Malaysia Relating to the Delimitation of the Territorial Seas of the Two Countries in the Strait of Malacca of 17 March 1970 (entered into force 8 October 1971), reproduced in: Charney/Alexander (note 23), 1035.

method to delimitation between States with opposite coasts. An essential reason was the distorting effect created by the application of the equidistance method in a situation of adjacency. The International Court of Justice (ICJ), in the *North Sea Continental Shelf Cases*, explained this point as follows that:

‘[W]hereas a median line divides equally between the two opposite countries areas that can be regarded as being the natural prolongation of the territory of each of them, a lateral equidistance line often leaves to one of the States concerned areas that are a natural prolongation of the territory of the other’.²⁶

This *dictum* was echoed by the Court in the *Libya/Malta Case*, stating that:

[I]t is well to recall the precise reason why the Court in its 1969 Judgment contrasted the effect of an equidistance line between opposite coasts and the effect between adjacent coasts. In the latter situation, any distorting effect of a salient feature might well extend and increase through the entire course of the boundary; whilst in the former situation, the influence of one feature is normally quickly succeeded and corrected by the influence of another, as the course of the line proceeds between more or less parallel coasts.²⁷

In the *Qatar/Bahrain Case* of 2001, however, the ICJ applied the equidistance method at the first stage of the delimitation line in a situation of adjacency.²⁸ After this case, judicial practice shows a clear tendency that international courts and tribunals apply the equidistance line at the first stage of maritime delimitation regardless of the configuration of the coasts, unless there are compelling reasons, such as highly unstable coastlines,²⁹ as a result of which the establishment of a provisional equidistance line is not feasible. In this sense, it could be said that the distinction made between opposite and adjacent coasts has been abandoned in the international jurisprudence concerning maritime delimitations.³⁰ It follows that the same delimitation method applies to the delimitation of the continental shelf at the first stage of the delimitation process, regardless of the configurations of the coasts.

3. ‘by agreement’

In the *Gulf of Maine Case*, the Chamber of the ICJ referred to a ‘fundamental norm’ 8 applicable to every maritime delimitation between neighbouring States. The first rule of the fundamental norm is that maritime delimitation must be sought and effected by means of an agreement in good faith.³¹ Delimitation by agreement is fundamental for the international law of maritime delimitation and the same applies to the delimitation of the continental shelf.

The reference to ‘by agreement’ in conjunction with ‘in order to achieve an equitable 9 solution’ in Art. 83 (1) may seem to contradict the rule of international law according to which States may freely determine the content of agreements in the absence of *jus cogens*. As Art. 83 (1) cannot be considered *jus cogens*, States may freely conclude any agreements even if they are not equitable.³² Like Art. 74 (1), Art. 83 (1) seems to suggest that delimitation shall be effected solely by agreement. However, this interpretation does not conform to reality. In fact,

²⁶ ICJ, *North Sea Continental Shelf Cases* (Federal Republic of Germany v. Netherlands/Denmark), Judgment of 20 February 1969, ICJ Reports (1969), 3, 37 (para. 58).

²⁷ ICJ, *Case Concerning the Continental Shelf* (Libyan Arab Jamahiriya/Malta), Judgment of 3 June 1985, ICJ Reports (1985), 13, 51 (para. 70).

²⁸ ICJ, *Case Concerning Maritime Delimitation and Territorial Questions between Qatar and Bahrain* (Qatar v. Bahrain), Merits, Judgment of 16 March 2001, ICJ Reports (2001), 40, 111 (para. 230).

²⁹ This was the reason why the ICJ did not apply the equidistance line in a part of the delimitation process in the *Nicaragua/Honduras Case*: ICJ, *Territorial and Maritime Dispute between Nicaragua and Honduras in the Caribbean Sea* (Nicaragua v. Honduras), Judgment of 8 October 2007, ICJ Reports (2007), 659.

³⁰ Robert Kolb, *Case Law on Equitable Maritime Delimitation: Digest and Commentaries* (2003), 548. See also Tanaka on Art. 74.

³¹ ICJ, *Delimitation of the Maritime Boundary in the Gulf of Maine Area* (Canada v. United States of America), Judgment of 12 October 1984, ICJ Reports (1984), 246, 299–300, para. 112.

³² Lucius Caflisch, *The Delimitation of Marine Spaces between States with Opposite and Adjacent Coasts*, in Rene-Jean Dupuy/Daniel Vignes (eds.) *A Handbook on the New Law of the Sea* (1991), 425, 484; Haritini Dipla, *Le régime juridique des îles dans le droit international de la mer* (1984), 221, 225.

disputes concerning delimitation of the continental shelf have frequently been settled through international adjudication. On account of these facts, it is reasonable to conclude that Art. 83 (1) is not intended to rule out judicial settlement in the absence of such an agreement.³³

4. 'Article 38 of the Statute of the International Court of Justice'

- 10 The reference to 'article 38 of the Statute of the International Court of Justice' calls for three comments. First, in the context of continental shelf delimitation, the reference to Art. 38 is not completely meaningless since it makes it possible to turn to the 1958 Geneva Convention on the Continental Shelf. Even so, the fact remains that it does not spell out the law applicable to maritime delimitation simply by enumerating the sources of international law. Thus, it is not of much use in determining the applicable law.³⁴ Second, since the 'general principles of law recognized by civilized nations' has no role to play in the context of maritime delimitation, the general principles mentioned in Art. 38 of the Statute of the ICJ may not be useful.³⁵ Third, like Art. 74 (1), the text of Art. 83 (1) refers to Art. 38 of the Statute of the ICJ as a whole. However, Art. 38 (2) ICJ Statute defines decisions *ex aequo et bono*, i.e. extra-legal considerations. Thus, some argue that the reference in Art. 83 (1) should have been limited to paragraph 1 of Art. 38. Yet suggestions to this effect have been defeated in the UNCLOS III.³⁶ Given that Art. 38 (2) applies only when the litigating parties have agreed thereto and, to this day, there is no case where the ICJ gave its judgments on the basis of *ex aequo et bono*, the reference to Art. 38 as a whole should not be considered problematic.
- 11 When a UNCLOS State party has ratified the 1958 Convention on the Continental Shelf, the relation between these two Conventions is at issue. Given that Art. 83 of the Convention refers to Art. 38 of the ICJ Statute, it can be considered that Art. 6 of the Convention on the Continental Shelf applies between Parties to both the Geneva Convention and UNCLOS, regardless of Art 311 (1). In fact, Art. 311 (5) provides that Art. 311 'does not affect international agreements expressly permitted or preserved by other articles of this Convention'. This provision is thought to be applied to Art. 6 of the Convention on the Continental Shelf since it is 'preserved' by the reference to Art. 38 of the ICJ Statute, including the existing treaty, contained in Art. 83 (1) UNCLOS.³⁷ It follows that the triple rule of 'agreement-equidistance-special agreement' under Art. 6 governs the delimitation of the continental shelf between Parties to both the Convention on the Continental Shelf and the UNCLOS. As will be seen, there is a clear trend that international courts and tribunals apply the equidistance method at the first stage of delimitation process. Accordingly, it may be said that the practical difference between the application of Art. 6 of the Convention on the Continental Shelf and that of Art. 83 (1) of the LOSC is thin.

5. 'an equitable solution'

- 12 Like Art. 74 (1), Art. 83 (1) offers scant explanation about the contents of 'an equitable solution'.³⁸ Thus the equitableness of maritime boundaries must be evaluated on a case-by-case basis. The concept of equity in the context of maritime delimitations is embodied in the

³³ *Cafisch* (note 32), 483; see also *Tanaka* on Art. 74 MN 13–14.

³⁴ *Philippe Cahier*, Les sources du droit relatif à la délimitation de plateau continental, in: Daniel Bardonnet/Jean Combacau/Pierre-Marie Dupuy/Prosper Weil (eds.), *Le droit international au service de la paix, de la justice et du développement: mélanges Michel Virally* (1991), 175.

³⁵ *Hungdah Chiu*, Some Problems Concerning the Application of the Maritime Boundary Delimitation Provisions of the 1982 United Nations Convention on the Law of the Sea Between Adjacent or Opposite States, *Md. J. Int'l L. & Trade* 9 (1985), 1, 8.

³⁶ *Cafisch* (note 32), 485.

³⁷ *Ibid.*, 479.

³⁸ See also *Tanaka* on Art. 74 MN 16–24.

equitable principles declared by the ICJ in the 1969 *North Sea Continental Shelf Cases*. In the words of the Court:

‘delimitation is to be effected by agreement in accordance with equitable principles, and taking account of all the relevant circumstances, in such a way as to leave as much as possible to each Party all those parts of the continental shelf that constitute a natural prolongation of its land territory into and under the sea, without encroachment on the natural prolongation of the land territory of the other’.³⁹

After the *North Sea Continental Shelf* judgment, equitable principles became the core of the international law of maritime delimitation.

