

# THE INTERNATIONAL LAW OF MARITIME BOUNDARY DELIMITATION

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## I. INTRODUCTION

The law of the sea, in its essence, divides the seas into zones and specifies the rights and duties of states and ships flying their flags in those zones. Prior to 1945, states claimed only narrow territorial sea zones in which they could exercise full sovereignty over the seabed and subsoil, the water column, and the airspace. This left the remainder of the oceans as high seas, where the principle of freedom of the seas protected use and exploitation rights for all.<sup>1</sup> But this situation was soon to change, largely as a result of advances in technology that made new methods for exploiting the resources of the oceans possible and profitable. Commercial exploitation of continental shelf oil and gas deposits began in the 1940's and has become increasingly significant since the late 1950's with the rapid development of deep-water recovery technology.<sup>2</sup> During the 1960's, again as a result of technological developments, the most abundant fish stocks in the seas, which are concentrated over continental shelves, were subjected to intensive exploitation by distant-water fishing fleets.<sup>3</sup> Coastal state efforts to acquire exclusive rights to manage and exploit these living and non-living resources were inevitable. The result was the emergence of two new off-shore zones, the continental shelf zone<sup>4</sup> and the exclusive economic zone.<sup>5</sup>

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1. An additional zone emerged during the nineteenth century and was called the contiguous zone. This zone of high seas is contiguous to the territorial sea and is an area in which the coastal state is authorized "to . . . exercise the control necessary to . . . [p]revent infringement of its customs, fiscal, immigration or sanitary regulations within its territory or territorial sea; . . ." Convention on the Territorial Sea and the Contiguous Zone, art. 24, para. 1, done Apr. 29, 1958, 15 U.S.T. 1606, T.I.A.S. No. 5639, 516 U.N.T.S. 205 (in force Sept. 10, 1964). See generally F. GARCÍA-AMADOR, *THE EXPLOITATION AND CONSERVATION OF THE RESOURCES OF THE SEA* 59-67 (2d ed. 1959); Oda, *The Concept of the Contiguous Zone*, 11 INT'L & COMP. L.Q. 131 (1962).

2. See generally Odell, *Offshore Resources: Oil and Gas*, in *THE MARITIME DIMENSION* 76 (R. Barston & P. Birnie eds. 1980).

3. See generally Driver, *International Fisheries*, id. at 27. See also J. PRESCOTT, *THE POLITICAL GEOGRAPHY OF THE OCEANS* 116-25 (1975).

4. For a discussion of the background and theory of state sovereignty over continental shelf areas, see Lauterpacht, *Sovereignty over Submarine Areas*, 27 BRIT. Y.B. INT'L L. 376 (1950). See also M. MOUTON, *THE CONTINENTAL SHELF* (1952).

5. For a recent study of the development and current status of the exclusive economic zone, see W. EXTAVOUR, *THE EXCLUSIVE ECONOMIC ZONE* (1979). See also Kronfol, *The Exclusive Economic Zone: A Critique of Contemporary Law of the Sea*,

Perhaps most notable about these two new zones is the great distance from the coast to which they may extend. There is general agreement that international law now permits a state to extend its exclusive economic zone seaward to a distance of 200 miles from its baseline.<sup>6</sup> Although the precise outer limit of the continental shelf zone has been and continues to be a matter of controversy, it now appears that seaward extension of at least 200 miles from the baseline, and perhaps considerably farther, is considered valid by international law.<sup>7</sup> National claims to sovereign rights for exploring and

9 J. MAR. L. & COM. 461 (1978); Mirvahabi, *Conservation and Management of Fisheries in the Exclusive Economic Zone*, 9 J. MAR. L. & COM. 225 (1978); Phillips, *The Exclusive Economic Zone as a Concept in International Law*, 26 INT'L & COMP. L.Q. 585 (1977).

6. "The exclusive economic zone shall not extend beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured." Draft Convention on the Law of the Sea, art. 57, U.N. Doc. A/CONF. 62/L.78 (Aug. 28, 1981), [hereinafter referred to as the Draft Convention on the Law of the Sea]. Broad support for a 200-mile exclusive economic zone has been evident since the beginning of the Third United Nations Conference on the Law of the Sea [hereinafter referred to as UNCLOS III], Stevenson & Oxman, *The Preparations for the Law of the Sea Conference*, 68 AM. J. INT'L L. 1, 15-16 (1974).

"[T]he normal baseline for measuring the breadth of the territorial sea is the low-water line along the coast. . . ." Convention on the Territorial Sea and the Contiguous Zone, *supra* note 1, art. 3. Art. 4, para. 1 of the Convention permits the use of the straight baseline method "[i]n localities where the coast line is deeply indented and cut into, or if there is a fringe of islands along the coast in its immediate vicinity . . ." If the geographic nature of the coast permits the use of the straight baseline method, "straight baselines joining appropriate points may be employed in drawing the baseline from which the breadth of the territorial sea is measured." *Id.*

At its resumed Tenth Session in Geneva, August 3-28, 1981, UNCLOS III decided to upgrade the status of the text of the Draft Convention on the Law of the Sea from a working paper bearing the designation "informal text" to an "official" document of the Conference. The Conference also approved more than 500 recommendations from its Drafting Committee for changes to improve the wording of the Draft Convention and adopted a proposal to revise the articles dealing with the delimitation of the exclusive economic zone and of the continental shelf between opposite and adjacent states. For the text of the new proposal, see note 20 *infra*. See generally Resumed Tenth Session of Law of Sea Conference, Geneva, 3-28 August, U.N. Press Release, SEA/457 (Aug. 31, 1981).

7. 1. The continental shelf of a coastal State comprises the sea-bed 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.

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3. The continental margin comprises the submerged prolongation of the land mass of the coastal State, and consists of the sea-bed 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.

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exploiting the resources of the continental shelf began with the Truman Proclamation in 1945,<sup>8</sup> which was soon followed by similar claims of many other states.<sup>9</sup> National claims to extended economic zones were slower in coming and less uniform with respect to the rights claimed; at present most coastal states do claim, without significant protest, sovereign rights to explore and exploit, to conserve and manage the natural resources of the water column, as well as of the seabed and subsoil, in a zone that extends 200 miles from their shores.<sup>10</sup>

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6. . . . [T]he 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. . . .

Draft Convention on the Law of the Sea, *supra* note 6, art. 76.

8. Pres. Proc. No. 2667, Policy of the United States with Respect to the Natural Resources of the Subsoil and the Sea Bed of the Continental Shelf, 3 C.F.R. 39 (1945 Supp.), reprinted in 59 Stat. 884 (1945) [hereinafter referred to as the Truman Proclamation]. See generally Hollick, *U.S. Oceans Policy: The Truman Proclamations*, 17 VA. J. INT'L L. 23 (1976).

9. For an enumeration and discussion of the proclamations following the Truman Proclamation, see Lauterpacht, *supra* note 4, at 380-83. The claims by certain Latin American states should be distinguished from most other claims to continental shelf jurisdiction, which were advanced following the Truman Proclamation; certain Latin American states claimed sovereign rights with respect to ocean areas as well as to the sea bed and subsoil of the continental shelf. For informative analyses of the claims of the Latin American states, see García-Amador, *The Latin American Contribution to the Development of the Law of the Sea*, 68 AM. J. INT'L L. 33 (1974); Hollick, *The Origins of 200-Mile Offshore Zones*, 71 AM. J. INT'L L. 494 (1977). These claims were not acquiesced in by the international community.

10. National claims to extended economic resource jurisdiction began as a reaction by coastal states in the Third World to the threat posed by distant-water fishing fleets from advanced states. The claims of Third World states were followed later by the claims of numerous advanced states whose off-shore fisheries were also being threatened. Nelson, *The Emerging Law of the Sea*, 42 MOD. L. REV. 42, 49-50 (1979). A survey conducted by the Food and Agricultural Organization of the United Nations in 1969 showed that only 15 of the 103 coastal states included in the study claimed fishery limits exceeding 12 miles and only 8 of these, all situated in Latin America, claimed limits of 200 miles. LEGISLATION BRANCH OF OFFICE OF GENERAL AFFAIRS & INFORMATION, FAO & FISHERY LIAISON OFFICE OF DEPARTMENT OF FISHERIES, FAO, LIMITS AND STATUS OF THE TERRITORIAL SEA, EXCLUSIVE FISHING ZONES, FISHERY CONSERVATION ZONES AND THE CONTINENTAL SHELF (FAO Legislative Ser. No. 8, 1969); see also Moore, *National Legislation for the Management of Fisheries Under Extended Coastal State Jurisdiction*, 11 J. MAR. L. & COM. 153 (1980). By July 15, 1979, only 43 of the 132 coastal states claimed limits of 12 miles or less, 12 claimed limits of between 12 and 200 miles, and 77 claimed limits of 200 miles. *Id.* at 154 n.4. Included among the 200-mile limit states were the United States (1977), Canada (1977), the United Kingdom (1977), the Soviet Union (1976)(Provisional), Japan (1977)(Provisional), and the Federal Republic of Germany (1977). *Id.* at 178-82. See also W. EX-TAVOUR, *supra* note 5, at 165-67, 321. Moreover, 200-mile limit legislation was pending action by national legislatures or awaiting entry into force in still other states. Moore, *supra* at 154. There were variations among these national laws and a diversity of legal bases for them. Only 38 states claimed exclusive economic zones as such, while 23 claimed 200-mile fishing zones and 13 claimed 200-mile territorial sea zones. *Id.* at

With the advent of national claims to extended jurisdiction in the oceans, the necessity of dividing vast areas of the ocean between the 132 coastal states occurred.<sup>11</sup> Because national claims to continental shelf jurisdiction preceded claims to extended jurisdiction over the water column, the first maritime boundary delimitation problems involved continental shelf boundaries. Considerable attention has been devoted to ascertaining the legal principles underlying the regime of the continental shelf and deriving from those fundamental principles the rules applicable to continental shelf delimitation.<sup>12</sup> Experience in applying those principles and rules has begun to accumulate.<sup>13</sup> Because of its later emergence, there has been less attention paid to the delimitation of boundaries in the exclusive economic zone.<sup>14</sup> Actual experience in the delimitation of economic zone boundaries is also sparse.

Now that states are claiming extensive seaward jurisdiction both on the continental shelf and in the water column, attention has begun to shift from delimiting continental shelf boundaries or economic zone boundaries to the delimitation of a single maritime boundary which would serve both purposes.<sup>15</sup> A number of single

155 n.9. These laws generally reflect the exclusive economic zone provisions of the Draft Convention on the Law of the Sea. Draft Convention on the Law of the Sea, *supra* note 6, arts. 55-75. Several of these national laws were adopted provisionally, pending the adopting of a formal international convention, while others provide explicitly for revision following entry into force of a new law of the sea convention. Moore, *supra*, at 154. It is generally agreed that the provisions of the Draft Convention on the Law of the Sea that relate to the exclusive economic zone are, for the most part, an already accepted compromise that will not undergo radical change at UNCLOS III. *Id.* at 153. The fundamental feature of this 200-mile zone is that coastal states are accorded within it "sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the sea-bed and subsoil and the superjacent waters . . ." Draft Convention on the Law of the Sea, *supra* note 6, art. 56. Within this zone, all states will continue to enjoy the high seas freedoms of "navigation and overflight and of the laying of submarine cables and pipelines, and other internationally lawful uses of the sea related to these freedoms . . ." *Id.* art. 58. But the traditional high seas freedom of fishing is omitted. All resources within 200 miles from shore are placed under the control of the coastal state, subject only to the duty to practice conservation measures, *id.* art. 61, and to allow other states to take "surplus" fish, when there are any, *id.* art. 62. See also note 75 *infra*.

11. For a discussion of delimitation practice subsequent to 1958, see Hodgson & Smith, *Boundaries of the Economic Zone*, in *LAW OF THE SEA: CONFERENCE OUTCOMES AND PROBLEMS OF IMPLEMENTATION* 183, 188-92, 201-02 (E. Miles & J. Gamble eds. 1977). For maps and analyses of delimited international maritime boundaries, see *OFFICE OF THE GEOGRAPHER, U.S. DEP'T OF STATE, LIMITS IN THE SEAS* (multi-pamphlet series)[hereinafter cited as *LIMITS IN THE SEAS*].

12. See notes 78-188 and accompanying text *infra*.

13. See notes 189-226 and accompanying text *infra*.

14. *But see* Hodgson & Smith, *supra* note 11; Comment, *Boundary Delimitation in the Economic Zone: The Gulf of Maine Dispute*, 30 *ME. L. REV.* 207 (1979).

15. In theory, the continental shelf boundary line and the exclusive economic zone

maritime boundary agreements have already been negotiated.<sup>16</sup> At least one single maritime boundary dispute may soon be submitted to an international tribunal for decision.<sup>17</sup> Clearly, the important

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boundary line need not be the same but practical considerations strongly favor a common line for both purposes. See, e.g., R. Baxter & L. Alexander, Opinion Concerning the Continental Shelf Boundary Between the United States of America and Canada in the Gulf of Maine 18-22 (Mar. 22, 1976) (unpublished opinion submitted to the Maine Marine Resources Commission). Baxter and Alexander point out several potential conflicts that could occur if one country were to have jurisdiction over the waters of the economic zone and the other were to have jurisdiction over the continental shelf in a particular area.

Even though there are practical reasons for delimiting a single maritime boundary, the legal regimes of the different zones are sometimes regarded as sufficiently dissimilar so as to preclude the boundary delimiting one particular zone from serving as the single boundary. See, e.g., the opinion of the Court of Arbitration in the Anglo-French arbitration. Delimitation of the Continental Shelf (Great Britain and Northern Ireland v. France), CMND. No. 7438, para. 13 (1977), reprinted in 18 INT'L LEGAL MATERIALS 397 (1979) [hereinafter referred to as *Anglo-French Arbitration*]. See also note 76 *infra*.

16. See notes 40-65 and accompanying text *infra*.

17. On March 29, 1979, United States Secretary of State Cyrus Vance and Canadian Ambassador Peter Towe signed the Treaty to Submit to Binding Dispute Settlement the Delimitation of the Maritime Boundary in the Gulf of Maine Area, Mar. 29, 1979, United States-Canada, reprinted in MESSAGE FROM THE PRESIDENT OF THE UNITED STATES TRANSMITTING A PROPOSED MARITIME BOUNDARY SETTLEMENT TREATY WITH CANADA, S. EXEC. DOC. U, 96th Cong., 1st Sess. 1 (1979) [hereinafter cited as BOUNDARY SETTLEMENT TREATY]. Two agreements annexed to the BOUNDARY SETTLEMENT TREATY submit the dispute either to a Chamber of the International Court of Justice (Special Agreement Between the Government of the United States of America and the Government of Canada to Submit to a Chamber of the International Court of Justice the Delimitation of the Maritime Boundary in the Gulf of Maine Area) or to an ad hoc Court of Arbitration (Agreement Between the Government of the United States of America and the Government of Canada to Submit to a Court of Arbitration the Delimitation of the Maritime Boundary in the Gulf of Maine Area). The BOUNDARY SETTLEMENT TREATY is specifically linked with the Agreement on East Coast Fishery Resources, Mar. 29, 1979, United States-Canada, reprinted in MESSAGE FROM THE PRESIDENT OF THE UNITED STATES TRANSMITTING A PROPOSED AGREEMENT ON EAST COAST FISHERY RESOURCES WITH CANADA, S. EXEC. DOC. V, 96th Cong., 1st Sess. 13 (1979) [hereinafter cited as FISHERY AGREEMENT]. Thus, art. IV of the BOUNDARY SETTLEMENT TREATY provides:

This Treaty shall be ratified in accordance with the domestic requirements of the Parties and shall enter into force on the date instruments of ratification of this Treaty and of the Agreement between the Government of the United States of America and the Government of Canada on East Coast Fishery Resources are exchanged . . . .

The linkage of the two treaties placed the BOUNDARY SETTLEMENT TREATY in jeopardy because significant elements of the American fishing industry are strongly opposed to the FISHERY AGREEMENT. See generally *Maritime Boundary Settlement Treaty and the East Coast Fishery Resources Agreement: Hearings on S. Exec. Doc. U, V Before the Senate Committee on Foreign Relations*, 96th Cong., 2d Sess. 1 (1980). In a letter of March 6, 1981, to Senator Charles Percy, Chairman of the Senate Foreign Relations Committee, President Reagan withdrew the FISHERY AGREEMENT and asked the Senate to approve quickly the BOUNDARY SETTLEMENT TREATY. Canadian Prime Minister Trudeau expressed displeasure with President Reagan's action and refused to

maritime boundary questions of the next decade will involve the delimitation of single boundaries. There are significant legal differences between the delimitation of a single maritime boundary and the delimitation of either a continental shelf boundary or an exclusive economic zone boundary. The legal criteria developed for shelf delimitation focus on geological and geographical factors, while the criteria relevant to the exclusive economic zone, although not very well developed, may be regarded as also encompassing historic usage and economic considerations.<sup>18</sup>

This Article examines the principles and rules of international law applicable to the delimitation of a single maritime boundary. There is no international agreement in force governing the delimitation of a single maritime boundary. Although many nations are parties to the Convention on the Continental Shelf,<sup>19</sup> that Convention cannot directly provide a rule, even for states that are parties, because its delimitation provision relates only to the continental shelf and not to a single maritime boundary. And there is no agreement in force concerning the delimitation of exclusive economic zones. Thus, lacking any binding conventional law, recourse must be made to the principles and rules of customary international law.