In the application of equitable principles, a central issue involves the applicability of the equidistance method. In international jurisprudence relating to maritime delimitations, one can identify two contrasting approaches to this matter: an approach which denies the any obligatory method of maritime delimitation and an equidistance/relevant circumstances approach which applies the equidistance method at the first stage and envisages shifting of the provisional equidistance line taking account of relevant circumstances at the second stage of maritime delimitation.⁴⁰ In essence, the first approach seeks to maintain maximum flexibility, whilst the second approach aims to enhance predictability in the law of maritime delimitation.

As noted earlier, the first approach was advocated by the ICJ in the *North Sea Continental Shelf Cases*. Subsequently the ICJ, in the 1982 *Tunisia/Libya Case*, further promoted the result-oriented equity approach, stating that:

‘The result of the application of equitable principles must be equitable. [...] It is, however, the result which is predominant; the principles are subordinate to the goal. The equitableness of a principle must be assessed in the light of its usefulness for the purpose of arriving at an equitable result.’⁴¹

In this case, it accepted neither the mandatory character of equidistance, nor some privileged status of equidistance in relation to other methods.⁴² This approach was also echoed by the Chamber of the ICJ in the 1984 *Gulf of Maine Case*.⁴³ In the *Libya/Malta Case* of 1985, the full court also stressed the result to be achieved, not the means to be applied.⁴⁴ Later the first approach was echoed by the 1985 *Guinea/Guinea-Bissau Arbitration*⁴⁵ and the 1992 *St. Pierre and Miquelon arbitration* between Canada and France.⁴⁶

By contrast, the second approach was adopted by the Court of Arbitration in the 1977 *Anglo-French Continental Shelf Arbitration*. In the words of the Court of Arbitration,

‘The Court notes that in a large proportion of the delimitations known to it, where a particular geographical feature has influenced the course of a continental shelf boundary, the method of delimitation adopted has been some modification or variant of the equidistance principle rather than its total rejection. [...] [I]t seems to the Court to be in accord not only with the legal rules governing the continental shelf but also with State practice to seek the solution in a method modifying or varying the equidistance method rather than to have recourse to a wholly different criterion of delimitation.’⁴⁷

³⁹ *North Sea Continental Shelf Cases* (note 26), 53 (para. 101 (C) (1)) and 46 (para. 85).

⁴⁰ For detailed analysis of the approaches adopted by the international courts and tribunals, see *Tanaka* (note 2) 51 *et seq.* See also *Tanaka* on Art. 74.

⁴¹ *Tunisia/Libya Case* (note 2), 59 (para. 70).

⁴² *Ibid.*, 79 (para. 110).

⁴³ *Gulf of Maine Case* (note 31), 312–313 (paras. 157–158) and 315 (paras. 162–163).

⁴⁴ *Libya/Malta Case* (note 27), 38–39 (para. 45). At the stage of establishing the continental shelf boundary between opposite coasts, however, the Court applied the equidistance method as a first provisional step, and the equidistance line was adjusted in a second stage on account of relevant circumstances. *Ibid.*, 52–53 (para. 73). Accordingly, the Court applied the equidistance method at the first stage of continental shelf delimitation, although it supported the result-oriented equity approach.

⁴⁵ *The Guinea/Guinea-Bissau Arbitration*, RGDIIP 89 (1985), 484, 521 (para. 89) and 525 (para. 102).

⁴⁶ *Delimitation of Maritime Areas between Canada and France* (1992), RIAA XXI, 265–341; ILM 31, 1163, para. 38.

⁴⁷ *Case Concerning the Delimitation of Continental Shelf between the United Kingdom of Great Britain and Northern Ireland, and the French Republic* (1977), RIAA XVIII, 3, 116 (para. 249, emphasis added). The Court took into account the fact that, in the Atlantic region, Art. 6 was applicable. As Art. 6 is the particular expression of a customary law of equitable principles, the result would be the same as if customary law had been applied.

According to the approach of the Court of Arbitration, the equidistance method is applied at the first stage of delimitation, and then a shift of the equidistance line may be envisaged if relevant circumstances warrant it, in order to achieve an equitable result; equity comes into play as a corrective element. This approach is based on the concept of corrective equity or *l'équité correctrice*.⁴⁸ The approach adopted in the *Anglo-French Continental Shelf* arbitration was echoed by the ICJ in the 1993 *Greenland/Jan Mayen* case.⁴⁹ Given that the ICJ has been less favourable to the equidistance/relevant circumstances approach, the *Greenland/Jan Mayen* judgment can be considered as a turning point in case law relating to maritime delimitation. Subsequently, the equidistance/relevant circumstances approach was taken by the 1999 *Eritrea/Yemen Arbitration Second Stage*.⁵⁰ Further, in the 2001 *Qatar/Bahrain Case*, the ICJ applied the equidistance/relevant circumstances approach under customary law in the delimitation between States with adjacent coasts.⁵¹ Moreover, in the *Cameroon/Nigeria Case*, the ICJ notably applied the equidistance method at the first stage of maritime delimitations under Art. 74 and 83.⁵² According to the Court's interpretation, a specific method, i.e., the equidistance method, should be incorporated into Art. 74 (1) and 83 (1). Given that any reference to a specific delimitation method was omitted in drafting those provisions, this is thought to be a judicial innovation. In the 2006 *Barbados/Trinidad and Tobago Arbitration*, the Arbitral Tribunal took the equidistance/relevant circumstances approach in the operation of maritime delimitation under Art. 74 and 83,⁵³ even though it did not admit of a mandatory character of any delimitation method. The ICJ, in the 2007 *Nicaragua/Honduras Case*, found that it could not apply the equidistance line because of the very active morphodynamism of the relevant area. Accordingly, it established a single maritime boundary by applying the bisector method. Nonetheless, the Court accepted that: '[E]quidistance remains the general rule'.⁵⁴ In fact, concerning the delimitation around the islands in the dispute area, the Court applied, without any problem, the equidistance/relevant circumstances approach by referring to the *Qatar/Bahrain Case*.⁵⁵ Hence it may be argued that the departure from the previous jurisprudence is only partial.⁵⁶ The arbitral tribunal, in the 2007 *Guyana/Suriname Arbitration*, applied the equidistance/relevant circumstances approach more clearly under Art. 74 and 83.⁵⁷

- 16 In the 2009 *Black Sea Case* between Romania and Ukraine, the ICJ adopted, for the first time in its jurisprudence, the three-stage approach under Art. 74 and 83.⁵⁸ The first stage is to establish the provisional equidistance line. At the second stage, the Court will examine whether there are relevant circumstances calling for the adjustment of the provisional equidistance line in order to achieve an equitable result. At the final and third stage, the Court will verify whether the delimitation line does not lead to an inequitable result by

⁴⁸ Prosper Weil, *Perspective du droit de la délimitation maritime* (1988), 179.

⁴⁹ ICJ, *Maritime Delimitation in the Area between Greenland and Jan Mayen* (Denmark v. Norway), Judgment of 14 June 1993, ICJ Reports (1993), 38, 58–62 (paras. 46–56).

⁵⁰ PCA, *Award of the Arbitral Tribunal in the Second Stage – Maritime Delimitation* (Eritrea v. Yemen), 17 December 1999, RIAA XXII, 335, 365 (paras. 131–132).

⁵¹ *Qatar/Bahrain Case* (note 28), 91 (para. 167) and 111 (para. 230).

⁵² ICJ, *Land and Maritime Boundary between Cameroon and Nigeria* (Cameroon v. Nigeria: Equatorial Guinea intervening), Judgment of 10 October 2002, ICJ Reports (2002), 303, 441–442 (paras. 288–290).

⁵³ *Arbitration between Barbados and the Republic of Trinidad and Tobago, Relating to the Delimitation of the Exclusive Economic Zone and the Continental Shelf between Them* (2006), RIAA XXVII, 147, 243 (para. 373).

⁵⁴ *Nicaragua/Honduras Case* (note 29), 745 (para. 281).

⁵⁵ *Ibid.*, 752 (para. 304).

⁵⁶ Yoshifumi Tanaka, *Current Legal Developments: International Court of Justice*, IJMCL 23 (2008), 327, 342–343 (Case Concerning the Territorial and Maritime Dispute between Nicaragua and Honduras in the Caribbean Sea (8 October 2007)). See also Robin Churchill, *Dispute Settlement Under the UN Convention on the Law of the Sea: Survey for 2007*, IJMCL 23 (2008), 601, 622–624.

⁵⁷ *Arbitration between Guyana and Suriname* (Guyana v. Suriname) (2007), RIAA XXX, 1, 93 (para. 335) and 95 (para 342).

⁵⁸ ICJ, *Maritime Delimitation in the Black Sea* (Romania v. Ukraine), Judgment of 3 February 2009, ICJ Reports (2009), 61.

applying the test of disproportionality.⁵⁹ Given that the disproportionality test aims to check for an equitable outcome of the maritime delimitation, it may be argued that the three-stage approach also relies essentially on the concept of corrective equity. In this sense, the three-stage approach can be considered as a variation of the equidistance/relevant circumstances approach. The three-stage approach has been applied by the ICJ in its subsequent cases, and it was followed by the International Tribunal for the Law of the Sea (ITLOS) in the 2012 *Bay of Bengal Case* between Bangladesh and Myanmar⁶⁰ and the 2014 arbitration between Bangladesh and India.⁶¹

It can be argued that the development of the law of maritime delimitation is essentially characterised by the tension between predictability and flexibility in the law. In a broad perspective, it can be observed that the law of maritime delimitation is moving in a direction from the approach based on the concept of creative equity to the three-stage approach based on the concept of corrective equity.⁶² By incorporating the equidistance method into the realm of law, the three-stage approach is thought to enhance predictability of the law of maritime delimitation. As The International Tribunal for the Law of the Sea (ITLOS) aptly observed in the *Bay of Bengal Case*, it may be said that: ‘Over time, the absence of a settled method of delimitation prompted increased interest in enhancing the objectivity and predictability of the process’.⁶³

A controversial issue that needs further consideration relates the delimitation of the continental shelf beyond 200 NM. Under Art. 76 of the UNCLOS, the Commission on the Limits of the Continental Shelf (CLCS) is assigned the function of making recommendations to coastal States on matters relating to the establishment of the outer limits of the continental shelf.⁶⁴ Under Art 76 (10), ‘[t]he provisions of this article are without prejudice to the question of delimitation of the continental shelf between States with opposite or adjacent coasts’.⁶⁵ In cases where a land or maritime dispute exists, the Commission shall not consider and qualify a submission made by any of the States concerned in the dispute, unless there is prior consent given by all States that are parties to such a dispute.⁶⁶ In the situation where one of the parties or a third State raises an objection to the Commission considering and making recommendations on the submission of a State concerning the continental shelf beyond 200 NM, international courts and tribunals will encounter difficulties to delimit the continental shelf between the parties since, without considerations and recommendations by the CLCS with regard to the validity of submissions concerning the continental shelf beyond 200 NM, it is difficult for international courts and tribunals to determine whether the continental shelf of a party actually extends beyond 200 NM. If the international court or tribunal declines to delimit the continental shelf beyond 200 nm, however, the dispute on this subject remains unsettled.⁶⁷ Here a dilemma arises. In this regard, it is of particular interest

⁵⁹ *Ibid.*, 101–103 (paras. 115–122).

⁶⁰ ITLOS, *Dispute Concerning Delimitation of the Maritime Boundary between Bangladesh and Myanmar in the Bay of Bengal* (Bangladesh v. Myanmar), Judgment of 14 March 2012, ITLOS Reports 12 (2012), 67–68, para. 240.

⁶¹ *In the Matter of the Bay of Bengal Maritime Boundary Arbitration between the People’s Republic of Bangladesh and the Republic of India* (2014), paras. 345–346, available at: <http://www.pca-cpa.org>.

⁶² See Tanaka on Art. 74 MN 14–22; See also Speech by His Excellency Judge Gilbert Guillaume, President of the International Court of Justice, to the Sixth Committee of the General Assembly of the United Nations, 31 October 2001, available at: <http://www.icj-cij.org/court/index.php?pr=81&pt=3&p1=1&p2=3&p3=1&PHP-SESSIONID=5c407>.

⁶³ *Bay of Bengal Case* (note 60), 65, para. 228. It is also to be noted that as shown in the *Gulf of Maine Case* (note 31) and the *Libya/Malta Case* (note 27), the ICJ seemed to accept the validity of the corrective-equity approach in the maritime delimitation between States with opposite coasts, even when it supported the result-oriented equity approach.

⁶⁴ See further *Parson* on Art. 76 MN 53–55 and *Serdy* on Annex II.

⁶⁵ See also Annex II Art. 9 UNCLOS.

⁶⁶ Para. 5 (a) of Annex I of the Rules of Procedure of the Commission on the Limits of the Continental Shelf, available at: http://www.un.org/depts/los/clcs_new/commission_rules.htm.

⁶⁷ *Bangladesh/India Arbitration* (note 61), para. 390.

to note that ITLOS established the continental shelf boundary beyond 200 NM in the 2012 *Bay of Bengal Case*. In this case, ITLOS considered that:

‘A decision by the Tribunal not to exercise its jurisdiction over the dispute relating to the continental shelf beyond 200 nm would not only fail to resolve a long-standing dispute, but also would not be conducive to the efficient operation of the Convention’.⁶⁸

According to the Tribunal, ‘the exercise of its jurisdiction in the present case cannot be seen as an encroachment on the functions of the Commission’.⁶⁹ ITLOS thus concluded that it has an obligation to delimit the continental shelf between the Parties beyond 200 NM.⁷⁰ In this regard, it must be noted that ITLOS exercised its jurisdiction to delimit the continental shelf beyond 200 NM because there was no ‘significant uncertainty’ that both Bangladesh and Myanmar have entitlements to a continental shelf beyond 200 NM. In the words of the Tribunal, it ‘would have been hesitant to proceed with the delimitation of the area beyond 200 nm had it concluded that there was significant uncertainty as to the existence of a continental margin in the area in question’.⁷¹ Concerning the delimitation method, ITLOS held that Art. 83 UNCLOS applies equally to the delimitation of the continental shelf both within and beyond 200 NM;⁷² and that the delimitation method to be employed in the present case for the continental shelf beyond 200 NM should not differ from that within 200 NM.⁷³ Accordingly, it extended the line of single maritime boundary beyond 200-NM-limit until it reaches the area where the rights of third States may be affected.⁷⁴ The ITLOS’s approach was echoed by the Annex VII Arbitral Tribunal in the 2014 *Bangladesh/India Arbitration*. In the words of the Tribunal:

‘The Tribunal considers that the appropriate method for delimiting the continental shelf remains the same, irrespective of whether the area to be delimited lies within or beyond 200 nm. Having adopted the equidistance/relevant circumstances method for the delimitation of the continental shelf within 200 nm, the Tribunal will use the same method to delimit the continental shelf beyond 200 nm’.⁷⁵

In contrast, the ICJ, in the 2012 *Nicaragua/Colombia Case*, refrained from delimitation of the continental shelf boundary beyond 200 NM since Nicaragua had not established that it has a continental margin that extends far enough to overlap with Colombia’s 200 NM entitlement to the continental shelf, measured from Colombia’s mainland coast.⁷⁶ In 2013, Nicaragua newly instituted proceedings against Colombia with regard to the delimitation of the continental shelf beyond 200 NM from the Nicaraguan coast (pending).⁷⁷ International jurisprudence on this subject still remains inadequate, and further development of case law is needed.⁷⁸

⁶⁸ *Bay of Bengal Case* (note 60), 102, para. 391.

⁶⁹ *Ibid.*, para. 392.

⁷⁰ *Ibid.*, para. 393.

⁷¹ *Ibid.*, para. 443.

⁷² *Ibid.*, para. 454.

⁷³ *Ibid.*, para. 455.

⁷⁴ *Ibid.*, para. 462. Further, see *Yanai* (note 2), 332–339.

⁷⁵ *Bangladesh/India Arbitration* (note 61), 142 (para. 465). In this case, the Annex VII Arbitral Tribunal confirmed that ‘[N]either Party denies that there is a continental shelf beyond 200 nm in the Bay of Bengal: *ibid.*, 21, para. 78.

⁷⁶ ICJ, *Territorial and Maritime Dispute* (Nicaragua v. Colombia), Judgment of 19 November 2012, ICJ Reports (2012), 624, 669 (para. 129).

⁷⁷ Application instituting proceedings, 16 September 2013. Related to this, on 24 June 2013, Nicaragua submitted information on the limits of the continental shelf beyond 200 NM in the south-western part of the Caribbean Sea to the CLCS in accordance with Art. 76 (8). On 23 September 2013, however, Colombia, Costa Rica and Panama jointly lodged strong objection to Nicaragua’s claim over the continental shelf beyond 200 NM. Subsequently, on 5 February 2014, the three States objected to the CLCS considering Nicaragua’s submission. See http://www.un.org/Depts/los/clcs_new/submissions_files/submission_nic_66_2013.htm.