Until quite recently, the question of maritime boundary delimitation has been considered only in the context of the particular jurisdictional zones to be delimited and not from the point of view of delimiting a single maritime boundary. This can be explained by the lack of necessity to delimit a single boundary when the only extended claims to national jurisdiction in the ocean recognized as

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indicate whether Canada would accept the separation of the two agreements. Felton, *Reagan Kills Fishing Pact; Asks Senate to Approve Maritime Boundary Treaty*, 39 CONG. Q. WEEKLY REP. 525 (1981). On April 29, 1981, the Senate gave its advice and consent to the BOUNDARY SETTLEMENT TREATY, subject to several amendments, one of which would effect the delinkage of the boundary and fishery issues. 127 CONG. REC. S4049-60 (daily ed. Apr. 29, 1981) (S. Res. of Ratification of S. EXEC. DOC. U (96-1)). On October 8, 1981, the Canadian Governor General in Council authorized the Secretary of State for External Affairs to ratify the BOUNDARY SETTLEMENT TREATY as amended by the United States Senate. P.C. 1981-2724 (Oct. 8, 1981). The BOUNDARY SETTLEMENT TREATY entered into force on November 20, 1981. See generally Rhee, *Equitable Solutions to the Maritime Boundary Dispute Between the United States and Canada in the Gulf of Maine*, 75 AM. J. INT'L L. 590 (1981).

18. Hodgson & Smith, *supra* note 11, at 202. For the criteria relevant in continental shelf delimitation, see North Sea Continental Shelf Cases (Federal Republic of Germany v. Denmark; Federal Republic of Germany v. Netherlands), [1969] I.C.J. 3 [hereinafter cited as North Sea Continental Shelf Cases]; *Anglo-French Arbitration*, *supra* note 15. For cases interjecting economic considerations into questions of ocean jurisdiction, see Fisheries Jurisdiction Case (Great Britain and Northern Ireland v. Iceland), [1974] I.C.J. 3 [hereinafter cited as Fisheries Jurisdiction Case]; Fisheries Case (Great Britain and Northern Ireland v. Norway), [1951] I.C.J. 116 [hereinafter cited as Fisheries Case].

19. Convention on the Continental Shelf, done Apr. 29, 1958, 15 U.S.T. 471, T.I.A.S. No. 5578, 499 U.N.T.S. 311 (*in force* June 10, 1964).

valid were to continental shelf areas. The Draft Convention on the Law of the Sea perpetuates this approach. That Draft makes no provision for the delimitation of a single maritime boundary but instead contains separate articles for the delimitation of continental shelf, territorial sea, and exclusive economic zone boundaries.<sup>20</sup> The task

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20. Where the coasts of two States are opposite or adjacent to each other, neither of the two States is entitled, failing agreement between them to the contrary, to extend its territorial sea beyond the median line every point of which is equidistant from the nearest points on the baselines from which the breadth of the territorial seas of each of the two States is measured. The above provision does not apply, however, where it is necessary by reason of historic title or other special circumstances to delimit the territorial seas of the two States in a way which is at variance therewith.

Draft Convention on the Law of the Sea, *supra* note 6, art. 15.

1. The delimitation of the exclusive economic zone 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 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.

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

*Id.* art. 74.

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 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.

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.

*Id.* art. 83.

*See generally* Adede, *Toward the Formulation of the Rule of Delimitation of Sea Boundaries Between States with Adjacent or Opposite Coasts*, 19 VA. J. INT'L L. 207 (1979).

At the Resumed Tenth Session, UNCLOS III adopted the compromise revision of articles 74 and 83 as appears above. U.N. Press Release, *supra* note 6, at 15. The

of formulating legal principles and rules of maritime boundary delimitation has thus focused on particular boundaries and not on a multipurpose boundary. But state practice, as is often the case, has outstripped these efforts at legal articulation and has begun to be concerned with the delimitation of single, multipurpose maritime boundaries. Several single maritime boundary agreements have been negotiated in recent years.<sup>21</sup> The United States has already negotiated at least five such agreements.<sup>22</sup> It is evident from these negotiations and the agreements which have resulted that the principles and rules which have been developed in the context of continental shelf, exclusive economic zone, and territorial sea delimitations have provided the legal framework for the negotiations. Therefore, in attempting to ascertain the principles and rules of single maritime boundary delimitation, it is necessary to examine not only the recent state practice directly in point but also the law of continental shelf, exclusive economic zone, and territorial sea delimitation.

There is a considerable body of international law—conventional, customary, and decisional—concerning continental shelf boundary delimitation. Fifty-three states are parties to the Convention on the

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former version of the delimitation provisions read as follows:

The delimitation of the exclusive economic zone [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.

Draft Convention on the Law of the Sea (Informal Text), arts. 74 & 83, U.N. Doc. A/CONF. 62/WP.10/Rev. 3 (Aug. 27, 1980), reprinted in 19 INT'L LEGAL MATERIALS 1131, 1171, 1174 (1980).

21. See notes 40-65 and accompanying text *infra*.

22. Treaty on the Delimitation of the Maritime Boundary Between the United States and Tokelau, Dec. 2, 1980, United States-New Zealand, S. TREATY DOC. NO. 97-5, 97th Cong., 1st Sess. (1981); Treaty on Friendship and Delimitation of the Maritime Boundary, June 11, 1980, United States-Cook Islands, S. EXEC. DOC. NO. P, 96th Cong., 2d Sess. (1980); Maritime Boundary Treaty, Mar. 28, 1978, United States-Venezuela, T.I.A.S. No. 9890 (*in force* Nov. 24, 1980); Treaty on Maritime Boundaries, May 4, 1978, United States-United Mexican States, S. EXEC. DOC. NO. F, 96th Cong., 1st Sess. (1979); Maritime Boundary Agreement, Dec. 16, 1977, United States-Cuba, S. EXEC. DOC. NO. H, 96th Cong., 1st Sess. (1979).

The agreement with Cuba, art. V, specifies that it will enter into force "provisionally" for two years beginning January 1, 1978, and will then enter into force permanently on the date of exchange of instruments of ratification. As of January 1, 1980, the provisional application of the agreement with Cuba was extended for an additional two year period. Agreement Extending the Provisional Application of the Agreement of December 16, 1977, Dec. 27-28, 1979, United States-Cuba, T.I.A.S. No. 9732 (*in force* Dec. 28, 1979). The maritime boundaries between the United States and Mexico have been in effect provisionally since 1976. Agreement Concerning Maritime Boundaries, Nov. 24, 1976, United States-United Mexican States, 29 U.S.T. 196, T.I.A.S. No. 8805 (*in force* Nov. 24, 1976). See generally Feldman & Colson, *The Maritime Boundaries of the United States*, 75 AM. J. INT'L. 729 (1981).

Continental Shelf,<sup>23</sup> which contains, in article 6, a rule governing delimitation of shelf boundaries between opposite and adjacent states.<sup>24</sup> This provision has been the subject of extensive scholarly commentary<sup>25</sup> and has provided the rule of decision in the *Anglo-French Continental Shelf Arbitration*.<sup>26</sup> The opinion in that case contains an elaborate discussion of the rule of article 6 and the relationship of article 6 to the customary international law of shelf delimitation. Also, in the *North Sea Continental Shelf Cases*,<sup>27</sup> the International Court of Justice, concerned not with article 6 but with customary international law, discussed at length the general principles underlying continental shelf entitlement and jurisdiction. These principles provide the legal background against which any claims to

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23. U.S. DEP'T OF STATE, TREATIES IN FORCE 317-18 (1980).

24. 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, 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.

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.

Convention on the Continental Shelf, *supra* note 19, art. 6.

25. See, e.g., E. BROWN, *THE LEGAL REGIME OF HYDROSPACE* 52-59 (1971); BROWN, *The Anglo-French Continental Shelf Case*, 16 *SAN DIEGO L. REV.* 461, 496-505 (1979); Goldie, *Delimiting Continental Shelf Boundaries*, in *LIMITS TO NATIONAL JURISDICTION OVER THE SEA* 3, 3-20 (G. Yates & J. Young, eds. 1974); Grisel, *The Lateral Boundaries of the Continental Shelf and the Judgment of the International Court of Justice in the North Sea Continental Shelf Cases*, 64 *AM. J. INT'L L.* 562 *passim* (1970); Padwa, *Submarine Boundaries*, 9 *INT'L & COMP. L.Q.* 628 *passim* (1960).

26. See note 15 *supra*. See also Bowett, *The Arbitration Between the United Kingdom and France Concerning the Continental Shelf Boundary in the English Channel and South-Western Approaches*, 49 *BRIT. Y.B. INT'L L.* 1 (1978); Brown, *The Anglo-French Continental Shelf Case*, 16 *SAN DIEGO L. REV.* 461 (1979); Colson, *The United Kingdom-France Continental Shelf Arbitration: Interpretive Decision of March 1978*, 73 *AM. J. INT'L L.* 112 (1979); McRae, *Delimitation of the Continental Shelf between the United Kingdom and France: The Channel Arbitration*, 15 *CAN. Y.B. INT'L L.* 173 (1977). The Tribunal was composed of Erik Castren (president), Herbert Briggs, André Gros, Endre Ustor, and Sir Humphrey Waldock.

27. *Supra* note 18. See also Bouchez, *The North Sea Continental Shelf Cases*, 1 *J. MAR. L. & COM.* 113 (1969); Friedmann, *The North Sea Continental Shelf Cases—A Critique*, 64 *AM. J. INT'L L.* 229 (1970); Grisel, *supra* note 25.

shelf areas must be considered.

The law with respect to exclusive economic zone boundaries is less well developed. The Draft Convention on the Law of the Sea contains an article dealing with the delimitation of boundaries between the exclusive economic zones of states with opposite or adjacent coasts.<sup>28</sup> Also, the Convention on the Territorial Sea and the Contiguous Zone<sup>29</sup> and the Convention on Fishing and Conservation of the Living Resources of the High Seas<sup>30</sup> contain provisions that may have relevance in delimiting economic zones. Furthermore, the International Court of Justice has elucidated certain general principles that underlie jurisdiction over ocean areas for exploitation, management, and conservation of fish resources, which may be helpful in ascertaining those factors important in economic zone delimitation.<sup>31</sup>

Because of the sizable number of single maritime boundaries that will have to be delimited during the next decade<sup>32</sup> and the serious

28. Draft Convention on the Law of the Sea, *supra* note 20, art. 83.

29. 1. Where the coasts of two States are opposite or adjacent to each other, neither of the two States is entitled, failing agreement between them to the contrary, to extend its territorial sea beyond the median line every point of which is equidistant from its nearest points on the baselines from which the breadth of the territorial seas of each of the two States is measured. The provisions of this paragraph shall not apply, however, where it is necessary by reason of historic title or other special circumstances to delimit the territorial seas of the two States in a way which is at variance with this provision.

2. The line of delimitation between the territorial seas of two States lying opposite to each other or adjacent to each other shall be marked on large-scale charts officially recognized by the coastal States.

Convention on the Territorial Sea and the Contiguous Zone, *supra* note 1, art. 12.

30. Article 7 of the Convention on Fishing and Conservation of the Living Resources of the High Seas, *done* Apr. 29, 1958, 7 U.S.T. 138, T.I.A.S. No. 5969, 559 U.N.T.S. 285 (*in force* Mar. 20, 1966), allows coastal states under certain circumstances to "adopt unilateral measures of conservation appropriate to any stock of fish or other marine resources in any area of the high seas adjacent to its territorial sea." Article 7, paragraph 5 provides: "The principles of geographical demarcation as defined in article 12 of the Convention on the Territorial Sea and the Contiguous Zone shall be adopted when coasts of different States are involved." (footnote omitted). *Id.*

31. Fisheries Jurisdiction Case and Fisheries Case, *supra* note 18.

32. Under present political patterns and with a universal 200-mile resource zone, 331 potential maritime boundaries may be enumerated. Of possible interest, the United States would be involved in approximately 37 delimitations—over 11 percent of the world's total—to define the marine area of the U.S. and its associated territories.

Over 70 maritime boundaries have been negotiated to date. More than 240 have either not undergone negotiation, are in the process of negotiation, and/or are disputed. Approximately one of five potential maritime limits has been agreed upon, although many of these delimitations, it should be noted, remain incomplete. The Canada-Demark boundary, for example, extends only a few miles into the Arctic—north of Greenland.

Seventy-three maritime boundary disputes have been presently

impediments to resource exploitation and management that unresolved or disputed boundaries create,<sup>33</sup> it is highly desirable that boundaries be delimited by the expeditious agreement of coastal states. In order to facilitate such agreement, a clear articulation of the principles and rules of international law applicable to maritime boundary delimitation would be most helpful. General principles and rules sufficiently flexible to respond to a broad range of problems may be desirable when legal solutions are sought to novel problems.<sup>34</sup> Such principles and rules give maximum discretion to the decision maker to consider all aspects of the situation that may be relevant.<sup>35</sup> But as experience accumulates, rules can be defined with more precision. The virtue of more precise rules is that those states involved in a boundary negotiation or dispute have a more clearly defined legal framework within which to conduct their negotiations.<sup>36</sup> Also, the states can anticipate the likely outcome of a

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identified. Many of these disputes remain latent and they may not change from the quiescent state until solutions are found. Moreover, over one-third—25 may be so categorized—involve overlapping claims to land territory. Due to this complication, the twenty-five should not be deemed to be maritime boundary disputes in the strictest sense even though the desire to expand control over ocean resources may underlie certain of these disputes. In contrast, others of these derive from prior, in many cases long-standing, disagreements over land boundaries, sovereignty over islands or similar problems.

At least five of the disputed maritime boundaries involve litigation or prolonged ratification procedures. By this time, solutions may have been reached to one or more of them.

What then does the future hold for the approximately 240 maritime boundaries which still must be negotiated? What is in the future for the more than 70 disputed boundaries?

Hodgson, *International Oceans Boundary Disputes*, in *The Oceans and U.S. Foreign Policy*, 1:4 OCEANS POLICY STUDY 37, 38 (Apr. 1978).

33. For example, during the 1960's and early 1970's, oil and gas exploration and exploitation were delayed in the disputed area of the Gulf of Maine claimed by both the United States and Canada. During 1975 the Bureau of Land Management of the United States Department of the Interior called for nominations of and comments on oil and gas drilling on North Atlantic continental shelf areas, including portions of the disputed area. Canadian officials reacted sharply. The international boundary dispute, combined with problems of domestic federalism, forced petroleum companies to purchase exploration permits from three or four governments in order to avoid future drilling rights controversies. Comment, *Boundary Delimitation in the Economic Zone: The Gulf of Maine Dispute*, *supra* note 14, at 234-36.

34. See generally Blecher, *Equitable Delimitation of Continental Shelf*, 73 *AM. J. INT'L L.* 60, 86-88 (1979).

35. The interrelationship of the substantive standards of boundary delimitation and the mechanisms for the resolution of boundary delimitation disputes has been clearly recognized by the UNCLOS III negotiators. See Adede, *supra* note 20. See also Bernhardt, *Compulsory Dispute Settlement in the Law of the Sea Negotiations: A Reassessment*, 19 *VA. J. INT'L L.* 69, 95-98 (1978); Draft Convention on the Law of the Sea, *supra* note 6, art. 298.

36. As a practical matter, relatively few applications of international law occur in

third-party decision with more certainty and thus settle the matter themselves without costly and time-consuming adversary proceedings.

No matter how desirable precise rules of single boundary delimitation may be, it is not the intention of the authors to attempt a statement of such rules *de lege ferenda*. UNCLOS III has produced more than enough proposals concerning what the law should be.<sup>37</sup> It is the contention of the authors that there already exist rules and principles<sup>38</sup> of customary international law concerning maritime

international tribunals. The preeminent forum for the application of international law is diplomatic practice.

The application of any system of law, and above all of a customary law, finds its greatest place in action taken according to its rules and principles rather than in litigation or the settlement of controversies which have arisen between parties. It is believed that the daily reliance upon international law in the normal relations between states far exceeds in frequency, and probably in importance, its role as a basis for settlement of differences. . . .

Although judicial settlement and arbitration are the means of settlement wherein the decision is based solely on international law, considerations of international law may play an important part in the adjustment of differences by the parties through direct negotiation, or in settlements effected by the parties as a result of the offer of good offices, mediation, or reports of commissions of inquiry or conciliation, as well as in settlements effected on what may be regarded as the "political" level through the United Nations (or the League of Nations or regional agencies).

The simplest of these processes, although probably the one by which the larger number of day-to-day differences are adjusted, is direct *negotiation* between the states concerned. Through an exchange of views, usually via diplomatic channels, agreement is reached in a mutual process of give-and-take. Such solutions of troubles may be based upon existing rules of international law and go toward the establishment of practices which may become a part of what the parties regard as customary international law.

W. BISHOP, *INTERNATIONAL LAW: CASES AND MATERIALS* 62-63 (3d ed. 1971).

37. See Adede, *supra* note 20. See also Oxman, *The Third United Nations Conference on the Law of the Sea: The Ninth Session (1980)*, 75 AM. J. INT'L L. 211, 231-33 (1981).

The provisions in the Law of the Sea text [in use at UNCLOS III] on the delimitation of maritime boundaries in our opinion are reflective of the existing law on maritime boundaries as it applies to the United States in its relations to Canada and other countries, and we do not foresee any change in legal concepts or applications arising out of the adoption of these texts by the Law of the Sea Conference.

*Hearings on Three Treaties Establishing Maritime Boundaries Between the United States and Mexico, Venezuela, and Cuba Before the Senate Committee on Foreign Relations*, S. EXEC. REP. No. 96-49, 96th Cong., 2d Sess. 22 (1980) (testimony of Mark B. Feldman, Deputy Legal Advisor, United States Department of State). The Court of Arbitration stated a similar view in the *Anglo-French Arbitration*, *supra* note 15, para. 96, *i.e.*, UNCLOS III would not really change anything in this regard.