⁷⁸ See further, Bjarni Már Magnússon, *The Continental Shelf beyond 200 Nautical Miles: Delineation, Delimitation and Dispute Settlement* (2015), 117 *et seq.*

6. ‘the procedures provided for in Part XV’

Under Art. 83 (2), when the parties in dispute could not reach an agreement with regard 19 to the delimitation of the continental shelf ‘within a reasonable period of time’, the dispute is subject to procedures of dispute settlement in Part XV. However, the precise meaning of the phrase ‘within a reasonable period of time’ remains less clear.⁷⁹ Further, under Art. 298 (1)(a)(i), maritime delimitation disputes may be exempted from the compulsory procedure provided for in Section 2 of Part XV. Where no agreement is reached in negotiations between the parties, they are subject to the compulsory conciliation under Section 2, Annex V of UNCLOS. Yet any dispute that necessarily involves the concurrent consideration of any unsettled dispute concerning sovereignty or other rights over continental or insular land territory shall be excluded from such submission.⁸⁰ The parties shall negotiate an agreement on the basis of the report of the conciliation commission. If these negotiations do not result in an agreement, the parties shall, by mutual consent, submit the question to one of the procedures provided for in Section 2, unless the parties otherwise agree in accordance with Art. 298 (1)(a)(ii). However, under Art. 298 (1)(a)(iii), Art. 298 (1)(a) does not apply to any sea boundary dispute finally settled by an arrangement between the parties, or to any such dispute which is to be settled in accordance with a bilateral or multilateral agreement binding upon those parties.⁸¹

7. ‘provisional arrangements of a practical nature’

Art. 83 (3) is essentially identical to Art. 74 (3). Thus the same comments are applicable to 20 Art. 83 (3), insofar as they relate to the continental shelf.⁸²

8. ‘not to jeopardize or hamper the reaching of the final agreement’

Art. 83 (3) contains no indication of what is meant by the phrase ‘jeopardize or hamper’. 21 The phrase is not intended to preclude some activities by the States concerned in a disputed area of the continental shelf, if those activities would not have the effect of prejudicing the final agreement.⁸³ However, the validity of activities in the disputed area needs careful consideration in a specific context. In the *Aegean Sea Continental Shelf Case* between Greece and Turkey, a contentious issue arose with regard to unilateral seismic exploration conducted by Turkey in disputed areas of the continental shelf. In this case, Greece contended that: ‘[T]he continued seismic exploration undertaken by Turkey in the areas of the continental shelf which are in dispute threaten to prejudice the exclusive sovereign rights claimed by Greece in respect of those areas’.⁸⁴ It also maintained that: ‘Turkey’s seismic exploration threatens in particular to destroy the exclusivity of the rights claimed by Greece to acquire information concerning the availability, extent and location of the natural resources of the areas’.⁸⁵ Greece thus requested that the ICJ indicate the provisional measure that require Turkey to refrain from all exploration activity or any scientific research in disputed areas of the continental shelf.⁸⁶ However, the ICJ declined the request by Greece for three reasons. First, the purpose of these explosions is to send sound waves

⁷⁹ Nordquist/Nandan/Rosenne (note 2), 815.

⁸⁰ Art. 298 (1)(a)(i).

⁸¹ See further *Serdy* on Art. 298 MN 14–22.

⁸² See *Tanaka* on Art 74 MN 28–31.

⁸³ Nordquist/Nandan/Rosenne (note 2), 815.

⁸⁴ ICJ, *Aegean Sea Continental Shelf Case* (Greece v. Turkey), Interim Protection, Order of 11 September 1976, ICJ Reports (1976), 3, 9 (para. 26).

⁸⁵ *Ibid.*

⁸⁶ *Ibid.*, 4–5 (para. 2). Request for the indication of Interim Measures of Protection submitted by the Government of Greece, 10 August 1976, 66.

through the seabed so as to obtain information regarding the geophysical structure of the earth beneath it. No complaint had been made that this form of seismic exploration involved any risk of physical damage to the seabed or subsoil or to their natural resources. Second, the continued seismic exploration activities undertaken by Turkey are of the transitory character, and did not involve the establishment of installations on or above the seabed of the continental shelf. Third, Turkey embarked upon no operations involving the actual appropriation or other use of the natural resources of the disputed areas of the continental shelf.⁸⁷ The ICJ thus concluded that the possibility of prejudice to the Greece's sovereign rights by the seismic exploration by Turkey did not suffice to indicate interim measures under Art. 41 (1) of the ICJ Statute.⁸⁸ Although the Court did not determine the legality of unilateral seismic exploration in the disputed area at the provisional measures stage, the *Aegean Sea Continental Shelf* Order appeared to imply that the seismic exploration of a transitory nature could not be considered as affecting Greece's potential rights to the continental shelf.⁸⁹

- 22 This view was echoed by the Arbitral Tribunal in the *Guyana/Suriname Arbitration*.⁹⁰ In this case, the Arbitral Tribunal took the view that a distinction must be made between activities of the kind that lead to a permanent physical change, such as exploitation of oil and gas reserves, and those that do not, such as seismic exploration.⁹¹ According to the Arbitral Tribunal, 'acts that do cause physical change would have to be undertaken pursuant to an agreement between the parties to be permissible, as they may hamper or jeopardise the reaching of a final agreement on delimitation', whilst unilateral acts which do not cause a physical change to the marine environment would not have the effect of jeopardizing or hampering the reaching of a final agreement on the delimitation of the maritime boundary.⁹² The Arbitral Tribunal thus considered that seismic activity should be permissible in a disputed area,⁹³ if there is no objection of the other party.⁹⁴
- 23 A related issue in this regard concerns access of information about the resources of the disputed area. In this regard, the Special Chamber of ITLOS, in the 2015 *Ghana/Côte d'Ivoire Case*, ruled that the exclusive right to access to information about the resources of the continental shelf is plausibly among the rights of the coastal State over its continental shelf.⁹⁵ In the view of the Special Chamber,

'the acquisition and use of information about the resources of the disputed area would create a risk of irreversible prejudice to the rights of Côte d'Ivoire should the Special Chamber, in its decision on the merits, find that Côte d'Ivoire has rights in all or any part of the disputed area'.⁹⁶

⁸⁷ *Aegean Sea Continental Shelf* (note 84), 10 (para. 30).

⁸⁸ *Ibid.*, 11 (para. 32). However, Judge Stassinopoulos took the view that: '[T]he material fact of exploring the continental shelf by means of explosions constitutes an aggravating circumstance if the evolution of international law in this respect is taken into account'. Dissenting Opinion of Judge Stassinopoulos, *ibid.*, 37.

⁸⁹ Natalie Klein, Provisional Measures and Provisional Arrangements in Maritime Boundary Disputes, *IJMCL* 21 (2006), 432. At the same time, it must be remembered that as the ICJ stated, 'neither concessions unilaterally granted nor exploration activity unilaterally undertaken by either of the interested States with respect to the disputed areas can be creative of new rights or deprive the other State of any rights to which in law it may be entitled'. *Aegean Sea Continental Shelf* (note 84), 10 (para. 29).

⁹⁰ *Tanaka on Art. 74*.

⁹¹ *Guyana/Suriname Arbitration* (note 57), 132–133 (paras. 467–469).

⁹² *Ibid.*, 132 (paras. 466–467).

⁹³ *Ibid.*, 137 (para. 481).

⁹⁴ In the *Guyana/Suriname Arbitration*, seismic activities did not give rise to objections from either side, *ibid.* Where unilateral exploration of natural resources in disputed areas gave rise to objections for either party, it may be argued that the parties are required to make every effort to conclude provisional arrangements of a practical nature pending agreement on delimitation pursuant to Arts. 74 (3) and 83 (3) UNCLOS.

⁹⁵ ITLOS Special Chamber, *Dispute Concerning Delimitation of the Maritime Boundary Between Ghana and Côte d'Ivoire in the Atlantic Ocean* (Ghana/Côte d'Ivoire), Request for Provisional Measures, Order of 25 April 2015, para. 94, available at: <https://www.itlos.org/en/cases/list-of-cases/case-no-23/case-no-23-provisional-measures/>.

⁹⁶ *Ibid.*, para. 95.