38. Negotiators or tribunals in quest of the customary international law of single maritime boundary delimitation may look to general principles as well as to more precise rules as custom. The terms "principles" and "rules" are not synonymous, as

boundary delimitation and that these rules and principles are applicable to single maritime boundary delimitations.<sup>39</sup> Recent state practice concerning the delimitation of single maritime boundaries indicates the applicable sources of law. An analysis of those materials suggests that certain rather definite principles and rules can be fashioned.

An examination of the decisional law and state practice concern-

Judge Ammoun pointed out in his separate opinion in the North Sea Continental Shelf Cases: "It is from the principle, defined as being the effective cause, that the rules flow." North Sea Continental Shelf Cases, *supra* note 18, at 147. Specific rules of delimitation may be derived from the more general principles that are found to be applicable. Importantly, recent maritime boundary disputes submitted to international tribunals call upon the tribunal to render a decision "in accordance with the principles and rules of international law," Special Agreement Between the Government of the United States of America and the Government of Canada to Submit to a Chamber of the International Court of Justice the Delimitation of the Maritime Boundary in the Gulf of Maine Area, *supra* note 17, art. II, Agreement Between the Government of the United States of America and the Government of Canada to Submit to a Court of Arbitration the Delimitation of the Maritime Boundary in the Gulf of Maine Area, *supra* note 17, art. II; or to determine "[w]hat principles and rules of international law are applicable. . . ." North Sea Continental Shelf Cases, at 7. Note also the Special Agreement Between the Republic of Tunisia and the Socialist People's Libyan Arab Jamahiriya for the Submission of the Question of the Continental Shelf Between the Two Countries to the International Court of Justice, done June 10, 1977, reprinted in 18 INT'L LEGAL MATERIALS 49 (in force Feb. 27, 1978), art. 1:

The Court is requested to render its Judgment in the following matter:

What are the principles and rules of international law which may be applied for the delimitation of the area of the continental shelf appertaining to the Republic of Tunisia and the area of the continental shelf appertaining to the Socialist People's Libyan Arab Jamahiriya and, in rendering its decision, to take account of equitable principles and the relevant circumstances which characterize the area, as well as the recent trends admitted at the Third Conference on the Law of the Sea.

39. Professor McRae made the following statement in discussing the delimitation of a single maritime boundary:

Obviously there are considerable practical reasons for setting a single boundary for all purposes, and, presumably, where boundaries are settled by agreement such an approach invariably will be adopted. But where a tribunal is directed to ascertain a boundary "in accordance with the principles and rules of international law," this could pose a dilemma. If the tribunal were to conclude that the principles of international law governing the delimitation of the continental shelf resulted in one boundary, but that the principles of international law governing the delimitation of fishing zones resulted in a different boundary, what course should it adopt? Should it conclude that the question posed by the parties is unanswerable, should it make a choice between the two boundaries, or should it delimit a third boundary somewhere between the other two?

McRae, *Adjudication of the Maritime Boundary in the Gulf of Maine*, 17 CAN. Y.B. INT'L L. 292, 301 (1979). An approach to the question of delimiting a single maritime boundary from the point of view of each boundary considered separately, however, is not appropriate. Negotiators or a tribunal must address directly the problem of ascertaining the rules and principles, if any, of customary international law applicable to the delimitation of a single maritime boundary.

ing the delimitation of continental shelf boundaries indicates that there is an approach to continental shelf delimitation that has received authoritative acceptance, has a firm underpinning in the legal theory underlying continental shelf entitlement, and, perhaps above all, is quite precise, relatively easy to apply, and makes eminent good sense. Although the relevant legal materials and state practice are considerably more rudimentary with respect to the delimitation of exclusive economic zones, the legal theory underlying economic zone entitlement points to a similar approach. Because the two principal sources of the law of single maritime boundary delimitation suggest a similar approach, that approach may also be regarded as applicable to single boundary delimitations.

In the following Sections of this Article, the authors describe that approach and argue that it has attained the status of customary international law. Basically, the customary rule described by the authors calls first for the construction of an equidistance line. Next, that line is tested for conformity with equitable principles by comparing the areas of ocean and shelf that it accords the states concerned with the lengths of their coastlines. The authors argue that the principle of proportionality flows directly from the basic theory of continental shelf and economic zone entitlement and that application of this theory provides the best method of evaluating the equity of the delimitation. If the equidistance line produces a boundary that results in the concerned states receiving areas of shelf and ocean that are roughly proportionate to the lengths of their coastlines, the equidistance line is the appropriate boundary. If the ocean and shelf areas are not sufficiently proportional, those geographic features which cause the equidistance line to result in such disproportionate division must be identified and assessed. When such features are found to have an impact on the equidistance line that is out of proportion to their size or significance, they must be discounted. A second equidistance line is then constructed without reference or with reduced reference to the distorting features. The final boundary should be a compromise between the original equidistance line and the modified line. The result shows an improved congruence between the areas of ocean and shelf allocated and the ratios of coastline lengths.

## II. NEGOTIATED SINGLE BOUNDARY AGREEMENTS:<sup>40</sup> A SURVEY OF STATE PRACTICE

Nations are obligated to delimit disputed maritime boundaries by agreement. In the *North Sea Continental Shelf Cases*, the Inter-

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40. In addition to those agreements specifically delimiting single maritime boundaries, this section considers those maritime boundary delimitation agreements that are functionally equivalent to single boundary delimitations, such as territorial sea boundary agreements in which the states concerned claim extended territorial seas.

national Court of Justice said that the obligation to negotiate "merely constitutes a special application of a principle which underlies all international relations, and which is moreover recognized in Article 33 of the Charter of the United Nations as one of the methods for the peaceful settlement of international disputes."<sup>41</sup> In situations where rights conflict and thus are mutually limiting, as in the disputed ocean areas that are claimed by two nations, it may be said that "[t]he obligation to negotiate . . . flows from the very nature of the respective rights of the [p]arties."<sup>42</sup> The obligation to delimit maritime boundaries by agreement is recognized and given prominence in all the existing and proposed conventional rules relating to the delimitation of maritime boundaries.<sup>43</sup>

Many nations have already entered into negotiations with their neighbors concerning the delimitation of their respective maritime boundaries. The result has been the conclusion of many agreements delimiting continental shelf, territorial sea, exclusive economic zone, and single maritime boundaries.<sup>44</sup> Although single boundary agreements were not frequent until quite recently, their number is now substantially increasing.<sup>45</sup> This is due to the many recent assertions of extended exclusive economic or fishery jurisdiction.<sup>46</sup>

The consideration of this developing body of state practice is the first step in evaluating the current state of customary international law concerning single maritime boundary delimitation. Although in some cases bilateral agreements should be viewed as *creating* law for the parties, a study of the bilateral maritime boundary agreements with which this Article is concerned indicates that they are more appropriately described as *applying* the law deemed applicable by the parties. For example, Article 1 of the Maritime Boundary Treaty between the United States and Venezuela provides that "[t]he sole purpose of this Treaty is to establish, in accordance with international law, the maritime boundary between the United States of America and the Republic of Venezuela."<sup>47</sup> As the late Judge Baxter pointed out, "[o]ften the function of the bilateral treaty is to spell out the details of a general principle, to provide for its application in a particular case, or to give content to an imperfect rule of international law."<sup>48</sup>

The law that these agreements apply is primarily that body of principles developed over the past 30 years for the delimitation of

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41. [1969] I.C.J. 3, 47.

42. Fisheries Jurisdiction Case, *supra* note 18, at 32.

43. See the provisions quoted in notes 20, 24, 29, & 30 *supra*.

44. See note 32 *supra*.

45. See the agreements cited in notes 22 *supra* and 50, 60, 63, & 64 *infra*.

46. See note 10 *supra*.

47. Maritime Boundary Treaty, Mar. 28, 1978, United States-Venezuela, T.I.A.S. No. 9890 (*in force* Nov. 24, 1980).

48. Baxter, *Treaties and Custom*, 129 RECUEIL DES COURS 25, 82 (1970).

continental shelf and territorial sea boundaries. In his testimony before the Senate Committee on Foreign Relations concerning three single maritime boundary agreements concluded by the United States with Cuba, Mexico, and Venezuela, an administration official stated that in negotiating these treaties, the United States followed "principles relating to maritime boundaries which flow from the Geneva Convention on the Continental Shelf, and from the World Court decision in 1969 in the North Sea Continental Shelf Cases, and the opinion of the Court of Arbitration in 1977 in the Anglo-French case . . . ."<sup>49</sup> Where the maritime boundary divides ocean areas regarded as the territorial seas of the parties, principles of territorial sea delimitation are regarded as controlling. Thus, the Declaration of Uruguay and Brazil on the Limits of Maritime Jurisdiction indicates that it was based on "the precedents established by international doctrines and practices, multilateral conventions, and particularly Article 12 of the Geneva Convention on the Territorial Sea and Contiguous Zone for the purpose of determining the lateral border between maritime jurisdictions of neighboring countries."<sup>50</sup>

The general principle that the bilateral single maritime boundary agreements apply is equitable division. This application of equitable principles produces a division that is deemed appropriate and fair by the parties. In applying general equitable concepts, the negotiated single boundary agreements are not based on a particular legal theory, such as equidistance, but may best be characterized as "developed on the basis of principles deemed by the parties to be equitable in view of the relevant geographic circumstances."<sup>51</sup> In a written statement submitted to the U.S. Senate Committee on Foreign Relations in connection with the agreements with Cuba, Mexico, and Venezuela, the administration asserted that its basic position is that maritime boundaries "are to be established in accordance with equitable principles" and that "the equidistance method can be applied, as a matter of convenience, where it leads to a result consistent with equitable principles."<sup>52</sup>

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49. *Hearings on Three Treaties Establishing Maritime Boundaries Between the United States and Mexico, Venezuela, and Cuba*, *supra* note 37, at 22 (testimony of Mark B. Feldman, Deputy Legal Advisor, United States Department of State). Mr. Feldman added: "Fundamentally, however, these three agreements are negotiated agreements, rather than based on particular legal theory." *Id.* at 22.

50. See *Maritime Boundary: Brazil-Uruguay*, *LIMITS IN THE SEAS*, *supra* note 11, No. 73, at 4 (Sept. 30, 1976).

51. Letter of Submittal of Warren Christopher, Deputy Secretary, United States Department of State, *Message from the President of the United States Transmitting the Treaty Between the United States of America and the Cook Islands on Friendship and Delimitation of the Maritime Boundary Between the United States of America and the Cook Islands*, S. EXEC. DOC. P, 96th Cong., 2d Sess., at vi (1980).

52. *Hearings on Three Treaties Establishing Maritime Boundaries Between the United States and Mexico, Venezuela, and Cuba*, *supra* note 37, at 10-11 (prepared statement submitted by Mark B. Feldman, Deputy Legal Advisor, United States De-

In some situations, an equitable division may best be effected through application of the equidistance method; in other instances, that is not the case. Equidistance often provides a starting point for negotiations<sup>53</sup> but may subsequently be modified<sup>54</sup> or abandoned completely.<sup>55</sup> One of the most common reasons for the modification or abandonment of an equidistant line is the desire to simplify the boundary<sup>56</sup> or the delimitation process.<sup>57</sup> Thus, in some cases, the negotiated boundary follows azimuths<sup>58</sup> or parallels<sup>59</sup> that are ap-

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partment of State).

53. See, e.g., note 55 *infra*.

54. For example, the maritime boundary treaties negotiated by the United States with Mexico, Venezuela, and Cuba, *supra* note 22, were based on the principle of equidistance. In all three instances, "[e]quidistant lines were drawn giving full effect to islands and the lines were simplified, where useful for convenience or to avoid issues as to basepoints." *Hearings on Three Treaties Establishing Maritime Boundaries Between the United States and Mexico, Venezuela, and Cuba*, *supra* note 37, at 24 (administration's response to additional questions submitted for record by Senator Zorinsky). The principle of equidistance is rarely used in its pure form in which all points of the boundary line are equidistant from the nearest points on the baseline. Instead, the lines are drawn by connecting equidistant points with straight line segments. The reason for this modification is simple:

This is a choice of convenience and not a disavowal of the principle of equidistance. If every point on an equidistance line were required to be an equal distance from the coasts of the delimiting states, it would be difficult to make an at-sea determination of the line when the states involved have even slightly irregular coastlines. However, under the modified application of the principle, the chosen equidistant or reference points can be marked with a buoy.

Karl, *Islands and the Delimitation of the Continental Shelf: A Framework for Analysis*, 71 AM. J. INT'L L. 642, 652 n.36 (1977) (emphasis in original).

55. The Brazil-Uruguay maritime boundary, *supra* note 50, provides the best example. On May 10, 1969, the foreign ministers of the two states issued a declaration stating that the two governments "recognize as the lateral limit of their respective maritime jurisdictions, the median line whose points are equidistant from the nearest points on the baseline" and that

both governments, through the intermediary of the Joint Commission on the Limits and the Definition of the Border between Uruguay and Brazil assisted by the hydrographic services of both countries, decide to take the necessary steps to define and identify the median line referred to above as soon as possible in order perfectly to identify the respective areas of maritime jurisdiction . . .

*Id.* at 5. The boundary eventually delimited by agreement, however, "shall be defined by the rhumb line which . . . shall run on a bearing of 128 sexagesimal degrees (counting from true north) to the outside limit of the territorial sea of both countries." *Id.* at 2. The bearing of the boundary line finally chosen was defined by a "line running from the present Chuy light in a direction nearly perpendicular to the general line of the coast . . ." *Id.* at 1. According to the analysis of the Office of the Geographer, U.S. Department of State, "[a]pparently the Uruguayan-Brazilian Joint Boundary Commission decided that a simplified and normal line was equitable to both sides." *Id.* at 3.

56. See note 60 *infra*.

57. See, e.g., the Brazil-Uruguay maritime boundary, *supra* note 50.

58. See, e.g., the Guinea-Bissau-Senegal territorial sea and continental shelf

proximately equidistant from the coasts of the parties. In other instances, the equidistant line is modified to reduce the number of turning points of the boundary line.<sup>60</sup> Yet in other cases, the equidistant line is modified because the strict application of the equidistance method would produce results which are clearly inequitable. The presence of islands is the most frequently encountered cause of an inequitable division produced by the strict application of the equidistance method.<sup>61</sup> Coastline configuration may also lead to an inequitable division based on equidistance.<sup>62</sup>

Sometimes equidistance is used for the delimitation of part of the boundary line but other principles are applied for the delimitation

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boundary, *Territorial Sea and Continental Shelf Boundary: Guinea-Bissau-Senegal*, LIMITS IN THE SEAS, *supra* note 11, No. 68 (Mar. 15, 1976), which is delimited along a straight-line 240° azimuth. The State Department Geographer points out that "[n]either the territorial sea boundary nor the continental shelf boundary is based on the equidistance principle." *Id.* at 4. Although not strictly a single maritime boundary, at the time of the delimitation Guinea-Bissau claimed a 150 nautical-mile limit. *See also* the Brazil-Uruguay maritime boundary, *supra* note 50.

59. The maritime boundaries between Ecuador and Peru, *Maritime Boundary: Ecuador-Peru*, LIMITS IN THE SEAS, *supra* note 11, No. 88 (Oct. 2, 1979); Peru and Chile, *Maritime Boundary: Chile-Peru*, LIMITS IN THE SEAS, *supra* note 11, No. 86 (July 2, 1979); The Gambia and Senegal (two boundaries), *Maritime Boundaries: The Gambia-Senegal*, LIMITS IN THE SEAS, *supra* note 11, No. 85 (Mar. 23, 1979); and Colombia and Ecuador, *Maritime Boundary: Colombia-Ecuador*, LIMITS IN THE SEAS, *supra* note 11, No. 69 (Apr. 1, 1976), all follow parallels. Of these boundaries, only the two Gambia-Senegal boundaries approximate equidistant lines. The others do not approximate equidistant lines because the coastlines of the states involved do not run generally north-south in the immediate vicinity of the boundary.

60. *See, e.g.*, the India-Sri Lanka maritime boundaries in the Gulf of Manaar and the Bay of Bengal, *Maritime Boundaries: India-Sri Lanka*, LIMITS IN THE SEAS, *supra* note 11, No. 77 (Feb. 16, 1978). In delimiting the boundary, the parties "[a]pparently have agreed to a modified equidistant line and/or to one created by a selective choice of relevant basepoints," *id.* at 7, to diminish the number of turning points that would have resulted from the strict application of the equidistance method.

61. The maritime boundary established by Indonesia and Singapore in the Strait of Singapore, *Territorial Sea Boundary: Indonesia-Singapore*, LIMITS IN THE SEAS, *supra* note 11, No. 60 (Nov. 11, 1974), is the most graphic example of the abandonment of strict equidistance due to the presence of islands. Because of the number of small islands located in the Strait, the negotiated boundary actually crosses the Indonesia straight baseline and thus delimits a small portion of what Indonesia had claimed as internal waters to Singapore. *See generally* Ely, *Seabed Boundaries Between Coastal States: The Effect to be Given Islets as "Special Circumstances,"* 6 INT'L LAW. 219 (1972); Goldie, *The International Court of Justice's "Natural Prolongation" and the Continental Shelf Problem of Islands*, 4 NETH. Y.B. INT'L L. 237 (1973); Karl, *Islands and the Delimitation of the Continental Shelf: A Framework for Analysis*, *supra* note 54. *See also* the maritime boundary between India and Sri Lanka, *supra* note 60, where India and Sri Lanka ignored some smaller off-shore islands and utilized as basepoints for application of the equidistance method larger islands closer to their respective coasts. *Id.* at 7.