It thus prescribed the provisional measure which requires Ghana to

‘take all necessary steps to prevent information resulting from past, ongoing or future exploration activities conducted by Ghana, or with its authorization, in the disputed area that is not already in the public domain from being used in any way whatsoever to the detriment of Côte d’Ivoire’.⁹⁷

Unilateral exploration and exploitation of natural resources which may have a permanent physical impact on the marine environment of the disputed areas is more controversial.⁹⁸ On this issue, the Arbitral Tribunal, in the *Guyana/Suriname Arbitration*, took the view that: ‘[U]nilateral acts that cause a physical change to the marine environment will generally be comprised in a class of activities that can be undertaken only jointly or by agreement between the parties’.⁹⁹ In accordance with the *dictum* of the *Guyana/Suriname* arbitral award, it seems possible to argue that activities which physically affect natural resources are contrary to Art. 83 (3) because these acts may hamper or jeopardize the reaching of a final agreement. In the *Ghana/Côte d’Ivoire* Order of 2015, however, the Special Chamber of ITLOS took a different view. On the one hand, the Special Chamber ruled that the ongoing exploration and exploitation activities conducted by Ghana in the disputed area would result in a modification of the physical characteristics of the continental shelf and that

‘there is a risk of irreparable prejudice where, in particular, activities result in significant and permanent modification of the physical character of the area in dispute and where such modification cannot be fully compensated by financial reparations’.¹⁰⁰

On the other hand, the Special Chamber considered that

‘the suspension of on-going activities conducted by Ghana in respect of which drilling has already taken place would entail the risk of considerable financial loss to Ghana and its concessionaires and could also pose a serious danger to the marine environment resulting, in particular, from the deterioration of equipment’.¹⁰¹

Thus the Special Chamber declined to prescribe the provisional measure requested by Côte d’Ivoire that requires Ghana to suspend all ongoing oil exploration and exploitation operations in the disputed area, while it prescribed the provisional measure which requires Ghana to take all necessary steps to ensure that no new drilling either by Ghana or under its control takes place in the disputed area.¹⁰² However, the Special Chamber did not clarify whether or not marine pollution from the degradation of equipment is imminent, whereas as the Special Chamber itself accepted, the risk of irreparable prejudice to the sovereign rights of Côte d’Ivoire arising from ongoing seabed activities of Ghana is imminent.¹⁰³ Further, as the Special Chamber itself observed, any compensation awarded would never be able to restore the *status quo ante* in respect of the seabed and subsoil,¹⁰⁴ while financial loss can be compensated by financial reparations. Hence some doubts could be expressed as to whether marine pollution from the degradation of equipment and financial loss to Ghana could provide adequate reasons to decline the main request of Côte d’Ivoire which requires Ghana to cease ongoing oil exploitation in the disputed area in the disputed area. Moreover, it is undeniable that ongoing exploitation operations may entail the risk of achieving *fait accompli*. It seems debatable whether the provisional measures prescribed by the Special Chamber would be adequate to prevent a *fait accompli* in the *Ghana/Côte d’Ivoire* dispute.¹⁰⁵

⁹⁷ *Ibid.*, para. 108(1)(a).

⁹⁸ See also Tanaka on Art. 74 MN 35 *et seq.*

⁹⁹ *Guyana/Suriname Arbitration* (note 57), 137 (para. 480).

¹⁰⁰ *Ghana/Côte d’Ivoire Case* (note 96), para. 89.

¹⁰¹ *Ibid.*, para. 99.

¹⁰² *Ibid.*, para. 108(1)(a). In this regard, it is to be noted that exploration and exploitation operations of Ghana are carried out on the Ghana’s side of the equidistance line.

¹⁰³ See Tanaka on Art. 74 MN 37.

¹⁰⁴ *Ghana/Côte d’Ivoire Case* (note 96), para. 90.

¹⁰⁵ Yoshifumi Tanaka, Unilateral Exploration and Exploitation of Natural Resources in Disputed Areas: A Note on the *Ghana/Côte d’Ivoire* Order of 25 April 2015 before the Special Chamber of ITLOS, ODIL 46 (2015), 324–326.

9. 'Where there is an agreement in force between the States concerned'

- 25 Art. 83 (4) is *lex specialis* in relation to Art. 311.¹⁰⁶ The meaning of this provision is clear: Where there is an agreement in force between the States, the delimitation of the continental shelf is to be determined by the agreement. However, the existence of an agreement relating to a maritime boundary between States concerned may be a subject of dispute.¹⁰⁷ In the 1985 *Guinea/Guinea-Bissau Arbitration*, for instance, the question arose as to whether the Convention of 1886 established the maritime boundary between the two States in West Africa. In this case, the Court of Arbitration ruled that the 1886 Convention had not established a general maritime boundary.¹⁰⁸ In the *Guinea-Bissau/Senegal* case, the Arbitral Tribunal ruled that the exchange of letters on 26 April 1960 between France and Portugal established a maritime boundary for the territorial sea, the contiguous zone, and the continental shelf, even though the boundary did not comprise the EEZ since the concept of the EEZ was unknown at that time.¹⁰⁹ In the *Nicaragua/Honduras Case*, a question was raised whether as Honduras claimed, the line of the 15th parallel constituted the maritime delimitation line on the basis of the *uti possidetis juris* principle referred to in the Gámez-Bonilla Treaty and the 1906 Award of the King of Spain. In this case, the ICJ concluded that the *uti possidetis juris* principle cannot be said to have provided a basis for a maritime delimitation along the 15th parallel.¹¹⁰ Although Honduras further argued that there was a 'de facto boundary based on the tacit agreement of the Parties' at the 15th parallel, the Court was not persuaded by the Nicaragua's argument, ruling that there was no tacit agreement in effect between the Parties establishing a legally binding maritime boundary.¹¹¹ In the 2014 *Peru/Chile Case*, a question arose as to whether, as Chile contended, the respective maritime zone entitlements of Chile and Peru have been fully delimited by agreement and that those maritime zone entitlements are delimited by a boundary following the parallel of latitude passing through the most seaward boundary marker of the land boundary between Chile and Peru, known as Hito No. 1, having a latitude of 18 21'00" S under WGS 84 Datum.¹¹² In this regard, the ICJ ruled that in light of the 1954 Special Maritime Frontier Zone Agreement, especially Art. 1 read with the preambular paragraphs, that the two States had acknowledged in a binding international agreement that a maritime boundary already exists; and that Agreement cemented the tacit agreement between the parties.¹¹³

Article 84

Charts and lists of geographical coordinates

1. Subject to this Part, the outer limit lines of the continental shelf and the lines of delimitation drawn in accordance with article 83 shall be shown on charts of a scale or scales adequate for ascertaining their position. Where appropriate, lists of geographical coordinates of points, specifying the geodetic datum, may be substituted for such outer limit lines or lines of delimitation.

¹⁰⁶ Nordquist/Nandan/Rosenne (note 2), 985; see further Matz-Lück on Art. 311.

¹⁰⁷ For more details, see Tanaka on Art. 74 MN 37–38.

¹⁰⁸ *Delimitation of the Maritime Boundary between Guinea and Guinea-Bissau*, 14 February 1985, RIAA XIX, 149, 181 (para. 84) and 196 (para. 130).

¹⁰⁹ *Case Concerning the Delimitation of Maritime Boundary between Guinea-Bissau and Senegal*, 31 July 1989, RIAA XX, 119, 150 (para. 88).

¹¹⁰ *Nicaragua/Honduras Case* (note 29), 727–729 (paras. 229–236). For the application of the principle of *uti possidetis juris* to maritime boundaries, see Yoshifumi Tanaka, Reflections on Maritime Delimitation in the *Nicaragua/Honduras Case*, ZaöRV 68 (2008), 907–909; Cottier (note 2), 479–482.

¹¹¹ *Nicaragua/Honduras Case* (note 29), 736–737 (paras. 257–258).

¹¹² ICJ, *Maritime Dispute* (Peru v. Chile), Judgment of 24 January 2014, ICJ Reports (2014), 12 (para. 14).

¹¹³ *Ibid.*, 38–39 (paras. 90–91).

2. The coastal State shall give due publicity to such charts or lists of geographical coordinates and shall deposit a copy of each such chart or list with the Secretary-General of the United Nations and, in the case of those showing the outer limit lines of the continental shelf, with the Secretary-General of the Authority.