62. *See, e.g.*, North Sea Continental Shelf Cases, *supra* note 18; *Territorial Sea and Continental Shelf Boundaries: France-Spain*, LIMITS IN THE SEAS, *supra* note 11, No. 83 (Feb. 12, 1979).

of other parts of the same boundary.<sup>63</sup> Thus, for example, equidistance may be utilized for the delimitation of the first part of the boundary but abandoned in favor of proportionality when coastline configuration begins to produce an inequitable equidistance line.<sup>64</sup>

The principle of natural prolongation has not figured prominently in the negotiated single boundary delimitations between adjacent states, although it may play a more significant role when boundaries are negotiated between opposite states.<sup>65</sup> The principle of natural

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63. See, e.g., the continental shelf boundary between Argentina and Uruguay, *Continental Shelf Boundary: Argentina-Uruguay*, LIMITS IN THE SEAS, *supra* note 11, No. 64 (Oct. 24, 1975). The portion of the boundary within the Rio de la Plata approximates the course of the navigation channel. Beyond that point, the boundary is defined as "an equidistant line, determined by the adjacent coasts methods." *Id.* art. 70, at 8. The Argentina-Uruguay continental shelf boundary may be considered a single maritime boundary because the continental shelf boundary also serves the purpose of defining the respective zones of maritime jurisdiction of the parties for the purpose of licensing foreign fishing. *Id.* art. 75, at 9. A delimitation of fishing zones was unnecessary because of the establishment of a common fishing zone in the boundary area between 12 and 200 nautical miles from the coastlines of the parties. *Id.* art. 73.

64. See, e.g., the Colombia-Panama Maritime Boundary in the Caribbean Sea, *Maritime Boundaries: Colombia-Panama*, LIMITS IN THE SEAS, *supra* note 11, No. 79 (Nov. 3, 1978), where a portion of the boundary follows an equidistant line with only minor deviations but another portion of the boundary (delimited between the Panamanian mainland and certain small Colombian offshore cays) deviates substantially from an equidistant line. Six of the seven turning points of this latter portion of the boundary are closer to the Colombian cays than to the Panamanian mainland, indicating that the Panamanian mainland may have received more weight than the Colombian cays in delimiting this portion of the boundary. Compare the analysis of the State Department Geographer, *id.* at 7 (suggesting that geometry lends no credence to possibility that Colombian cays received consistently less weight than Panamanian mainland).

See also the continental shelf delimitation between France and Spain in the Bay of Biscay, *supra* note 62, and notes 216-26 and accompanying text *infra*.

65. Few of the geographic areas in which single maritime boundaries have been negotiated present problems involving natural prolongation. For a situation in which the most natural prolongation of a coastal state was apparently ignored, see the Brazil-Uruguay maritime boundary, *supra* note 50, where a boundary delimited between adjacent states along an azimuth cuts off a small area (a portion of the Banco LaPlata), which could have been delimited to the state of which the area is the most natural prolongation (Uruguay) with only a slight deviation of the line.

State practice involving the factor of natural prolongation is more plentiful in the delimitation of continental shelf boundaries. Natural prolongation was ignored in delimiting the following opposite-state continental shelf boundaries: Canada-Greenland, *Continental Shelf Boundary: Canada-Greenland*, LIMITS IN THE SEAS, *supra* note 11, No. 72 (Aug. 4, 1976) (between 67° and 69° north latitude boundary bisects prolongation of coast of Greenland); United Kingdom-Norway, *North Sea Continental Shelf Boundaries*, LIMITS IN THE SEAS, *supra* note 11, No. 10 (June 14, 1974) (Norwegian Trough was disregarded); Norway-Denmark, *id.* (again, Norwegian Trough was disregarded). For an adjacent-state situation, see France-Spain (Bay of Biscay) *supra* note 62 (small area that may be regarded as most natural prolongation of French coast is cut off by line drawn according to equidistance method).

Natural prolongations were given effect, however, in delimiting the following oppo-

prolongation may be useful in determining the distance from the coast to which the continental shelf of a state extends but the principle is of little use in apportioning areas of shelf between states which abut on a single shelf.

In addition to indicating what law is applicable to single maritime boundary delimitations and affording examples of how that law is applied in specific cases, the single maritime boundary agreements and other evidences of state practice also suggest how the geological and geographic factors deemed determinative in continental shelf delimitations are to be integrated with considerations of historic usage and economic dependency deemed important in economic and fishery zone entitlement. A comparison of the Truman Proclamation on the continental shelf<sup>66</sup> (regarded by the International Court of Justice as the "starting point of the positive law on the subject" of the legal regime of the continental shelf)<sup>67</sup> with the contemporaneous Truman Proclamation on coastal fisheries in high seas areas<sup>68</sup> (which arguably occupies a somewhat similar, although perhaps not quite so central, position in the development of the legal regime of extended fishery zones and the exclusive economic zone)<sup>69</sup> is useful.

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site-state continental shelf boundaries: Australia-Indonesia, *Territorial Sea and Continental Shelf Boundaries: Australia and Papua New Guinea-Indonesia*, LIMITS IN THE SEAS, *supra* note 11, No. 87 (Aug. 20, 1979) (Timor Trough was given partial effect); Korea-Japan, *Continental Shelf Boundary and Joint Development Zone: Japan-Republic of Korea*, LIMITS IN THE SEAS, *supra* note 11, No. 75 (Sept. 2, 1977) (south of their continental shelf boundary parties created joint economic zone in area of Okinawa Trough). "The [z]one is an overlapping area between the Korean claim based on the principle of the natural prolongation and the Japanese equidistance claim." Rhee, *The Application of Equitable Principles to Resolve the United States-Canada Dispute over East Coast Fishery Resources*, 21 HARV. INT'L L.J. 667, 678 n.48 (1980).

See generally Note, *Delimitation of Continental Shelf Jurisdiction Between States: The Effect of Physical Irregularities in the Natural Continental Shelf*, 17 VA. J. INT'L L. 77 (1976).

66. See note 8 *supra*.

67. North Sea Continental Shelf Cases, *supra* note 18, at 32-33.

68. Pres. Proc. No. 2668, Policy of the United States with Respect to Coastal Fisheries in Certain Areas of the High Seas, 3 C.F.R. 40 (1945 Supp.), reprinted in 59 Stat. 885 (1945). See generally Hollick, *supra* note 8; Selak, *Recent Developments in High Seas Fisheries Jurisdiction Under the Presidential Proclamation of 1945*, 44 AM. J. INT'L L. 670 (1950).

69. The two proclamations, taken together, constitute a landmark in the postwar evolution of State practice in the field of coastal resource jurisdiction. Not only was the change in the law which they sought to achieve swiftly realized due to the ensuing State practice which conformed especially to that enunciated in the Proclamation on the Continental Shelf and ultimately led to the maturing of the doctrine of the continental shelf, but the simultaneous issue of the two proclamations set in train a series of claims by coastal States in different regions of the globe. These new claims far exceeded the scope of the proclamations and thereby established the conditions for the development of what is now the concept

This comparison indicates that, whereas the shelf proclamation provides explicitly for the delimitation of maritime boundaries,<sup>70</sup> the high seas fisheries proclamation contains no provision at all for boundary delimitation. Rather, the latter provides that regulation and control of fisheries activities with respect to fisheries in which more than one nation participate are to be undertaken by agreement.<sup>71</sup> The differing approaches presaged by the Truman Proclamations, boundary delimitation in the case of the continental shelf and management by agreement in the case of shared fisheries, represent a divergence in thinking about these two areas that still exists. Although most single boundary agreements simply allocate shelf and water column resources to states on the basis of the boundary that is delimited,<sup>72</sup> other agreements, perhaps because of the presence of commercially significant fisheries in the maritime frontier area, regard the fishery question as primarily one of resource allocation and management and not one of territorial division.<sup>73</sup> Considered together, the linked treaties negotiated by Ca-

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of the exclusive economic zone. Such developments were, in a sense, however, inevitable, particularly as there existed no general international agreement as to the maximum permissible extent of the jurisdiction of coastal States over the adjacent seas.

In view of the developments arising out of the Truman Proclamations, it is possible to state, at least with reference to the history behind the appearance of these proclamations, that the assimilation of the legal status of the waters overlying the continental shelf to that of the shelf itself was an inevitable consequence. This consequence was also somewhat natural in that the same assimilation had long since obtained as far as the territorial sea was concerned.

W. EXTAVOUR, *supra* note 5, at 67-68.

70. "In cases where the continental shelf extends to the shores of another State, or is shared with an adjacent State, the boundary shall be determined by the United States and the State concerned in accordance with equitable principles." Truman Proclamation, *supra* note 8, 3 C.F.R. at 40 (1945 Supp.), reprinted in 59 Stat. at 884.

71. Where [fishing] activities have been or shall hereafter be legitimately developed and maintained jointly by nationals of the United States and nationals of other States, explicitly bounded conservation zones may be established under agreements between the United States and such other States; and all fishing activities in such zones shall be subject to regulation and control as provided in such agreements.

Pres. Proc. No. 2668, *supra* note 68, 3 C.F.R. at 41 (1945 Supp.), reprinted in 59 Stat. at 885.

72. See, e.g., Maritime Boundary Treaty, United States-Venezuela, *supra* note 22, art. 4, which provides: "It is understood by the two Governments that south of the maritime boundary the United States of America shall not, and north of the maritime boundary the Republic of Venezuela shall not, for any purpose, claim or exercise sovereign rights or jurisdiction over the waters or seabed and subsoil."

73. See e.g., *Continental Shelf Boundary: Argentina-Uruguay*, *supra* note 63, which includes a provision establishing a common fishing zone, seaward of 12 nautical-miles, *id.* art. 73, and further provides that "[t]he volumes of catch, by species, shall be determined equitably, in proportion to the ichthyological resources of each of the Parties, evaluated on the basis of scientific and economic criteria," *id.* art. 74. The

nada and the United States, one providing for an adjudicated boundary delimitation and the other providing for a comprehensive regulation of the fisheries in the disputed area and beyond, represent the application of the bifurcated approach implicit in the Truman Proclamations.<sup>74</sup> If nations respond to the presence of commercially important fisheries in the frontier area by negotiating agreements concerning entitlement and management, regardless of where the boundary line is located, it appears that those factors relating directly to fisheries, such as historic usage or economic dependency, are of reduced importance in the location of the actual boundary. Those factors, then, are of primary importance in the negotiation of the agreements mandated by the presence of shared resources.<sup>75</sup>

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agreement also provides that "[t]he Parties shall exercise appropriate functions of control and supervision on both sides, respectively of the [boundary line], and shall coordinate them adequately," *id.* art. 76.

74. For a discussion of the reasons for the linkage of the Boundary Settlement Treaty and the Fishery Agreement, see *Maritime Boundary Settlement Treaty and East Coast Fishery Resources Agreement: Hearings on S. Exec. U, V Before the Senate Committee on Foreign Relations, 96th Cong., 2d Sess. 40-44 (1980)*(statement of Lloyd N. Cutler, Counsel to the President). See also note 17 *supra*.

75. Under present international law, a coastal state cannot claim exclusive exploitation rights with respect to non-sedentary living resources seaward of its territorial sea. Although some states now claim territorial seas of up to 200 nautical-miles, claims in excess of 12 nautical-miles are not recognized as valid. Convention on the Territorial Sea and the Contiguous Zone, *supra* note 1, art. 24. See also Draft Convention on the Law of the Sea, *supra* note 6, art. 3. The newly-emerging concept of the exclusive economic zone, however, does allow coastal states to exercise jurisdiction over non-sedentary living resources seaward of 12 nautical-miles:

1. In the exclusive economic zone, the coastal State has:

(a) sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the sea-bed and subsoil and the superjacent waters, and with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from the water, currents and winds . . . .

*Id.* art. 56. Article 62 of the Draft Convention provides for the utilization of the living resources of the exclusive economic zone:

1. The coastal State shall promote the objective of optimum utilization of the living resources in the exclusive economic zone without prejudice to article 61 [which provides that "[t]he coastal State shall determine the allowable catch of the living resources in the exclusive economic zone"].

2. The coastal State shall determine its capacity to harvest the living resources of the exclusive economic zone. Where the coastal State does not have the capacity to harvest the entire allowable catch, it *shall*, through agreements or other arrangements . . . give other States access to the surplus of the allowable catch . . . (emphasis added).

3. In giving access to other States to its exclusive economic zone under this article, the coastal State shall take into account all relevant factors, including, *inter alia*, the significance of the living resources of the area to the economy of the coastal State concerned and its other national interests, the provisions of articles 69 and 70 [concerning the rights of land-locked states and states with special geographical characteristics], the require-

Finally, it is instructive to see how states that had previously delimited continental shelf boundaries subsequently dealt with the extension of their fishery or economic resource zones. Although state practice in this area is sparse, it appears that the continental shelf boundary should also serve as the fishery or exclusive economic zone boundary.<sup>76</sup>

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ments of developing States in the subregion or region in harvesting part of the surplus and the need to minimize economic dislocation in States whose nationals have habitually fished in the zone or which have made substantial efforts in research and identification of stocks.

*Id.* art. 62. Presumably the "agreements or other arrangements" mandated by article 62(2) in the case of lack of capacity of the coastal state to harvest the entire allowable catch must be negotiated in good faith, with account being taken of the criteria enumerated in article 62(3). See Fisheries Jurisdiction Case, *supra* note 18. See generally Phillips, *supra* note 5, at 600-07.

The United States fishery conservation and management scheme established by the Fishery Conservation and Management Act of 1976, Pub. L. No. 94-265, 90 Stat. 331 (codified at 16 U.S.C. §§ 1801-1882 (1976)) appears to be in accord with emerging law with respect to foreign fishing in the exclusive economic zone. See especially section 201(d), 16 U.S.C. § 1821(d) (1976), which defines the "total allowable level of foreign fishing" as "that portion of the optimum yield of such fishery which will not be harvested by vessels of the United States"; section 201(e), 16 U.S.C. § 1821(e) (1976), which requires the Secretary of State to "determine the allocation among foreign nations of the total allowable level of foreign fishing," taking into consideration, *inter alia*, "whether, and to what extent, the fishing vessels of such nations have traditionally engaged in fishing in such fishery"; and section 202(a), 16 U.S.C. § 1822(a) (1976), which requires the Secretary of State to "negotiate governing international fishery agreements" with foreign nations wishing to conduct fishing activities in the fishery conservation zone. According to one commentator, "[t]he legislators' intent in enacting the FCMA was to limit both domestic and foreign fishing to the optimum yield of the resource." Note, *Foreign Access to U.S. Fisheries in the Wake of the Fishery Conservation and Management Act*, 18 VA. J. INT'L L. 513, 515 (1978). Senator Magnuson, a principal sponsor of the legislation, has written that "[e]mphasis was on conservation and management, not on exclusion." Magnuson, *The Fishery Conservation and Management Act of 1976: First Step Toward Improved Management of Marine Fisheries*, 52 WASH. L. REV. 427, 435 (1977). See also Jacobson & Cameron, *Potential Conflicts Between a Future Law of the Sea Treaty and the Fishery Conservation and Management Act of 1976*, 52 WASH. L. REV. 451 (1977).

76. During the late 1970's the Common Market countries which border on the North Sea or North Atlantic claimed extended economic zones or extended fishing zones. Churchill, *Revision of the EEC's Common Fisheries Policy—Part 1*, 5 EUROPEAN L. REV. 3, 9-12 (1980). Apparently, the question of boundaries between adjacent states or states opposite each other but less than 400 miles apart has not yet been resolved. See, e.g., 1976 Proclamation of the Federal Republic of Germany on the Establishment of a Fishing Zone of the Federal Republic of Germany in the North Sea, reprinted in 5 NEW DIRECTIONS IN THE LAW OF THE SEA 118-19 (R. Churchill, M. Nordquist, & S. Lay, eds. 1977) ("the delimitation of the fishing zone of the Federal Republic of Germany vis-a-vis the fishing zones of other States in the North Sea remains to be agreed with those States"). See also 1977 French Decree on the Establishment of an Economic Zone off the Coasts of the Territory of the Republic Bordering the North Sea, *id.* at 303 (economic zone claimed by France is "subject to delimitation agreements with neighbouring States"). Churchill points out that "the obvious solution would be to use the existing continental shelf boundaries as the boundaries

Based on the single boundary agreements alone, it appears that state practice supports the proposition that the starting point for the delimitation of such boundaries is the construction of an equidistance line or a simplified line (an azimuth or parallel), which closely approximates an equidistance line. It should be noted that an examination of the delimitations effected by the negotiated agreements indicates that there are no substantial disproportionalities between areas of shelf and ocean and the lengths of the coastlines of the states involved.<sup>77</sup> This indicates that the principle of proportionality plays a major role in evaluating whether the division effected by a strict or simplified equidistance line is equitable. Furthermore, in delimiting the actual boundary, state practice indicates that primary emphasis is placed on geographic factors, such as the length and configuration of the coastlines of the states concerned and the presence and location of islands, and rather less emphasis is placed on geological factors or considerations of historic usage or economic dependency.

### III. DELIMITATION OF THE CONTINENTAL SHELF

#### A. *Early Attempts to Formulate a Rule for Delimitation: Article 6 of the Convention on the Continental Shelf*

On September 28, 1945, when President Truman proclaimed the exclusive right of the United States to exploit the seabed and subsoil resources of the continental shelf off its coasts, there were no established rules for delimiting even the territorial sea zones of opposite and adjacent states and certainly none for their continental shelf zones.<sup>78</sup> The Truman Proclamation declared that in cases in which the continental shelf of the United States extended to the shores of another state or was shared with an adjacent state, "the boundary shall be determined by the United States and the State concerned in accordance with equitable principles."<sup>79</sup> Twenty-four

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between fishing limits, and indeed any other solution would be anomalous." Churchill, *Revision of the EEC's Common Fisheries Policy—Part 1*, *supra*, at 12. This "obvious solution," however, was not adopted by Great Britain in establishing fishing zone boundaries in the Atlantic and mid-channel areas which extend well south of the continental shelf boundary established in the *Anglo-French Arbitration*. Symmons, *British Off-Shore Continental Shelf and Fishery Limit Boundaries: An Analysis of Overlapping Zones*, 28 INT'L & COMP. L.Q. 703, 711-17 (1979).

77. See the maps included in the LIMITS IN THE SEAS pamphlets cited at notes 58-65 *supra*.

78. J.L. Briery noted, in 1951, at a meeting of the International Law Commission, that "there was no general rule for the delimitation of territorial waters and that, even if there were, it would not necessarily apply outside those waters." Summary Records of the 131st Meeting, [1951] 1 Y.B. INT'L L. COMM'N 410, U.N. Doc. A/CN.4/SER. A/1951.

79. The Truman Proclamation, *supra* note 8, 3 C.F.R. at 40 (1945 Supp.), reprinted in 59 Stat. at 884.

years later, in 1969, the International Court of Justice asserted that the two concepts of the Truman Proclamation, the concept of delimitation by mutual agreement and the concept of delimitation in accordance with equitable principles, "have underlain all the subsequent history of the subject."<sup>80</sup> This statement is equally true today, even after a considerable and prolonged effort to establish rules that are more specific and less flexible. The effort began as a juridical project in the International Law Commission in 1950; the effort continues even today at UNCLOS III.

During the early years of the development of continental shelf doctrine, legal scholars were largely unconcerned with the issue of boundary delimitation, preferring to focus on the legal basis for, and the nature of, continental shelf claims and on the permissible seaward limit of such claims. State practice, in the form of legislation and agreements, was also sparse, probably because governments saw no reason to deal with this potentially troublesome issue in advance of actual resource exploitation. This dearth of theory and practice led the International Law Commission, in 1950, to conclude that the drafting at that time of specific rules in respect to continental shelf delimitation "would be pure legal speculation."<sup>81</sup>

The International Law Commission, which had the matter under consideration from 1950 to 1956, first gave serious juridical attention to the question of continental shelf boundary delimitation. The first suggestion of the Commission, given in 1951, called for a boundary to be fixed by agreement or by compulsory arbitration.<sup>82</sup> This suggestion was widely criticized by governments, either because it provided no "guiding principles" or because it would establish compulsory arbitration or both.<sup>83</sup> At its 1952 session, the Commission concentrated its efforts on the problem of delimiting territorial sea boundaries, especially regarding adjacent states. Special Rapporteur J.P.A. François of the Netherlands, who was influenced by the writings of Whittemore Boggs,<sup>84</sup> proposed an equidistance line to separate the territorial seas of both opposite and adjacent states, unless a special configuration of the coast justified a departure from that line.<sup>85</sup> Thus, the principle of equidistance was formally introduced

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80. North Sea Continental Shelf Cases, *supra* note 18, at 33.

81. Summary Records of the 69th Meeting, [1950] 1 Y.B. INT'L L. COMM'N 231, 234, U.N. Doc. A/CN. 4/SER. A/1950.

82. Draft Articles on the Continental Shelf and Related Subjects, [1951] 2 Y.B. INT'L L. COMM'N 141, 143, U.N. Doc. A/CN. 4/SER. A/1951/Add.1.

83. Regime of the High Seas, Fourth Report (Continental Shelf) of Mr. J.P.A. François, Special Rapporteur, *reprinted in* [1953] 2 Y.B. INT'L L. COMM'N 1, 25-27, U.N. Doc. A/CN. 4/60. *See also* Grisel, *supra* note 25, at 566-67.

84. *See, e.g.,* Boggs, *Delimitation of Seaward Areas Under National Jurisdiction*, 45 AM. J. INT'L L. 240 (1951).

85. Summary Records of the 171st Meeting, [1952] 1 Y.B. INT'L L. COMM'N 180, U.N. Doc. A/CN. 4/SER. A/1952.

to the Commission. This delimitation method is clearly convenient and certain in application. An equidistance-method boundary line leaves to each state all those portions of a maritime zone that lie nearer to its coast or territorial sea baseline than to the coast or baseline of any other state. Instead of accepting François's proposal, however, the Commission requested that he consult hydrographic specialists in order to get clarification of certain technical aspects of the problem.<sup>86</sup>

The proposals of the Committee of Experts,<sup>87</sup> which François convened at the Hague in April of 1953, significantly influenced the work of the International Law Commission. The report of the Committee<sup>88</sup> focused on the delimitation of territorial sea boundaries. Regarding opposite states, the Committee proposed that, as a general rule, the territorial sea boundary "should . . . be the median line, every point of which is equidistant from the baselines of the States concerned."<sup>89</sup> Importantly, the Committee added that there "may, however, be special reasons, such as navigation and fishing rights, which may divert the boundary from the median line."<sup>90</sup> Regarding adjacent states, the Committee decided, "after thoroughly discussing different methods . . . , that the (lateral) boundary through the territorial sea—if not already fixed otherwise—should be drawn according to the principle of equidistance from the respective coastlines."<sup>91</sup> The Committee added, significantly, that "in a number of cases this may not lead to an equitable solution, which should be then arrived at by negotiation."<sup>92</sup> The twin concepts contained in the Truman Proclamation, mutual agreement and equitable principles, had not been forgotten. In what the International Court of Justice later referred to as "a rider,"<sup>93</sup> the Committee of Experts concluded its report by stating that it "considered it important to find a formula for drawing the international boundaries in the territorial waters of States, which could also be used for the delimitation of the respective continental shelves of two States bordering the same continental shelf."<sup>94</sup> It was in this "almost impromptu,

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86. *Id.* at 185.

87. The Committee of Experts was composed of L.E.G. Asplund (Sweden), S. Whittemore Boggs (United States), P.R.V. Couillalt (France), Commander R.H. Kennedy, O.B.E., R.N.(Retd.) (United Kingdom), and Vice-Admiral A.S. Pinke (Retd.) (Netherlands).

88. Report of the Committee of Experts on Technical Questions Concerning the Territorial Sea (English version), Counter-Memorial of Denmark, 1 North Sea Continental Shelf Cases, I.C.J. Pleadings 157, 254-58 (1968).

89. *Id.* at 257.

90. *Id.*

91. *Id.* at 258.

92. *Id.*

93. North Sea Continental Shelf Cases, *supra* note 18, at 34.

94. Report of the Committee Experts, *supra* note 88, at 258.

and certainly contingent manner"<sup>95</sup> that the principle of equidistance was propounded as the method for delimiting continental shelf boundaries.

On the basis of this report, François proposed a draft article in 1953 which provided that, for states with opposite coasts, the continental shelf boundary should be "the median line, every point of which is equidistant from the two opposite coasts"; for adjacent states, the boundary should be drawn "according to the principle of equidistance."<sup>96</sup> In the event that states could not agree on how the boundary was to be drawn in accordance with the equidistance principle, their dispute was to be submitted to arbitration. During consideration of the draft article, the International Law Commission decided to add provision for mutual agreement and for divergencies from the principle of equidistance when such were justified by the presence of "special circumstances."<sup>97</sup> The Commission's formula had finally emerged: it provided that the boundary of the continental shelf was to be determined by agreement and, in the absence of agreement, by application of the principle of equidistance, unless another boundary was justified by the presence of special circumstances.<sup>98</sup> In its commentary to the draft article, the Commission stated that, in the cases of both opposite and adjacent states, "the rule of equidistance is the general rule."<sup>99</sup> But the general rule was subject to modification "in cases in which another boundary line is justified by special circumstances."<sup>100</sup> The only guidance provided by the Commission on the nature of special circumstances was in its reference to departures from the principle of equidistance "necessitated by any exceptional configuration of the coast, as well as the presence of islands or of navigable channels."<sup>101</sup> To that extent, the Commission added: "the rule partakes of some elasticity."<sup>102</sup> In 1956, in its final report on the draft article, the Commission commented that the need to depart from the equidistance principle "may arise fairly often, so . . . the rule adopted is fairly elastic."<sup>103</sup>

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95. North Sea Continental Shelf Cases, *supra* note 18, at 35.

96. Summary Records of the 201st Meeting, [1953] 1 Y.B. INT'L L. COMM'N 103, 106, U.N. Doc. A/CN. 4/SER. A/1953.

97. It was Mr. Spiropoulos who proposed the special circumstances reservation to the equidistance principle. *Id.* at 130. For an incisive analysis of the deliberations of the International Law Commission during its 1953 session, see Grisel, *supra* note 25, at 567, 572-73, 580-81.

98. Report of the International Law Commission to the General Assembly, reprinted in [1953] 2 Y.B. INT'L L. COMM'N 200, 216 U.N. Doc. A/CN. 4/SER. A/1953/Add.1.

99. *Id.*

100. *Id.*

101. *Id.*

102. *Id.*

103. Report of the International Law Commission to the General Assembly, reprinted in [1956] 2 Y.B. INT'L L. COMM'N 253, 300, U.N. Doc. A/CN. 4/SER. A/1956/

Widely divergent views were expressed during the discussion of the Commission's draft article at the 1958 Geneva Conference on the Law of the Sea, ranging from the position that the principle of equidistance should take precedence over agreements negotiated between states<sup>104</sup> to the position that, because no general rule, including equidistance, would be satisfactory in all cases, the parties to a dispute should be directed to reach agreement through negotiations.<sup>105</sup> The Commission's draft was defended by several delegates as a suitable compromise between the two extreme positions. The British delegate, for example, stated that if both states "were satisfied with the boundary provided by the median line, no further negotiation would be necessary; if a divergence from the median line appeared to be indicated by special circumstances, another boundary could be established by negotiation, but the median line would still serve as the starting point."<sup>106</sup> Marjorie Whiteman, representing the United States, asserted a similar view by referring to the median line, or equidistance principle, as "an objective standard of reference [that] might well provide guidance in arriving at agreement . . . even in the presence of special circumstances."<sup>107</sup> The draft article was supported by most delegates who spoke on the matter at the Conference; ultimately, the draft was adopted as Article 6 of the Convention on the Continental Shelf by a vote of 63 to 0, with 2 abstentions.<sup>108</sup>

The preparatory work of Article 6 has been subjected to widely varying interpretations, especially in the pleadings of the parties in the *North Sea Continental Shelf Cases* and in the *Anglo-French Continental Shelf Arbitration* and in the separate opinions of judges in the *North Sea* cases. The essential disagreement concerns whether Article 6 established the principle of equidistance as the preeminent rule and special circumstances as a mere exception or whether the special circumstances provision is an alternative of equal rank.<sup>109</sup> Certainly, definitions of "special circumstances" are as

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Add. 1.

104. Summary Records, 6 U.N. Conference on the Law of the Sea, Fourth Committee (Continental Shelf), at 10, U.N. Doc. A/CONF. 13/42 (1958).

105. *Id.* at 21.

106. *Id.* at 92.

107. *Id.* at 95.

108. Plenary Meetings, 2 U.N. Conference on the Law of the Sea, at 3, U.N. Doc. A/CONF. 13/SR. 9 (1958). For a discussion of consideration of the draft article at the conference, see 4 M. WHITEMAN, *DIGEST OF INTERNATIONAL LAW* 914-17 (1965), and Whiteman, *Conference on the Law of the Sea: Convention on the Continental Shelf*, 52 AM. J. INT'L L. 629, 650-54 (1958). For the text of Article 6, see note 24 *supra*.

109. For the view that Article 6 established the equidistance principle as the preeminent rule, see, for example, Counter-Memorial of Denmark, 1 *North Sea Continental Shelf Cases*, I.C.J. Pleadings 157, 178-87 (1968); Counter-Memorial of the Netherlands, *id.* at 307; and the dissenting opinions of Judges Lachs and Sorensen, *North Sea Continental Shelf Cases*, *supra* note 18, at 220, 254-55. For the view that

varied as they are numerous.

*B. The Emergence of Delimitation in Accordance with Equitable Principles: The North Sea Continental Shelf Cases and the Anglo-French Continental Shelf Arbitration*

Although Article 6 of the Convention on the Continental Shelf makes no reference to equitable principles, the primacy of that concept, both for states that are parties to that convention and for states that are not parties, became clear in the two leading cases on continental shelf boundary delimitation. In the *North Sea* cases, the International Court of Justice decided that Article 6 did not contain the applicable law because one of the parties to the dispute, the Federal Republic of Germany, had not ratified the Convention<sup>110</sup> and had not signified its consent to be bound through its behavior.<sup>111</sup> Further, the court stated that the principle of equidistance was neither inherent in the basic doctrine of the continental shelf nor a principle of customary international law.<sup>112</sup> In consequence of these findings, the International Court concluded that the shelf boundaries of Germany and Denmark and of Germany and the Netherlands should be determined by agreement in accordance with equitable principles.<sup>113</sup> This formula, propounded in the Truman Proclamation, was deemed to contain the customary international law applicable to disputing states, one or more of which had not ratified the Convention on the Continental Shelf. The rule embodied in Article 6 was characterized by the court as "a purely conventional rule."<sup>114</sup>

In the *Anglo-French Arbitration*, in which the Convention on the Continental Shelf was deemed applicable because both of the disputing states were parties to it, the court characterized the principle of equidistance as possessing "an obligatory force."<sup>115</sup> But the court then proceeded to define the equidistance-special circumstances rule embodied in Article 6 to mean that, in the absence of agreement, continental shelf delimitation must be based on equitable principles. In the words of the Court of Arbitration, "the combined equidistance-special circumstances rule, in effect, gives particular expression to a general norm that, failing agreement, the boundary between States abutting on the same continental shelf is to be

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the special circumstances clause is equal to the equidistance principle clause, see, for example, Memorial of the Federal Republic of Germany, 1 *North Sea Continental Shelf Cases*, I.C.J. Pleadings 13, 50-57 (1968), and the separate opinion of Judge Padilla Nervo, *North Sea Continental Shelf Cases*, *supra* note 18, at 89.

110. *North Sea Continental Shelf Cases*, *supra* note 18, at 25.

111. *Id.* at 25-27.

112. *Id.* at 32, 41.

113. *Id.* at 53.

114. *Id.* at 41.

115. *Anglo-French Arbitration*, *supra* note 15, para. 70.

delimited on equitable principles."<sup>116</sup> The effect of the court's formulation of the applicable law was to assimilate Article 6 and the rules of customary international law expressed in the *North Sea* cases.<sup>117</sup> This result was achieved by viewing equidistance and special circumstances as equal parts of a single, combined equidistance-special circumstances rule, with the role of the special circumstances condition being to ensure an equitable delimitation. According to the Court of Arbitration, the *travaux préparatoires* of Article 6 demonstrate that the special circumstances condition was introduced into the article because it was recognized that "owing to particular geographical features or configurations, application of the equidistance principle might not infrequently result in an unreasonable or inequitable delimitation of the continental shelf."<sup>118</sup> Because Article 6 created a combined equidistance-special circumstances rule, the court doubted whether there was any legal burden of proof in regard to the existence of special circumstances.<sup>119</sup>

In an especially important paragraph, the Court of Arbitration explained that the appropriateness of the use of the equidistance principle was to be determined in light of the geographical and other circumstances of the particular case. The court said:

Article 6 neither defines "special circumstances" nor lays down the criterion by which it is to be assessed whether any given circumstances justify a boundary line other than the equidistance line. Consequently, even under Article 6 the question whether the use of the equidistance principle or some other method is appropriate for achieving an equitable delimitation is very much a matter of appreciation in the light of the geographical and other circumstances. In

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116. *Id.*

117. The Court of Arbitration said that "the effect of applying or of not applying the provisions . . . of Article 6 will make not much practical difference, if any, to the actual course of the boundary in the arbitration area." *Id.* para. 65. Herbert Briggs added, in his supplementary declaration:

The view that Article 6 is expressive of customary international law—a view already held by some Judges of the International Court of Justice in 1969 in the *North Sea Continental Shelf* cases—has been substantially strengthened by the subsequent practice of States . . . . The fact that both Parties have, with qualifications, placed reliance alternatively on principles derived from customary international law and on those set forth in Article 6 leads me to agree with the Court that little practical effect on the delimitation . . . would result from applying one or the other in the circumstances of this case.

*Anglo-French Arbitration*, *supra* note 15, reprinted in 18 INT'L LEGAL MATERIALS at 459-60.

118. *Anglo-French Arbitration*, *supra* note 15, para. 70.

119. *Id.* para. 68. This view, although stated tentatively, bothered Herbert Briggs; in his separate opinion, he stated that his principal concern was that "the Court's interpretation of Article 6 seems, in effect, to shift 'the burden of proof' of 'special circumstances' from the State which invokes them to the Court itself . . ." *Anglo-French Arbitration*, *supra* note 15, reprinted in 18 INT'L LEGAL MATERIALS at 460.

other words, even under Article 6 it is the geographical and other circumstances of any given case which indicate and justify the use of the equidistance method as the means of achieving an equitable solution rather than the inherent quality of the method as a legal norm of delimitation.<sup>120</sup>

The guiding rule of delimiting a continental shelf boundary, both under customary international law and conventional law and for both negotiators and third-party decision makers, is, then, that the boundary is to be determined in accordance with equitable principles. Both the International Court of Justice and the Court of Arbitration used the term "equity" to reflect considerations of fairness and justice, reasonableness and appropriateness<sup>121</sup> and not to mean determinations *ex aequo et bono*, which would have been permissible only with the express consent of the parties.<sup>122</sup> The International Court stated, however, that the use of equitable principles does not involve a question of applying equity "simply as a matter of abstract justice, but of applying a rule of law which itself requires the application of equitable principles . . ."<sup>123</sup> In particular, the application of equitable principles must be in accordance with three "ideas," or legal principles, that have underlain the development of the legal regime of the continental shelf: meaningful negotiations that are undertaken with a view to arriving at an agreement, delimitation in accordance with equitable principles, and the requirement that the natural prolongation of the land territory of one state must not encroach upon the natural prolongation of the territory of another state.<sup>124</sup>

Although the third principle, natural prolongation, was considered by the International Court to be of fundamental importance in continental shelf doctrine,<sup>125</sup> the reasoning used in the *Anglo-French Arbitration Award* proved the limited usefulness of this principle in continental shelf boundary delimitation. The Court of Arbitration explained that the pronouncement of the International Court in this

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120. *Anglo-French Arbitration*, *supra* note 15, at para. 70.