Bibliography: Myron H. Nordquist/Satya N. Nandan/Shabtai Rosenne (eds.), *United Nations Convention on the Law of the Sea 1982: A Commentary*, vol. II (1993); George K. Walker (ed.), *Definitions for the Law of the Sea: Terms Not Defined by the 1982 Convention* (2012); *Shigeru Oda*, *A Commentary on the UN Convention on the Law of the Sea* (in Japanese), vol. I (1985)

Documents: UN DOALOS, *The Law of the Sea: Baselines: An Examination of the Relevant Provisions of the United Nations Convention on the Law of the Sea* (1989)

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I. Purpose and Function

Art. 84 is intended to make the information on the outer limits and delimitation lines of the continental shelf available to the international community. Art. 84 provides a dual obligation on the coastal State: (i) to show the outer limits of the continental shelf and the delimitation line of the continental shelf on charts or list their geographical coordinates and (ii) to provide due publicity. Art. 84 is nearly identical to Art. 75.¹

II. Historical Background

Unlike Art. 75, Art. 84 has a precedent, i.e. Art. 6 (3) of the 1958 Geneva Convention on the Continental Shelf:

'3. In delimiting the boundaries of the continental shelf, any lines which are drawn in accordance with the principles set out in paragraphs 1 and 2 of this article should be defined with reference to charts and geographical features as they exist at a particular date, and reference should be made to fixed permanent identifiable points on the land.'

At the UNCLOS III, a similar provision was drafted as Art. 70 (5) of the Informal Single Negotiating Text (ISNT), Part II, of 1975 which stated that:²

'In delimiting the boundaries of the continental shelf, any lines which are drawn in accordance with the provisions of this article should be defined with reference to charts and geographical features as they exist at a particular date, and reference should be made to fixed permanent identifiable points on the land.'

¹ Thus, see also *Tanaka* on Art. 75.

² UNCLOS III, Informal Single Negotiating Text (Part II), UN Doc. A/CONF.62/WP.8/PART II (1975), OR IV, 152, 163.

- 3 In the Revised Single Negotiating Text (RSNT), Part II, of 1976, however, a new provision i.e. Art. 72, was drafted as follows:³

‘1. Subject to this Chapter, the outer limit lines of the continental shelf and the lines of delimitation drawn in accordance with article 71 shall be shown on charts of a scale or scales adequate for determining them. Where appropriate, lists of geographical co-ordinates of points, specifying the geodetic datum, may be substituted for such outer limit lines or lines of delimitation.

2. The coastal State shall give due publicity to such charts or lists of geographical co-ordinates and shall deposit a copy of each such chart or list with the Secretary-General of the United Nations.’

The reference to ‘lists of geographical co-ordinates points’ merits attention, since geographical coordinates would provide greater precision to the depiction of the outer limits of the continental shelf.⁴

- 4 Later, Art. 72 of the RSNT was incorporated in the Informal Composite Negotiating Text (ICNT), Revision 1, of 1979 as follows:⁵

‘1. Subject to this Part, the outer limit lines of the continental shelf and the lines of delimitation drawn in accordance with article 83 shall be shown on charts of a scale or scales adequate for determining them. Where appropriate, lists of geographical co-ordinates of points, specifying the geodetic datum, may be substituted for such outer limit lines or lines, of delimitation.

2. The coastal State shall give due publicity to such charts or lists of geographical co-ordinates and shall deposit a copy of each such chart or list with the Secretary-General of the United Nations.’

The phrase ‘Subject to this Chapter’ included in Art. 72 of the RSNT was replaced by the phrase ‘Subject to this Part’ in Art. 84. This phrase is important since unlike Art. 1 of the Convention on the Continental Shelf, the Part of the UNCLOS concerning the continental shelf provided detailed rules and procedure for determining the outer limits of the continental shelf. The text of Art. 84 of ICNT, Revision 1, remained unchanged in ICNT, Revision 3.⁶ In the Draft Convention on the Law of the Sea (1981), however, the phrase ‘determining them’ was replaced by the phrase ‘ascertaining their position’. Furthermore, a new phrase ‘in the case of those showing the outer limit lines of the continental shelf, with the Secretary-General of the Authority’ was inserted to the text of Art. 84.⁷ This is a new element which was unknown in Art. 6 (3) of the Convention on the Continental Shelf.⁸ This element is linked to the spatial scope of the Area, i.e. the sea-bed and ocean floor and subsoil thereof, beyond limits of national jurisdiction.⁹ Art. 84 of the Draft Convention finally became Art. 84 UNCLOS.

III. Elements

1. ‘Subject to this Part’

- 5 ‘[T]his Part’ means Part VI governing the continental shelf. Part VI contains detailed rules and procedure for determining the outer limits of the continental shelf. Accordingly, the outer limit lines of the continental shelf referred to in Art. 84 (1) must be determined in accordance with Art. 76 of the Convention.¹⁰

³ UNCLOS III, Revised Single Negotiating Text (Part II), UN Doc. A/CONF.62/WP.8/REV.1/PART II (1976), OR V, 151, 165 (Art. 71 related to the delimitation of the continental shelf).

⁴ Cf. Myron H. Nordquist/Satya N. Nandan/Shabtai Rosenne (eds.), United Nations Convention on the Law of the Sea 1982: A Commentary, vol. II (1993), 819–820.

⁵ UNCLOS III, Informal Composite Negotiating Text (Revision 1), UN Doc. A/CONF.62/WP.10/REV.1 (1979), OR VIII, 57 (Art. 84. Art. 83 provided rules of the delimitation of the continental shelf).

⁶ UNCLOS III, Draft Convention on the Law of the Sea (Informal Text), UN Doc. A/CONF.62/WP.10/REV.3 (1980), OR VIII, 34 (Art. 84).

⁷ UNCLOS III, Draft Convention on the Law of the Sea, UN Doc. A/CONF.62/L.78 (1981), OR XV, 172, 189.

⁸ At UNCLOS I, the legal institution governing the Area had not yet emerged.

⁹ Art. 1 (1)(1). See also Tanaka on Art. 1 MN 6–7.

¹⁰ See Parson on 76 MN 26–40.

2. ‘charts of a scale or scales adequate for ascertaining their position’

Art. 84 (1) obliges the coastal State to show the outer limit lines of the continental shelf on charts of a scale or scales adequate for ascertaining their position. The same or a similar obligation is provided in Arts. 16 (1), 47 (8), and 75 (1) in relation to other maritime zones. Art. 83 referred to in Art. 84 (1) provides rules concerning the delimitation of the continental shelf.¹¹ The criteria for determining the outer limits of the continental shelf are set out in Art. 76.

Art. 84 (1) offers scant explanation on the scale of a chart.¹² Accordingly, it can be argued that the coastal State retains discretion on this matter. It appears difficult to identify any uniform State practice on this matter.¹³ The scale of the charts should be adequate for the user to determine them to the same degree of accuracy as the coastal State intends.¹⁴

3. ‘lists of geographical co-ordinates of points’

Under Art. 84 (1), ‘where appropriate’, the coastal State is allowed to provide lists of geographical co-ordinates of points. In this case, the geodetic datum must be specified. Art. 84 (1) is nearly parallel to Art. 75 (1) in this respect.¹⁵

4. ‘the geodetic datum’

According to United Nations Office for Ocean Affairs and the Law of the Sea (UN DOALOS), a datum is the basis of a co-ordinate system and is also known as the horizontal datum or horizontal reference datum. It is associated with a specific reference ellipsoid which best fits the surface (geoid) of the area of interest. It is important to specify the geodetic datum that has been used when a position is defined since geographical co-ordinates differ according to geodetic datums.¹⁶ UN DOALOS encourages States Parties to UNCLOS to provide all the necessary information for conversion of the submitted geographic coordinates from the original datum into the World Geodetic System 84 (WGS 84), a geodetic datum system that is used by the UN DOALOS for its internal data storage.¹⁷

5. ‘due publicity’

The obligation of due publicity in Art. 84 (2) is parallel to that in Art. 75 (2).¹⁸ The obligation under Art. 84 is also linked to Art. 76 (9) which obliges the coastal State to deposit with the UN Secretary-General charts and relevant information, including geodetic data, permanently describing the outer limits of its continental shelf.¹⁹ It is also to be noted that the UNCLOS contains obligations to give due publicity to charts or lists of geographical coordinates which indicate the position of baselines, limits and boundaries in Art. 16 (2), 47 (9), and 76 (9). Furthermore, the obligations to give due publicity are provided in Art. 21 (3), 22 (4), 41 (2) and (6), 42 (3), 53 (7) and (10), and 211 (3).

¹¹ See *Tanaka* on Art. 83 MN 6.

¹² See also *Tanaka* on Art. 75 MN 7.

¹³ Charts deposited by States are available at: <http://www.un.org/Depts/los/LEGISLATIONANDTREATIES/depositpublicity.htm>.

¹⁴ UNCLOS III, Study on the Future Functions of the Secretary-General under the Draft Convention and on the Needs of Countries, Especially Developing Countries, for Information, Advice and Assistance under the New Legal Regime, UN Doc. A/CONF.62/L.76 (1981), OR XV, 179. See also Nordquist/Nandan/Rosenne (note 4), 819.