121. *See, e.g.*, North Sea Continental Shelf Cases, *supra* note 18, at 46 (justice and good faith), 48 (just), and *Anglo-French Arbitration*, *supra* note 15, paras. 81 (appropriate), 100 (reasonable), and 242 (just).

122. "There is . . . no question in this case of any decision *ex aequo et bono*, such as would only be possible under the conditions prescribed by Article 38, paragraph 2, of the Court's statute." North Sea Continental Shelf Cases, *supra* note 18, at 48. The Court of Arbitration stated that there "is no question of any decision *ex aequo et bono* . . ." *Anglo-French Arbitration*, *supra* note 15, para. 245.

123. North Sea Continental Shelf Cases, *supra* note 18, at 47.

124. *Id.*

125. The International Court asserted that "the most fundamental of all the rules of law relating to the continental shelf" was "that the rights of the coastal State in respect of the area of continental shelf that constitutes a natural prolongation of its land territory into and under the sea exist *ipso facto* and *ab initio*, by virtue of its sovereignty over the land . . ." *Id.* at 22.

regard "states the problem rather than solves it."<sup>126</sup> The basic function of the principle of natural prolongation is to make states eligible for claims to continental shelf areas, not to serve as a rule for delimitation; the problem of delimitation arises "precisely because in situations there [*sic*] the territories of two or more states abut on a single continuous area of continental shelf, it may be said geographically to constitute a natural prolongation of the territory of each of the States concerned."<sup>127</sup> When the continental shelf in dispute is the natural prolongation of both parties, the principle of natural prolongation ceases to be helpful and mutual agreement and equitable principles serve as the sole basis for delimitation. This view is reflected in the negotiations at UNCLOS III. The draft article under consideration does not mention natural prolongation but, instead, provides that delimitation of the continental shelf shall be effected by mutual agreement. The agreement shall be "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."<sup>128</sup>

Neither the Truman Proclamation, nor the *North Sea* cases, nor the *Anglo-French Arbitration* defined "equitable solution." Perhaps a precise statement of its content is undesirable, even impossible. The advantage of the concept is its flexibility; the concept requires a single goal, equitable delimitation, not a single method and sets no legal limit on the considerations that may be used to achieve that goal. Whether a particular method or combination of methods is appropriate, even for parties to the Convention on the Continental Shelf, "is very much a matter of appreciation in the light of the geographical and other circumstances."<sup>129</sup> The parties to a dispute must take into account all the relevant circumstances in their quest for an equitable delimitation; third-party decision makers are bound by the same rule.

### C. *Governing Principles of Continental Shelf Delimitation: Equidistance and Proportionality*

Two substantive equitable principles, equidistance and proportionality, emerged from the *North Sea* and *Anglo-French* cases.<sup>130</sup> Both principles are inherent in the notion of an equitable delimitation of the continental shelf because both principles are grounded in the fundamental proposition that underlies, and justifies, the authority of coastal states over all off-shore zones: the proposition that

126. *Anglo-French Arbitration*, *supra* note 15, para. 79.

127. *Id.*

128. Draft Convention on the Law of the Sea, *supra* note 6, art. 83.

129. *Anglo-French Arbitration*, *supra* note 15, para. 70.

130. This thesis is persuasively argued in Blecher, *supra* note 34.

the land dominates the sea.<sup>131</sup> The principle of equidistance is based on the nearness of the land territory to the sea and its seabed and the principle of proportionality is based on the amount of land territory, or coast, that faces the open sea.<sup>132</sup> Customary international law requires that both principles must be used together to assure that a delimitation of the continental shelf is equitable. The method, which has evolved, begins with the construction of an equidistance line, the equity or inequity of which is then determined by comparing the seabed areas allocated to each state to the lengths of their respective coastlines. If the ratios of seabed areas and coastline lengths are out of proportion, the equidistance line is open to question. Under such circumstances, the factors causing the disproportionality must be identified and assessed. When these factors are found to have an impact on the equidistance line that is out of proportion to their size or significance, they must be discounted in the construction of the final, or equitable, boundary line.

In the *North Sea* cases, the International Court commented that it "has never been doubted that the equidistance method of delimitation is a very convenient one"<sup>133</sup> and that "it would probably be true to say that no other method of delimitation has the same combination of practical convenience and certainty of application."<sup>134</sup> The Court of Arbitration, in the *Anglo-French* case, attested to "[t]he truth of these observations."<sup>135</sup> Both courts added, however, that the principle of equidistance was to be used only when it produced an equitable result, which is the common aim of both customary international law and Article 6 of the Convention on the Conti-

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131. The International Court of Justice stated in the *Fisheries Case* that certain basic considerations inherent in the nature of the territorial sea can provide courts with an adequate basis for decision on delimitation questions. Among these, the court said, was the close dependence of the territorial sea upon the land domain; the court added: "It is the land which confers upon the coastal State a right to the waters off its coasts." *Fisheries Case*, *supra* note 18, at 133. Another fundamental consideration was "the more or less close relationship existing between certain sea areas and the land formations which divide or surround them." *Id.* In the *North Sea Continental Shelf Cases*, the International Court said:

What confers the *ipso jure* title which international law attributes to the coastal State in respect of its continental shelf, is the fact that the submarine areas concerned may be deemed to be actually part of the territory over which the coastal State already has dominion,—in the sense that, although covered with water, they are a prolongation or continuation of that territory, an extension of it under the sea.

*North Sea Continental Shelf Cases*, *supra* note 18, at 31.

132. According to M.D. Blecher, "Proportionality is in a sense more basic than the principle of equidistance; indeed, it could be argued that the equidistance rule is itself based on a principle of proportionality." Blecher, *supra* note 34, at 85.

133. *North Sea Continental Shelf Cases*, *supra* note 18, at 23.

134. *Id.*

135. *Anglo-French Arbitration*, *supra* note 15, at para. 85.

mental Shelf.<sup>136</sup> Both courts concluded that application of the equidistance principle is more likely to lead to inequitable results when used to draw the lateral boundary of adjacent states than when used to draw the median line boundary of opposite states.<sup>137</sup> This distinction is based not on a difference in the *legal* regime applicable in the two situations but on "a difference in the *geographical* conditions in which the applicable legal regime operates."<sup>138</sup> In opposite state situations, the natural prolongations of the two states meet and overlap and, according to the International Court, "can therefore only be delimited by means of a median line; and, ignoring the presence of islets, rocks and minor coastal projections, the disproportionately distorting effect of which can be eliminated by other means, such a line must effect an equal division of the particular area involved."<sup>139</sup> In adjacent state situations, however, the effect of even slight coastline irregularities on the areas of continental shelf allocated to each state is automatically magnified, the greater the distance the boundary extends from the shore.<sup>140</sup> These observations, according to the Court of Arbitration, "reflect an evident geometrical truth and clearly have a . . . general validity."<sup>141</sup> Additionally, the Court of Arbitration asserted that "it is the combined effect of the side-by-side relationship of the two States and the prolongation of the lateral boundary for great distances to seawards which may be productive of inequity and is the essence of the distinction between 'adjacent' and 'opposite' coast situations."<sup>142</sup>

Even in adjacent state situations, the principle of equidistance is fundamentally important in the delimitation of continental shelf boundaries. The equidistance line is to be deviated from only when

136. North Sea Continental Shelf Cases, *supra* note 18, at 46-47; *Anglo-French Arbitration*, *supra* note 15, at para. 70.

137. North Sea Continental Shelf Cases, *supra* note 18, at 37; *Anglo-French Arbitration*, *supra* note 15, at paras. 85-87, 95.

138. *Anglo-French Arbitration*, *supra* note 15, para. 238 (emphasis in original). Elsewhere, the Court of Arbitration asserted that

the relationship of 'opposite' or 'adjacent' States is nothing but a reflection of the geographical facts. . . . It is also clear that the distinction drawn by the [International Court of Justice] between the two geographical situations is one derived not from any legal theory but from the very substance of the difference between the situations.

*Id.* para. 95.

139. North Sea Continental Shelf Cases, *supra* note 18, at 36.

140. *Id.* at 37 & 49. The Court of Arbitration explained:

Whereas in the case of "opposite" States a median line will normally effect a broadly equitable delimitation, a lateral equidistance line extending outwards from the coasts of adjacent States for long distances may not infrequently result in an inequitable delimitation by reason of the distorting effect of individual geographical features.

*Anglo-French Arbitration*, *supra* note 15, para. 95.

141. *Anglo-French Arbitration*, *supra* note 15, para. 86.

142. *Id.* para. 95.

its use produces inequitable results; even then its use is important in achieving an equitable delimitation. According to the Court of Arbitration, both state practice and the legal rules governing the continental shelf indicate that in situations in which geographical or other circumstances produce a distorting effect on an equidistance-line boundary, a solution must be sought in a method "modifying or varying the equidistance method rather than to have recourse to a wholly different criterion of delimitation."<sup>143</sup> Equity calls for an appropriate abatement of the disproportionate effects of particular circumstances, usually geographical, on the equidistance line.

The principle of proportionality provides the criterion for determining "the reasonable or unreasonable—the equitable or inequitable—effects of particular geographical features or configurations upon the course of an equidistance-line boundary."<sup>144</sup> Essentially, this principle is used to test whether particular geographical features have disproportionate effects on an equidistance line by deflecting it to the inequitable disadvantage of one of the states concerned.<sup>145</sup> If this occurs, an abatement is required in order to remedy the disproportionality.<sup>146</sup> The objective standard used to determine whether application of the equidistance method produces a disproportionate and, therefore, inequitable result is the relationship between the areas of shelf allocated to, and the coastline lengths of, adjacent states. If the ratios of coastline lengths and shelf areas allocated by a delimitation based on the equidistance line are not approximately the same, the boundary line is legally suspect and consideration must be given to alternative lines. An appropriate alternative line—a line that accords with customary international

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143. *Id.* para. 249.

144. *Id.* para. 100.

145. The Court of Arbitration pointed out that when two states abut on the same continental shelf,

their continental shelf boundary must in large measure reflect the respective configurations of their two coasts. But particular configurations of the coast or individual geographical features may, under certain conditions, distort the course of the boundary, and thus affect the attribution of continental shelf to each State, which would otherwise be indicated by the general configuration of their coasts.

*Id.*

146. The Court of Arbitration stated clearly the necessity to abate the disproportionate effects of certain geographical features in its discussion of the Atlantic region: "What equity calls for is an appropriate abatement of the disproportionate effects of a considerable projection on to the Atlantic continental shelf of a somewhat attenuated portion of the coast of the United Kingdom." *Id.* para. 249. The Court added that the concept of proportionality arises "in appreciating whether the Scilly Isles are to be considered a 'special circumstance' having distorting effects on the equidistance boundary as between the French Republic and the United Kingdom and, if so, the extent of the adjustment appropriate to abate the inequity." *Id.* at para. 250. For a discussion of the Court's delimitation of the continental shelf boundary in the Atlantic region, see notes 189-196 and accompanying text *infra*.

law—must result in an abatement of the disproportionality, not in a “refashioning of geography.”<sup>147</sup> The geographical fact of proximity, on which the equidistance principle is based, cannot be ignored. A method used to achieve an equitable delimitation in situations in which geographical features have a distorting effect on the equidistance line is construction of a boundary line that is equidistant from the normal equidistance line and a line that ignores the geographical features that produce the distorting effect. This “half-effect” method accords significance both to proximity and to the distorting effect of particular geographical features. The resultant boundary line shows an improved congruence between the ratios of the shelf areas allocated and the coastline lengths of the neighboring states.<sup>148</sup> Other possibilities are open to negotiators and third-party decision makers, including the use of fractions other than one-half. Customary law requires that concerned states receive areas of shelf that are roughly proportionate to the lengths of their coastlines.

The use of the principle of proportionality to test the equitability of the equidistance method of delimitation developed slowly. The principle was not mentioned in the Truman Proclamation on the Continental Shelf, in Article 6 of the Convention on the Continental Shelf, or in the *travaux préparatoires* of that article. This principle emerged in the *North Sea* cases, in which the International Court of Justice decided that a “factor” which must be taken into consideration in equitably delimiting a continental shelf boundary was “the element of a reasonable degree of proportionality . . . between the extent of the continental shelf areas appertaining to the coastal State and the length of its coast measured in the general direction of the coastline . . . .”<sup>149</sup> In the *Anglo-French* case, the Court of Arbitration, while eschewing the notion that its function was to make nice calculations of shelf areas and lengths of coastline<sup>150</sup>—which would have amounted to the refashioning of geography or nature—established the principle of proportionality as “a criterion to assess the distorting effects of particular geographical features and the extent of the resulting inequity.”<sup>151</sup> This use of the principle of proportionality was most clearly and forcefully stated by three eminent scholars who served, in 1979, as consultants to the National Oceanic and Atmospheric Administration of the United States De-

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147. *Anglo-French Arbitration*, *supra* note 15, at paras. 101, 229 & 244; *North Sea Continental Shelf Cases*, *supra* note 18, at 49.

148. For a discussion of use of the “half-effect” method, see notes 196 & 213 and accompanying text *infra*. See also note 175 *infra*. For the various ways in which the “half-effect” method may be applied, see Beazley, *Half Effect Applied to Equidistance Lines*, 56 INT’L HYDROGRAPHIC REV. 153 (1979).

149. *North Sea Continental Shelf Cases*, *supra* note 18, at 54.

150. *Anglo-French Arbitration*, *supra* note 15, para. 250.

151. *Id.*

partment of Commerce:<sup>152</sup>

[T]he equity or inequity of an equidistance line may be established by comparing the areas allocated to each state to the relevant coastlines of the respective states. A correctly delimited lateral boundary line should allocate the seabed areas roughly in the same proportion as the ratio of the coastline lengths of the states involved in the dispute. Thus, if the ratios of the seabed areas and the coastline lengths are not roughly the same, the proposed lateral boundary line is suspect. In such situations it is important to consider alternative lines which might produce better ratios.<sup>153</sup>

Importantly, the consultants added that "the law does not require and probably does not even permit delimitation solely on the basis of such ratios."<sup>154</sup> Proportionality is not a source of title to continental shelf areas.<sup>155</sup> Geographical facts, including curvatures and protuberances in the coast, cannot be ignored. Equity may require that the equidistance method should be modified but not that it should be discarded; there is no justification for replacing an inflexible equidistance method with an equally inflexible method based on ra-

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152. The three consultants were the late Richard R. Baxter, then of the Harvard Law School and later a Judge on the International Court of Justice; Jonathan I. Charney, Professor of Law at Vanderbilt University School of Law; and Hyman Orlin, Executive Secretary, Committee on Geodesy, National Research Council, National Academy of Sciences. The task of the consultants was to assist the Assistant Administrator for Coastal Zone Management in establishing the lateral seaward boundaries of those coastal states of the United States whose boundaries were not already established by interstate agreements or judicial decisions. The purpose of the delimitations was to determine the amount of federal aid that each state would be eligible to receive under the Coastal Energy Impact Program (CEIP). Because of the eminence of the consultants and the nature of their assignment—the recommendation of delimitations based on the international law applicable to lateral boundary delimitation—their reports issued in 1979 can be said to build on the precedents of the North Sea Continental Shelf Cases and the *Anglo-French Arbitration*. These reports, which are unpublished, are analyzed and quoted extensively in Charney, *The Delimitation of Lateral Seaward Boundaries Between States in a Domestic Context*, 75 AM. J. INT'L L. 28 (1981). The consultants' reports on the Mississippi-Louisiana boundary and on the New Jersey-Delaware-Maryland boundaries are discussed at notes 197-215 and accompanying text *infra*. See also Christie, *Coastal Energy Impact Program Boundaries on the Atlantic Coast: A Case Study of the Law Applicable to Lateral Seaward Boundaries*, 19 VA. J. INT'L L. 841 (1979).

153. J. Charney, R. Baxter, & H. Orlin, Consultants' Report on the Mississippi-Louisiana CEIP Delimitation Line 30-31 (May 24, 1979) (citations omitted) (unpublished report submitted to the Assistant Administrator for Coastal Zone Management of the National Oceanic and Atmospheric Administration, U.S. Dep't of Commerce), quoted in Charney, *supra* note 152, at 56 [hereinafter referred to as Mississippi-Louisiana Report].

154. *Id.*

155. "Proportionality, therefore is to be used as a criterion or factor relevant in evaluating the equities of certain geographical situations, not as a general principle providing an independent source of rights to areas of continental shelf." *Anglo-French Arbitration*, *supra* note 15, para. 101.

tios of coastline lengths to areas of shelf to be allotted.

*D. Drawing the Actual Line: The Consideration of Relevant Circumstances*

The question of whether the equidistance method will effect an equitable delimitation of the continental shelf can be answered only in light of the geographical and other relevant circumstances of each particular case. Equity requires that all the relevant circumstances must be identified, assessed, and considered in the drawing of the final boundary line. But not all circumstances are equally relevant and some are not relevant at all. It has become increasingly obvious that a conclusive list of possibly relevant circumstances cannot be compiled; a wide variety of factors may be relevant in any particular case. As the International Court of Justice said in the *North Sea* cases:

In fact, there is no legal limit to the considerations which States may take account of for the purpose of making sure that they apply equitable procedures, and more often than not it is the balancing-up of all such considerations that will produce this result. . . .

In balancing the factors in question it would appear that various aspects must be taken into account. Some are related to the geological, others to the geographical aspect of the situation, others again to the idea of the unity of any deposits. These criteria, though not entirely precise, can provide adequate bases for decision adapted to the factual situation.<sup>156</sup>

Unusual geographical features constitute the main category of relevant circumstances. Indeed, even the fundamental principles of equidistance and proportionality are themselves geographical concepts; the principle of equidistance is based on proximity to the coast and the principle of proportionality is based on coastline lengths. In 1953, the International Law Commission referred to the need to make provision for departures from the equidistance line necessitated by "any exceptional configuration of the coasts" and "by the presence of islands."<sup>157</sup> The International Court of Justice held in the *North Sea* cases that "the general configuration of the coasts . . . as well as the presence of any special or unusual features" must be taken into account in delimiting continental shelf boundaries.<sup>158</sup> Geographical considerations dominated both the decision and the reasoning of the Court of Arbitration in the *Anglo-French* case.<sup>159</sup> Third-party decision makers have held that coastline

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156. *North Sea Continental Shelf Cases*, *supra* note 18, at 51-52.

157. Report of the International Law Commission to the General Assembly, [1953] 2 Y.B. INT'L L. COMM'N 216, U.N. Doc. A/CN. 4/SER. A/1953/Add.1.

158. *North Sea Continental Shelf Cases*, *supra* note 18, at 54.

159. *Anglo-French Arbitration*, *supra* note 15, *passim*.

concavities,<sup>160</sup> promontories,<sup>161</sup> deltas,<sup>162</sup> and locations of islands<sup>163</sup> may constitute relevant circumstances that require departure from the equidistance line. Geographical features that produce an effect on the equidistance line that is out of proportion to their size or significance are clearly relevant circumstances that must be discounted in the construction of the final boundary line; to give such features full effect allocates to one of the contending states a disproportionate share of the seabed area in dispute.

The other relevant circumstances identified by the International Court of Justice were the geological structure of the shelf and the unity of mineral deposits. These have not proved to be as significant in achieving an equitable delimitation of the continental shelf as have geographical circumstances, primarily because they have no relationship to distortion of the equidistance line. One of these circumstances, the geological structure of the shelf, received considerable attention in the literature<sup>164</sup> because the International Court emphasized the characteristic of the shelf as the "natural prolongation" of the land territory, which suggests geological features. The court further noted, without pronouncing on the status of the fea-

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160. The slightest irregularity in a coastline is automatically magnified by the equidistance line as regards the consequences for the delimitation of the continental shelf. Thus it has been seen in the case of concave or convex coastlines that if the equidistance method is employed, then the greater the irregularity and the further from the coastline the area to be delimited, the more unreasonable are the results produced. So great an exaggeration of the consequences of a natural geographical feature must be remedied or compensated for as far as possible, being of itself creative of inequity.

North Sea Continental Shelf Cases, *supra* note 18, at 49. See also *id.* at 17-18. For discussion of the relevance of coastline concavity in the delimitation of the New Jersey-Delaware-Maryland lateral seaward boundaries, see notes 199-201 and accompanying text *infra*.

161. The Court of Arbitration in the *Anglo-French Arbitration* and the NOAA consultants in their report on the Mississippi-Louisiana boundary based parts of their decisions on the distorting effects that promontories have on the equidistance line. See notes 194-195, 201-209, and accompanying text *infra*.

162. See notes 201-209 and accompanying text *infra*.

163. The Court of Arbitration in the *Anglo-French Arbitration* held that the location of the Channel Islands on the French side of the median line rendered the equidistance method inapplicable because it "disturbs the balance of the geographical circumstances which would otherwise exist between the Parties in this region as a result of the broad equality of the coastlines of their mainlands." *Anglo-French Arbitration*, *supra* note 15, para. 183. If the Channel Islands were given "full effect" in the delimitation, the area of continental shelf that would accrue to France would be substantially diminished. "This fact by itself," the Court asserted, "appears . . . to be, *prima facie*, a circumstance creative of inequity and calling for a method of delimitation that in some measure redresses the inequity." *Id.* para. 196. The NOAA consultants were influenced by the location of islands in their delimitation of the Mississippi-Louisiana lateral seaward boundary. See note 211 and accompanying text *infra*.

164. Bowett, *supra* note 26, at 16.

ture, that the shelf area separated from the coast of Norway by the Norwegian Trough "cannot in any physical sense be said to be adjacent to it, nor to be its natural prolongation."<sup>165</sup>

But the Court of Arbitration in the *Anglo-French* case played down the relevance of both natural prolongation and particular geological features to continental shelf delimitation. The court pointed out that shelf areas in dispute will normally be the natural prolongation of both states and that consideration of shelf depressions, which do not interrupt the essential geological continuity of the shelf, "would run counter to the whole tendency of State practice on the continental shelf in recent years."<sup>166</sup> The court noted that the United Kingdom had agreed to ignore the Norwegian Trough in the delimitation of its shelf boundary with Norway.<sup>167</sup> The court rejected the British argument that the Hurd Deep-Hurd Deep Fault Zone might constitute the "natural" boundary for delimiting part of the shelf boundary between the United Kingdom and France. The court found no legal ground for discarding the equidistance method "in favour simply of such a feature as the Hurd Deep-Hurd Deep Fault Zone."<sup>168</sup> The court explained:

Should the equidistance line not appear to the Court to constitute the appropriate boundary in any area, it will be because some geographical feature amounts to a "special circumstance" justifying another boundary under Article 6 or, by rendering the equidistance line inequitable, calls under customary law for the use of some other method. It follows that any alternative boundary would have either to be one justified by the "special circumstances" or one apt to correct the inequity caused by the particular geographical feature.<sup>169</sup>

The concept of natural prolongation and the presence of depressions in the shelf appear relevant to the question of delimitation only when there is a major structural discontinuity that interrupts the essential geological continuity of the continental shelf.<sup>170</sup> In such

165. North Sea Continental Shelf Cases, *supra* note 18, at 32.

166. *Anglo-French Arbitration*, *supra* note 15, para. 107.

167. *Id.*

168. *Id.* para. 108.

169. *Id.*

170. As was pointed out by D.W. Bowett,

One of the more welcome features of the Court of Arbitration's Award is that it has decreased, or corrected, the excessive emphasis on geological factors and emphasized rather more the geographical factors, in particular the coastal configurations of the parties. Indeed, it is likely that in the future "natural prolongation" will be seen as referring to geographical configurations rather than geological factors.

Bowett, *supra* note 26, at 16. Mississippi's contention that its natural boundary with Louisiana was the "Pearl River trench," which runs north to south on the western side of the Mississippi River Delta, was rejected by the NOAA consultants because the trench was not deemed to be a significant geological feature. The consultants

cases, it may be more accurate to describe the situation in terms of two separate shelves. The language used by the Court of Arbitration, however, particularly its continuing references to "geographical" as distinguished from "geological," suggests that when unusual geographical features require a modification of the equidistance line, a significant depression might, as if by chance, provide an equitable boundary line.<sup>171</sup>

The other relevant circumstance specifically identified by the International Court was the unity of mineral deposits. The court explained that this factor was included to avoid the risk of prejudicial or wasteful exploitation wherever a continental shelf boundary straddles a single mineral deposit. The court reminded the parties that they were fully aware of the various means of solving the problem.<sup>172</sup> Indeed they were; the Federal Republic of Germany and Denmark, in delimiting their continental shelf boundary in compliance with the decision of the court, diverged from the use of purely geographical factors in order to allow Denmark to retain certain shelf areas where Danish concessionaires had conducted drilling operations.<sup>173</sup> The determining factor for this divergence seems, however, not to have been the principle of unity of deposits but the *Grisbadarna* principle, according to which the actual state of things should be changed as little as possible.<sup>174</sup> On the other hand, Saudi Arabia and Iran had already agreed in 1968 to a modification of the equidistance line boundary in order to give an equal share of a single oil deposit to both states.<sup>175</sup> And Bahrain in 1958 agreed to the

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explained that data regarding the trench

might be relevant to a lateral boundary delimitation if the continental shelves off of the two states were geologically distinguishable or were divided by a very significant geological feature. Neither situation exists here.

The experts for both parties . . . are in agreement that the continental shelf in question is geologically a single unit . . . .

Mississippi-Louisiana Report, *supra* note 153, at 25, *quoted in* Charney, *supra* note 152, at 53.

171. D.W. Bowett rightly concludes that it remains "an open question whether, on the same shelf, geological or geomorphological features can constitute such a break in the continuity of the shelf as to form a 'natural' boundary and, if so, what manner of features will bring about this result." Bowett, *supra* note 26, at 17.

172. North Sea Continental Shelf Cases, *supra* note 18, at 51-52.

173. Agreement Concerning the Delimitation of the Continental Shelf Under the North Sea, Jan. 28, 1971, Federal Republic of Germany-Denmark, National Legislation and Treatises Relating to the Law of the Sea, U.N. Doc. ST/LEG/SER. B/16, at 424, *reprinted in* 65 AM. J. INT'L L. 904 (1971).

174. *Grisbadarna Case* (Norway v. Sweden), Hague Ct. Rep. (Scott) 121, 130 (Perm. Ct. Arb. 1909) [hereinafter referred to as *Grisbadarna Case*]. *See also* Lagoni, *Oil and Gas Deposits Across National Frontiers*, 73 AM. J. INT'L L. 215, 240-42 (1979).

175. Agreement Concerning the Sovereignty over the Islands of Al-'Arbiyah and Farsi and the Delimitation of the Boundary Line Separating Submarine Areas, Oct. 24, 1968, Saudi Arabia-Iran, 696 U.N.T.S. 189 (*in force* Jan. 29, 1969), *reprinted in* 8

allocation of a hexagonal zone of disputed shelf area to Saudi Arabia in return for an equal share of the net revenues derived from exploiting that zone.<sup>176</sup>

Certainly, numerous possibilities are open to negotiators. In most cases, however, including those in the North Sea, delimitation is based on geographical factors, with the parties using a variety of special legal arrangements for equitably exploiting the natural resources.<sup>177</sup> The International Court did not consider that unity of deposits constituted "anything more than a factual element which it is reasonable to take into consideration in the course of the negotiations for a delimitation."<sup>178</sup> As Judge Ammoun said, "if the preservation of the unity of deposit is a matter of concern to the Parties, they must provide for this by a voluntary agreement . . . , and this does not fall within the category of a factor or rule of delimitation."<sup>179</sup>

Although the concept of unity of a mineral deposit will not normally affect a shelf boundary delimitation, the presence within a disputed area of a sedentary fishery—which, like oil and gas, is a

INT'L LEGAL MATERIALS 493 (1969). The negotiating history of this settlement of a Persian Gulf boundary dispute is both interesting and informative. From the beginning of the negotiations, both Saudi Arabia and Iran, neither of which was a party to the Convention on the Continental Shelf, agreed that the general basis for the talks should be the concept of equidistance. This concept was in fact used to draw the larger part of the boundary line. Young, *Equitable Solutions for Offshore Boundaries: The 1968 Saudi Arabia-Iran Agreement*, 64 AM. J. INT'L L. 152, 152-53 (1970). But the northernmost sector of the disputed area was complicated by the presence of Kharg Island, a relatively large Iranian island situated approximately 16 miles from the Iranian mainland. Both Saudi Arabia and Iran had already specified boundaries in this area for the purpose of granting oil and gas concessions. The lines overlapped because the Iranian line gave full effect to Kharg Island, while the Saudi Arabian line entirely ignored it. Eventually, in 1965, a compromise using the "half-effect" method was worked out by the negotiators; the boundary was drawn along a line that was equidistant between an equidistance line that ignored Kharg Island and an equidistance line that used the island as the baseline. This first use of the "half-effect" method failed; Iran refused to sign the proposed agreement, largely because Iranian concessionaries had subsequently discovered oil deposits on the Arabian side of the proposed line. *Id.* at 154. Following a period of strained relations that included Iran's use of naval forces to protect its oil operations, the countries agreed to a settlement that provided for an equal division of the oil in place. *Id.* at 154-55.

176. Boundary Agreement, Feb. 22, 1958, Saudi Arabia-Bahrain, National Legislation and Treaties Relating to the Law of the Sea, U.N. Doc. ST/LEG/SER. B/16, at 409. See Lagoni, *supra* note 174, at 242.

177. In fact, several international agreements have been concluded that provide for different kinds of bilateral cooperation in developing common deposits of petroleum or natural gas. In addition, there is an extensive practice of bilateral treaties that oblige the parties, by means of virtually uniform "mineral deposit clauses," to negotiate in good faith if a common deposit of liquid minerals is discovered in the future.

Lagoni, *supra* note 174, at 243.

178. North Sea Continental Shelf Cases, *supra* note 18, at 52.

179. *Id.* at 149 (Ammoun, J., separate opinion).

continental shelf resource<sup>180</sup>—might justify a modification of the equidistance line if one of the parties has established an exclusive exploitation right. The principle underlying the relevance of historic rights was stated in the *Grisbadarna Case*, in which a tribunal of the Permanent Court of Arbitration in 1909 settled a dispute between Norway and Sweden over their maritime boundary at the *Grisbadarna* lobster bank.<sup>181</sup> The *Grisbadarna* principle underlay the decision: “[i]t is a settled principle of the law of nations that a state of things which actually exists and has existed for a long time should be changed as little as possible.”<sup>182</sup> The importance of the *Grisbadarna* principle was stressed in the separate opinion of Judge Jessup in the *North Sea cases*,<sup>183</sup> when Norway and Sweden delimited their continental shelf boundary in 1968 they diverged from the equidistance line in order to account for the line established in the *Grisbadarna* award.<sup>184</sup>

Parties to shelf delimitation disputes have suggested that other circumstances or factors are “relevant” or “special.” These pleas have met with little success, except in cases involving particular geographical features. Both the United Kingdom and France, for example, based part of their argument on national security factors<sup>185</sup> but the Court of Arbitration asserted that such considerations “cannot be regarded . . . as exercising a decisive influence.”<sup>186</sup> Mississippi and Louisiana, in pleading their cases before the NOAA consultants, cited comparative statistics relating to population, employment, wealth and poverty, and industrial activity but the consultants denied the general relevance of such socioeconomic data to the question of shelf delimitation.<sup>187</sup> On the other hand, the significance of such particular geographical features as promontories and islands is regularly tested by reference to demographic and economic fac-

180. “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 . . . .” Convention on the Continental Shelf, *supra* note 19, art. 2(4). This wording is substantially retained in the Draft Convention on the Law of the Sea, *supra* note 6, art. 77(4).

181. *Grisbadarna Case*, *supra* note 174. See text accompanying notes 255-266 *infra*.

182. *Id.* at 139.

183. *North Sea Continental Shelf Cases*, *supra* note 18, at 79-80 (Jessup, J., separate opinion).

184. Common Rejoinder of Denmark and the Netherlands, 1 *North Sea Continental Shelf Cases*, I.C.J. Pleadings 453, 495, 554 (1968).

185. *Anglo-French Arbitration*, *supra* note 15, paras. 161-62, 175.

186. *Id.* para. 188.

187. Charney, *supra* note 152, at 53. The NOAA consultants found in their report that socioeconomic data “did not present a significant factual basis for evaluating the propriety of any line. Nor [did] it provide a rationale for delimiting the line in one way rather than another.” Mississippi-Louisiana Report, *supra* note 153, at 24, quoted in Charney, *supra* note 152, at 53 n.102.

tors.<sup>188</sup> Clearly, these factors are relevant only insofar as they shed light on the "nature" of geographical features.

The pertinent legal materials indicate that geographical features are the most relevant circumstances in continental shelf delimitation. Large-scale modification of the equidistance line is required only when unusual geographical features are present that cause allocation of a disproportionate share of the seabed area in question to a particular state by use of that line. Geological features are relevant only when they constitute a distinct break in the essential continuity of the shelf. Historic and present use can require only minor modification of the equidistance line at the location of the use. Other solutions might be available in such cases, including the creation of some form of joint management of, or benefit from, a resource that is located in the vicinity of the boundary line. Another possibility includes allowing a particular use to continue "on the wrong side" of the line. The primacy of geography is supported by state practice and third-party decisions as well as by the theory of continental shelf entitlement. State jurisdiction over the continental shelf and other off-shore zones is justified by the dominance of the land over the sea. It would be unreasonable and, therefore, inequitable to give less than primary consideration to the relationship of the land to the sea. It would also be unreasonable to give full effect to relatively insignificant land areas or to deprive a state of significant areas of shelf because of unusual coastal configurations. Customary international law requires that such geographical features must be taken into account in the drawing of an equitable boundary line.