¹⁵ See *Tanaka* on Art. 75 MN 8–9.

¹⁶ UN DOALOS, *The Law of the Sea: Baselines: An Examination of the relevant Provisions of the United Nations Convention on the Law of the Sea* (1989), 55.

¹⁷ UN DOALOS, *Deposit and Due Publicity-Background Information*, para. 4, available at: http://www.un.org/Depts/los/LEGISLATIONANDTREATIES/background_deposit.htm.

¹⁸ See *Tanaka* on Art. 75 MN 10.

¹⁹ See further *Parson* on Art. 76 MN 56.

6. ‘shall deposit a copy of each such chart or list with the Secretary-General of the United Nations’

- 11 Under Art. 84 (2), the coastal State is under the obligation to deposit a copy of each chart that shows the outer limit lines of the continental shelf and the delimitation lines of the shelf or list of geographical coordinates with the UN Secretary-General. The obligation is nearly identical to that regarding the outer limit lines and lines of delimitation of the EEZ set out in Art. 75 (2). According to UN DOALOS, some 20 States deposited charts and/or lists of geographical co-ordinates relating to Art. 84.²⁰
- 12 Art. 84 (2) is linked to Art. 76 (9) which requires the coastal State to deposit with the UN Secretary-General charts and relevant information, including geodetic data, permanently describing the outer limits of its continental shelf. Under Art. 76 (9), the Secretary-General is to give due publicity thereto.²¹ Both provisions are designed to make available to the international community information on the limits and delimitation lines of the continental shelf.²²

7. ‘with the Secretary-General of the Authority’

- 13 The term ‘the Authority’ means the International Seabed Authority.²³ The obligation of deposit of a copy of charts showing the outer limit lines of the continental shelf with the Secretary-General of the Authority is a special obligation which is not provided in Art. 75 concerning charts and lists of geographical co-ordinates of the EEZ. This obligation is linked to Art. 134 (3).²⁴ The limits of the Area are the seaward limit of the continental shelf which is determined in accordance with Art. 76.²⁵ It follows that the limits of the Area are determined by each coastal State. As provided in Art. 134 (3), the Authority only receives such charts or lists showing the outer limit lines of the continental shelf pursuant to Art. 84 (2) of the UNCLOS.
- 14 The Secretary-General of the Authority is the chief administrative officer of the Authority, which governs the Area (→ Art. 166 (3)). As the limits of the Area are the outer limits of the continental shelf,²⁶ it is necessary that the Secretary-General of the Authority is informed of the location of the outer limits of the continental shelf.

Article 85 Tunnelling

This Part does not prejudice the right of the coastal State to exploit the subsoil by means of tunnelling, irrespective of the depth of the water above the subsoil.

Bibliography: *Hersch Lauterpacht*, Sovereignty over Submarine Areas, BYIL 27 (1950), 376–433; Myron H. Nordquist/Satya N. Nandan/Shabtai Rosenne (eds.), United Nations Convention on the Law of the Sea 1982: A Commentary, vol. II (1993)

Documents: ILC, Report of the International Law Commission: Articles Concerning the Law of the Sea, UN Doc. A/3159 (1956), GAOR 11th Sess. Suppl. 9, 4–12; ILC, Report of the International Law Commission: Commentaries to the Articles Concerning the Law of the Sea, UN Doc. A/3159 (1956), GAOR 11th Sess. Suppl. 9, 12–45

²⁰ The relevant data is available at: <http://www.un.org/Depts/los/LEGISLATIONANDTREATIES/depositpublicity.htm>.

²¹ See further *Parson* on Art. 76 MN 56.

²² Nordquist/Nandan/Rosenne (note 4), 882–883.

²³ Art. 1 (1)–(2). See also *Tanaka* on Art. 1 MN 8–10.

²⁴ See *Scovazzi* on Art. 134 MN 8–9.

²⁵ See *Tanaka* on Art. 1 MN 6–7.

²⁶ *Ibid.*

Cases: *Cornish Submarine Mines (First) Arbitration of 1856*; ICJ, *Case Concerning the Continental Shelf* (Tunisia v. Libyan Arab Jamahiriya), Judgment of 24 February 1982, ICJ Reports (1982), 18; *Reference re: Seabed and Subsoil of the Continental Shelf Offshore Newfoundland* [1984] 1 S.C.R. 86 (Canada).

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I. Purpose and Function

Art. 85 is a 'without prejudice clause', ensuring that the regime of the continental shelf laid out in Part VI does not affect the rights of the coastal State to exploit the subsoil of the continental shelf by means of tunnelling. The provision was copied, in its essence, from the 1958 Convention on the Continental Shelf (CSC), and the inclusion of mention to 'the depth of the water above the subsoil' is anachronistic, as it refers to the definition of the continental shelf contained in the CSC and not to the definition and means of delineation contained in the UNCLOS.¹ Though what exactly is meant by tunnelling is unclear from the wording of the provision, reference to its genesis in the International Law Commission (ILC) commentaries to the Draft Articles concerning the Law of the Sea² and the negotiations of the CSC strongly suggests that it refers to tunnelling from *terra firma*, meaning tunneling from dry land mass.³ The precise difference between the exclusive right of the coastal State in relation to drilling on the continental shelf and their rights in relation to tunnelling are not immediately apparent, but it is likely to stem from the fact that tunnelling was envisaged to take place from *terra firma*.

II. Historical Background

Although not contained as an individual article in the ILC Draft Articles concerning the Law of the Sea,⁴ in the commentary to the draft article on the definition of the continental shelf the ILC stated:

'Lastly the Commission points out that it does not intend limiting the exploitation of the subsoil of the high seas by means of tunnels, cuttings or wells dug from *terra firma*. Such exploitation of the subsoil of the high seas by a coastal State is not subject to any legal limitation by reference to the depth of the superjacent waters.'⁵

The reference to the depth of the superjacent waters was due to the fact that Art. 67 of the Draft Articles defined the continental shelf

'as referring to the seabed and subsoil of the submarine areas adjacent to the coast but outside the area of the territorial sea, to a depth of 200 metres (approximately 100 fathoms), or, beyond that limit, to where the depth of the superjacent waters admits of the exploitation of the natural resources of the said areas.'⁶

¹ See *Parson* on Art. 76 MN 8–11.

² ILC, Report of the International Law Commission: Commentaries to the Articles Concerning the Law of the Sea, UN Doc. A/3159 (1956), GAOR 11th Sess. Suppl. 9, 12–45.

³ See *supra* MN 2–5.

⁴ ILC, Report of the International Law Commission: Articles Concerning the Law of the Sea, UN Doc. A/3159 (1956), GAOR 11th Sess. Suppl. 9, 4–12.

⁵ ILC Law of the Sea Articles with Commentaries (note 2), 42 (Art. 67, para. 11).

⁶ ILC Law of the Sea Articles (note 4), 11 (Art. 67).

In this context, the depth of the waters and freedom of coastal States to exploit the subsoil are clearly related.

- 3 At UNCLOS I, negotiated on the basis of the ILC Draft Articles, it was felt by some negotiating parties that the draft text prepared was ‘insufficiently comprehensive’⁷ as it did not contain an expression of the law in relation to tunnelling, although this had been referred to by the ILC in their commentaries.⁸ Express mention was made to the ILC commentary that references *terra firma* by several States.⁹ The United Kingdom delegation then proposed an amendment that included that the definition of the continental shelf ‘should not prejudice the right of a coastal State to exploit the subsoil by means of tunnelling from *terra firma* irrespective of the depth of water above the subsoil.’¹⁰ The issue of tunnelling was then included in a series of proposals in the Fourth Committee¹¹, all seemingly based on the understanding that the tunnelling would occur from *terra firma*,¹² before being adopted by the Committee¹³ and then included in the CSC as Art. 7. The article reads:

‘The provisions of these articles shall not prejudice the right of the coastal State to exploit the subsoil by means of tunnelling irrespective of the depth of water above the subsoil.’

The article continued to reference the depth of the water of the subsoil, as in Art. 1 CSC the continental shelf is also defined by reference to depth.¹⁴ The article contained in the CSC is, like Art. 85 UNCLOS, a without prejudice clause that seeks to set out with clarity that the rules contain in the CSC do not affect the right of the coastal State to explore the subsoil. The reference to depth ensures that whether or not this subsoil is encompassed by the regime of the continental shelf or not, the right of the coastal State is not affected in regards to tunnelling from *terra firma*.

- 4 At UNCLOS III, the issue of tunnelling did not receive a great deal of attention. No specific proposals were advanced at either the Seabed Committee or at the Second Session of the Conference,¹⁵ and Art. 7 of the CSC was then included verbatim in the Main Trends

⁷ Statement of Mr Rosenne (Israel): UNCLOS I, Summary Records of the 6th to 10th Meetings of the Fourth Committee, UN Doc. A/CONF.13/C.4/SR.6–10 (1958), OR VI, 7, 17 (Ninth Meeting, para. 27).

⁸ *Ibid.*

⁹ *Ibid.*; Statement of Mr. Gabrielli (Italy): *Ibid.*, para. 23; Statement of Mr. Moulton (Netherlands): UNCLOS I, Summary Records of the 11th to 15th Meetings of the Fourth Committee, UN Doc. A/CONF.13/C.4/SR.11–15 (1958), 22, 35 (Fifteenth Meeting, para. 4), who also made reference to tunneling and mining for coal already carried out from *terra firma* off the coasts of Scotland, Nova Scotia, France and Chile; Statement of Miss Whiteman (United States): UNCLOS I, Summary Records of the 16th to 20th Meetings of the Fourth Committee, UN Doc. A/CONF.13/C.4/SR.16–20 (1958), 38, 40 (Sixteenth Meeting, para. 22).

¹⁰ Statement of Miss Gutteridge (United Kingdom): Summary Records of the 11th to 15th Meetings (note 8), 36 (Fifteenth Meeting, para. 12).

¹¹ UNCLOS I, Netherlands: Proposal, UN Doc. A/CONF.13/C.4/L.9/REV.1 (1958), OR VI, 131; UNCLOS I, United Kingdom of Great Britain and Northern Ireland: Revised Proposal, UN Doc. A/CONF.13/C.4/L.24/REV.1 (1958), OR VI, 132,133; UNCLOS I, Sweden: Proposal, UN Doc. A/CONF.13/C.4/L.33 (1958), OR VI, 136; UNCLOS I, United Kingdom of Great Britain and Northern Ireland: Proposal (1958), UN Doc. A/CONF.13/C.4/L.44 (1958), OR VI, 138.

¹² Some of the proposals do not contain the references to *terra firma*, see *ibid.*, but from the Summary Records it is clear that the proposal were put forward on the basis of that understanding. See: Summary Records of the 6th–10th Meetings (note 6); Summary Records of the 11th to 15th Meetings (note 8); Summary Records of the 16th–20th Meetings (note 8).

¹³ UNCLOS I, Text of the Articles and Final Clauses Adopted by the Fourth Committee, UN Doc. A/CONF.13/L.12 Annex (1958), OR VI, 143,144.

¹⁴ Which reads: ‘the term continental shelf is used as referring to (a) the seabed and subsoil of the submarine areas adjacent to the coast but outside the area of the territorial sea, to a depth of 200 metres or, beyond that limit, to the depth of the superjacent waters admits of the exploitation of the natural resources of the said areas [...]’.

¹⁵ Myron H. Nordquist/Satya N. Nandan/Shabtai Rosenne (eds.), United Nations Convention on the Law of the Sea 1982: A Commentary, vol. II (1993), 992.

Working Paper¹⁶ as Provision 79¹⁷ in 1979. The draft article then underwent only minor drafting changes, before being adopted with the Convention as a whole.¹⁸

The retention of the reference to depth has been described as emphasising the right of coastal States to tunnel irrespective of the depth of water above the soil.¹⁹ However, as the depth of the waters superjacent to the continental shelf no longer factor in their definition,²⁰ and therefore would not appear be affected by the articles of Part VI, it is better to assume that the reference to depth is an anachronistic left-over from the earlier regime.

The right of the coastal State to tunnel in the subsoil predates the 20th century codifications of the law of the sea, as is evidenced by the without prejudice nature of the provisions in the CSC and UNCLOS. The practice of mining for coal had already been established,²¹ and was occurring as early as 1856.²²

III. Elements

1. 'This Part does not prejudice'

Art. 85 is a without prejudice clause, indicating that the articles on the continental shelf contained in Part VI of the Convention (covering the definition and delineation of the continental shelf (Art. 76), the rights and duties of the coastal State (Art. 77), legal status of the superjacent water and airspace (Art. 78), submarine cables and pipelines (Art. 79), artificial islands, installations and structures (Art. 80), drilling (Art. 81), payments and contributions with respect to exploitation of the continental shelf beyond 200 NM (Art. 82), delimitation for States with opposite or adjacent coasts (Art. 83) and charts and lists of geographic coordinates Art. 84)) do not affect the right of the coastal State to carry out tunnelling activities in the subsoil.

2. 'the right of the coastal State to exploit the subsoil by means of tunnelling'

The precise nature of the right of the coastal State to tunnel in the subsoil is not provided for in the Convention. From the genesis of Art. 85 at UNCLOS I and in the CSC, it appears that the type of tunnelling imagined is from *terra firma*²³, however it is perhaps conceivable that other methods of tunnelling from a structure on the continental shelf could be included (though this may call into question the exact relationship between Art. 81 and Art. 85 and the sort of activities they cover)²⁴.

Where this right to tunnel stems from was addressed by Judge ODA in his dissenting opinion in the *Case Concerning the Continental Shelf* (Tunisia v. Libyan Arab Jamahiriya) at the International Court of Justice (ICJ).²⁵ He referenced a tunnel for mining coal in Cornwall

¹⁶ UNCLOS III, Statement of Activities of the Conference during its First and Second Sessions, UN Doc, A/CONF.62/L.8/REV.1 (1974), OR III, 93 (Annex II Appendix I, Working Paper of the Second Committee: Main Trends).

¹⁷ *Ibid.*, 119.

¹⁸ Nordquist/Nandan/Rosenne (note 15), 992.

¹⁹ *Ibid.*

²⁰ Though reference is made to depth in Art. 76 (5), this is in relation to fixing points to delineate the continental shelf beyond 200 NM and is a factor in delineating the edge of the continental shelf, and not part of the definition of the shelf itself. See Parson on Art 76 MN 47-49.

²¹ See *supra*, note 9.

²² See ICJ, *Case Concerning the Continental Shelf* (Tunisia v. Libyan Arab Jamahiriya), Judgment of 24 February 1982, Dissenting Opinion of Judge Oda, ICJ Reports (1982), discussing the *Cornish Submarine Mines (First) Arbitration* of 1856, where 'the right to own all mines and minerals lying under the high seas was vested in the Crown'.

²³ See *infra*, MN 2-5.

²⁴ See *infra*, MN 1.

²⁵ *Case Concerning the Continental Shelf* (note 22).

that reached ‘far out to sea’ and discussions between the UK and France in relation to constructing to construct a tunnel under the English channel, and the lack of objection thereto, as ‘two examples [that] indicate that there was nothing in international law prohibiting the utilization of the subsoil for the purposes of the exploitation of resources or communication.’²⁶ ODA further remarked that the opinions of several scholars that submarine areas beyond national jurisdiction were *terra nullius*, and thus open to occupation by States by means of tunnelling, were ‘superfluous and misleading’ in terms of describing the use and occupation of these areas.²⁷ The rights of the coastal State in this area have been described as an ‘extraterritorial manifestation of, and an incident of, the external sovereignty of a coastal State.’²⁸

- 10 The reference to exploitation in Art. 85 ties in with the sovereign right exercised by the coastal State over the continental shelf ‘for the purposes of exploring it and exploiting its natural resources contained in Art. 77 (1),’²⁹ but Art. 85 sets the right of the coastal State to tunnel in the subsoil apart from this general right, as it exists independently of the regime of Part VI.

3. ‘irrespective of the depth of the water above the subsoil’

- 11 As outlined above, the reason for the inclusion of this quantifier in Art. 85 is due to the genesis of this article at UNCLOS I.³⁰ It appears to serve no function in regards to the relationship between Part VI and the right of the coastal State to tunnel in the subsoil (the relationship that Art. 85 seeks to clarify) and should therefore be seen as anachronistic and redundant.

²⁶ *Ibid.*, 175 (para. 31).

²⁷ *Ibid.*, 176 (para. 32); see also *Hersch Lauterpacht*, *Sovereignty over Submarine Areas*, BYIL 27 (1950), 376, 414–423, and further 423–431 for the problems with the ‘contiguity’ approach. For further analysis of the origin of the rights of coastal States over the continental shelf, see *Maggio* on Art. 77 MN 4–9.

²⁸ *Reference re: Seabed and Subsoil of the Continental Shelf Offshore Newfoundland* [1984] 1 S.C.R. 86 (Canada).

²⁹ See *Maggio* on Art. 77 MN 18–20.

³⁰ See *infra*, MN 2–5.