#### *E. The Equidistance-Proportionality Method Illustrated*

1. *The Anglo-French Arbitration.* The use of what might be called the equidistance-proportionality method of delimiting lateral continental shelf boundaries is illustrated by the delimitation by the Court of Arbitration of the Atlantic region, which stretches from the western part of the English Channel far out into the Atlantic Ocean. The court's rejection of the argument offered by the United Kingdom that Article 6 of the Convention on the Continental Shelf required an automatic application of the equidistance method was based in part on the fact that the coasts of France and the United Kingdom had a lateral relationship to the immense shelf area in dis-

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188. The significance of the Mississippi Delta, for example, was tested by reference to socioeconomic data. See Charney, *supra* note 152, at 53. The demography, economy, political organization, and legal status of the Channel Islands were considered to be relevant in determining the features' significance. *Anglo-French Arbitration*, *supra* note 15, paras. 171-73. Additionally, the Court of Arbitration regarded it as significant that both the Scilly Isles and the island of Ushant were "islands of a certain size and populated." *Id.* para. 248.

pute,<sup>189</sup> although legally the countries might be opposite states. Consequently, any unusual geographic feature would require a modification of the equidistance line.<sup>190</sup> The court also rejected the French argument that the delimitation should be based on, among other things, "an alleged principle of proportionality by reference to length of coastlines."<sup>191</sup> The court reiterated its view that the principle of proportionality is not a source of title to the continental shelf but a criterion for assessing the equities of certain geographical situations.<sup>192</sup>

In its award, the court regarded the location of Britain's Scilly Isles, 31 miles from the English coast and France's island of Ushant, only 14.1 miles from the French coast, to constitute a special circumstance.<sup>193</sup> According to the court, the greater projection westward of the Cornish peninsula and the Scilly Isles than the Brittany peninsula and the island of Ushant "has much the same tendency to distortion of the equidistance line as the projection of an exceptionally long promontory, which is generally recognized to be one of the potential forms of 'special circumstance[s].'"<sup>194</sup> The court reasoned that the very fact of the protrusion of the United Kingdom land mass farther into the Atlantic might have the natural consequence of rendering greater areas of continental shelf to it. But considering that the two states abut on the same shelf "with coasts not markedly different in extent and broadly similar in their relation to that shelf, a question arises as to whether giving full effect to the Scilly Isles in delimiting an equidistance boundary . . . may not distort the boundary and have disproportionate effects as between the two States."<sup>195</sup>

The court accomplished what it considered to be an equitable delimitation of the boundary by drawing two equidistance lines, one taking the Scillies into account and the other ignoring them, and then splitting in half the area located between the two equidistance lines, thus giving "half-effect" to the Scilly Isles.<sup>196</sup> To have ignored

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189. *Anglo-French Arbitration*, *supra* note 15, para. 233.

190. *Id.* paras. 244-45.

191. *Id.* para. 246.

192. *Id.*

193. *Id.* para. 235.

194. *Id.* para. 244.

195. *Id.*

196. The method of giving half effect consists in delimiting the line equidistant between the two coasts, first, without the use of the offshore island as a base-point and, secondly, with its use as a base-point; a boundary giving half-effect to the island is then the line drawn mid-way between those two equidistance lines. This method appears to the Court to be an appropriate and practical method of abating the disproportion and inequity which otherwise results from giving full effect to the Scilly Isles . . . . In the particular circumstances of the present case the half-effect method will serve to achieve such an abatement of the inequity.

the Scillies altogether would have amounted to a refashioning of geography and to have given them full effect would have amounted to ignoring the distorting effect that their location had on the equidistance line. The delimitation method used abated the disproportionate effect of the Isles' projection westward and, in consequence, produced an equitable delimitation. The principle of proportionality was used as a criterion for evaluating the equities of particular geographical features rather than as a source of title to shelf areas.

2. *United States Lateral Continental Shelf Boundary Delimitations*. The equidistance-proportionality method was also used by the consultants to NOAA in their recommendations for delimiting the lateral continental shelf boundaries between Louisiana and Mississippi, Delaware and Maryland, and Delaware and New Jersey.<sup>197</sup> In each case, the presence of particular geographical circumstances required modification of the equidistance-line boundary and in each case, the proportionality principle was used to determine the presence of an apparent inequity and to test the proposed remedy.

With regard to the New Jersey-Delaware-Maryland boundaries, the consultants decided that the area under consideration represented "a classic case" of special circumstances requiring divergence from the equidistance lines.<sup>198</sup> The special circumstance was the Delaware coast that is, unlike those of its neighbors, concave. Because of this geographical fact, Delaware is "caught in a squeeze between New Jersey and Maryland, causing Delaware to realize from the equidistance lines less than its equitable share of the adjacent seabed."<sup>199</sup> Equidistance lines drawn between Delaware and New Jersey and between Delaware and Maryland intersect at a point only fifty nautical miles from shore, limiting Delaware to a triangular-shaped seabed area of 599 square miles. In contrast, the seabed areas of both New Jersey and Maryland extend to the outer limit of the continental shelf. Under the equidistance method, the seabed area allocated to Maryland, whose coastline is approximately the same length as that of Delaware, would be three times as large as that allocated to Delaware.<sup>200</sup> These calculations clearly established the inequitable consequences of the concavity.

The consultants also decided that an equidistance-line boundary dividing the continental shelf areas of Louisiana and Mississippi

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*Id.* para. 251.

197. See notes 152-54 and accompanying text *supra*.

198. Charney, *supra* note 152, at 57.

199. J. Charney, R. Baxter, & H. Orlin, Consultants' Report on the New Jersey-Delaware-Maryland CEIP Delimitation Lines 25 (Nov. 13, 1979) (unpublished report submitted to the Assistant Administrator for Coastal Zone Management of the National Oceanic and Atmospheric Administration, U.S. Dep't of Commerce), *quoted in* Charney, *supra* note 152, at 61 [hereinafter referred to as the New Jersey-Delaware-Maryland Report].

200. *Id.* at 23-24, *quoted in* Charney, *supra* note 152, at 58.

would be inequitable. This finding was based on the effect on the equidistance line produced by the Mississippi River Delta, which extends Louisiana's land territory seaward for a distance of approximately forty miles.<sup>201</sup> The presence of the Delta causes Mississippi's coastline to be flanked by Louisiana's coastline at a right angle, thus producing a "deep concavity" which causes the equidistance line to proceed in a southeasterly direction.<sup>202</sup> This geographical fact was considered to have a substantial distorting effect on the equidistance line—to the disadvantage of Mississippi.<sup>203</sup> Use of the proportionality test confirmed this conclusion: "the ratios of coastline length varied between 0.40 and 0.57 (Mississippi: Louisiana), while an equidistance line produced an areal allocation of 0.09 (Mississippi: Louisiana)."<sup>204</sup>

The consultants emphasized, however, that not all land protrusions justify divergences from equidistance-line boundaries; lateral boundary delimitation "does not permit the wholesale rewriting of geographical facts."<sup>205</sup> But while large land protrusions might not justify a finding of relevant or special circumstances, minor protrusions that have a substantial impact on an equidistance line "certainly do give rise to special circumstances."<sup>206</sup> The test must evaluate protrusions in relation to their geography and their impact on the equidistance line.<sup>207</sup> A careful examination of the Mississippi River Delta led the consultants to conclude that it, in its entirety, "can be viewed as a special circumstance adversely affecting Mississippi."<sup>208</sup> In explaining this conclusion, the consultants stated:

The Delta substantially diverges from the general sweep of the land underbelly of Louisiana for a distance of some forty miles. . . . [I]ts seaward extensions have a direct impact on the location of the equidistance line . . . . Although the Delta covers a significant geographical area, its impact on the equidistance line is out of proportion to its size because of its long seaward extension.<sup>209</sup>

This finding was also influenced by an examination of the nature and use of the delta land area and by the presence in the area of small and uninhabited islands. Most of the delta is water, marsh, and swamp, and almost all of the land area is uninhabitable. Its only

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201. Mississippi-Louisiana Report, *supra* note 153, at 28-29, *quoted in* Charney, *supra* note 152, at 55-56.

202. *Id.* at 27, *quoted in* Charney, *supra* note 152, at 55.

203. Charney, *supra* note 152, at 57.

204. *Id.*

205. Mississippi-Louisiana Report, *supra* note 153, at 28, *quoted in* Charney, *supra* note 152, at 55.

206. *Id.*

207. *Id.*

208. *Id.* at 28-29, *quoted in* Charney, *supra* note 152, at 55.

209. *Id.*

human inhabitants are occasional hunters and fishermen, necessary government officials, and persons posted in the area to maintain oil wells and navigation.<sup>210</sup> The locations of several small and uninhabited Louisiana islands, some of which are situated approximately twenty miles from shore, confirmed the finding.<sup>211</sup>

As a result of these careful examinations, the consultants decided that the continental shelf areas allocated to Delaware and to Mississippi should be increased by modifying the equidistance lines—but only to a limited extent. The criteria for establishing a new and equitable boundary were discussed in the Louisiana-Mississippi recommendation:

A review of the authorities on the subject indicates that such a line should delimit the seabed area which is deemed to be adjacent to the respective states. It should allocate areas in a way that is reasonably proportional to the coastlines in question. The geographical facts of the situation must be taken into consideration. It is not an occasion to ignore the geographical facts. . . . Similarly, although equity is relevant to this decision, equality is not; the facts of nature and the preexisting political boundaries do not require such equality.<sup>212</sup>

Therefore, neither the curvature in Delaware's coast nor the location of Louisiana's deltaic area and islands could be totally ignored. The solution adopted by the consultants was the "half-effect" method used in the *Anglo-French Arbitration*. Boundary lines were constructed that were equidistant from the normal equidistance lines and from lines drawn by ignoring the particular geographical features that produced the distorting effects.<sup>213</sup> The consultants considered that they had identified equitable lines that "took account of both the existing geographical situation and the inequities produced by it."<sup>214</sup> The consultants confirmed the equitable nature of the boundary lines by determining that the shelf area allocated showed an improved congruence with the ratios of coastline lengths.<sup>215</sup>

3. *The Continental Shelf Boundary Delimitation in the Bay of Biscay*. The 1974 Bay of Biscay continental shelf boundary delimitation agreement between France and Spain<sup>216</sup> provides an illustration

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210. *Id.*, quoted in Charney, *supra* note 152, at 55-56.

211. *Id.* at 30-31, quoted in Charney, *supra* note 152, at 56.

212. *Id.* at 39, quoted in Charney, *supra* note 152, at 63 (citations omitted).

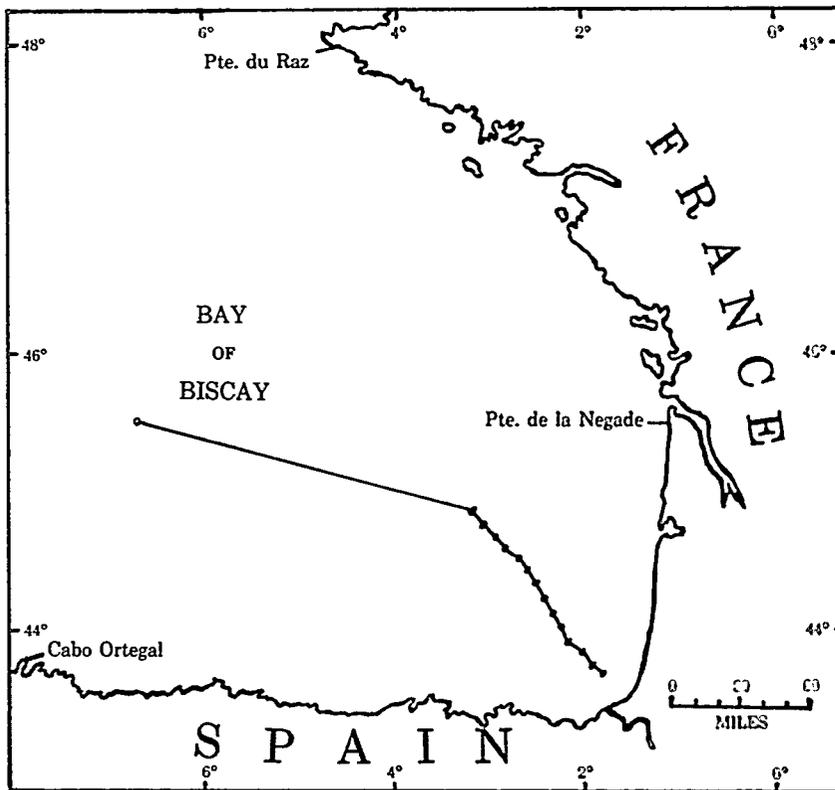
213. Charney, *supra* note 152, at 64.

214. *Id.*

215. "Comparisons of the areal allocations on the basis of these lines showed an improved congruence with the ratios of the coastline lengths in question." *Id.*

216. Convention on the Delimitation of the Continental Shelves in the Bay of Biscay, Jan. 29, 1974, France-Spain, reprinted in *Territorial Sea and Continental Shelf Boundaries: France-Spain (Bay of Biscay)*, LIMITS IN THE SEAS, *supra* note 11, No. 83 (Feb. 12, 1979), at 3.

of the use of equidistance and proportionality to achieve an equitable delimitation through negotiations. The agreement used the equidistance method to draw the first part of the boundary and then abandoned it in favor of a line based on proportionality between the lengths of coastlines and the areas of continental shelf to be allocated. Although the record of the negotiations is not available, it is reasonably clear from the terms of the agreement that the complex configuration of the French coast, in relation to the Spanish coast, was considered by the parties to be a relevant circumstance that required departure from a strict application of the equidistance method. That method would have produced a boundary that allocated shelf areas that were not even roughly proportionate to the ratio of coastline lengths.



THE FRENCH-SPANISH CONTINENTAL SHELF DELIMITATION

The Bay of Biscay is a large, U-shaped intrusion of the Atlantic Ocean into the European continent. The Bay's southern limit is the Spanish shoreline, which runs due west on a relatively straight line from the French-Spanish land boundary to Cabo Ortegal. The Bay's eastern and northeastern limit is the moderately concave and indented French shoreline, which runs due north from the land

boundary with Spain to the latitude of Pointe de la Negade. At this point, the shoreline's general direction turns northwest toward Pointe du Raz and the mouth of the English Channel.<sup>217</sup> Early in the negotiating process, the outer limit of the continental shelf that was to be divided was determined for purposes of the delimitation. The parties defined the outer limit by drawing a straight line that connected Cabo Ortegal and Pointe du Raz.<sup>218</sup> The parties also agreed, again for purposes of the delimitation, to utilize "artificial" coastlines to represent their coastline lengths. The parties agreed that the Spanish "artificial" coastline would be a straight line connecting the land boundary terminus with Cabo Ortegal and that the French "artificial" coastline would consist of two straight lines, one connecting the land boundary terminus with Pointe de la Negade and the other connecting that point with Pointe du Raz.<sup>219</sup> On the basis of these geographical facts and agreements and the principles of equidistance and proportionality, the parties drew a three-part continental shelf boundary line.

The first, or inner, part of the boundary is approximately 82 nautical miles long<sup>220</sup> and is based on the principle of equidistance, with the line drawn equidistant from the nearest points of the normal baselines of the two states.<sup>221</sup> The second segment of the boundary is eight nautical miles long and terminates at a point situated halfway between points originally proposed by France and Spain.<sup>222</sup> The third, and longest, part of the boundary extends 154 nautical miles to the outer limit of the continental shelf and is based on ratios of "artificial" coastline lengths and residual areas of shelf remaining to be allocated.<sup>223</sup> In their calculations of coastline lengths, the negotiators considered only "unused" coastlines or those portions of coastline that had not been used in drawing the first two segments of the boundary.<sup>224</sup> The length of the "unused artificial" coastline of Spain was computed to be about 138 nautical miles and that of France to be about 213 nautical miles. The ratio of these lengths is approximately 1:1.54. By applying this ratio to the 35,670 square nautical miles of residual shelf area to be allocated by the third segment of the boundary, Spain received an area of about 13,561 square nautical miles and France received an area of about 22,109 square nauti-

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217. See map in *id.* at appendix.

218. *Id.* at 12.

219. *Id.* at 13.

220. A table showing the lengths of the specific boundary segments is provided in *id.* at 11-12.

221. Diplomatic note from J.-P. Cabouat, Head of the French Delegation in the negotiations, to Antonio Poch, Head of the Spanish Delegation in the negotiations (Jan. 2, 1974), *id.* at 9.

222. *Id.* at 13-14.

223. *Id.* at 14.

224. *Id.*

cal miles.<sup>225</sup> The continental shelf areas allocated by all three sectors of the boundary measured 18,864 square nautical miles for Spain and 26,463 square nautical miles for France.<sup>226</sup> This ratio is approximately 1:1.4, which is roughly proportionate to the ratio of the lengths of the "artificial" coastlines of the two states. The use of geographical factors and the principles of equidistance and proportionality clearly produced an equitable delimitation of the Bay of Biscay continental shelf.

#### IV. DELIMITATION OF THE EXCLUSIVE ECONOMIC ZONE

##### A. *The Primacy of Geographical Factors*

Although there is a considerable body of international law relating to continental shelf boundary delimitation between opposite and adjacent states, law relating to exclusive economic zone boundary delimitation is in its infancy. No conventional rule or judicial decision deals directly with the subject and state practice is sparse. The fundamental principles for delimitation of this recently emergent zone must be gleaned from the legal theory of coastal state entitlement to all off-shore zones, from conventional and customary law relating to other maritime zones, and from judicial pronouncements that elucidate general principles, which underlie state jurisdiction over sea areas for purposes of exploitation, management, and conservation. All of these sources point to an approach that is based essentially on geographical factors and that is similar to the approach used to delimit continental shelf boundaries.

The jurisdiction of a coastal state over its economic zone is based on the relationship of its land territory to the sea; this relationship is essentially geographical. The proposition that the land dominates the sea is, in fact, the legal basis for coastal state jurisdiction over all adjacent maritime zones. This notion dates back at least to the time of Hugo Grotius, who used the principle of effective control from the land to justify the sovereignty of a state over its territorial waters.<sup>227</sup>

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225. *Id.* According to the calculations of the Office of the Geographer, U.S. Department of State, which were based on the use of the Clarke spheroid of 1866, Spain should have been allocated an area of approximately 14,000 square nautical miles and France, an area of approximately 21,000 square nautical miles. *Id.* These discrepancies apparently resulted from the use by the negotiators of different charts, datums, and spheroids. *Id.* at 13 n.5.

226. *Id.* at 15.

227. Grotius asserted:

[S]overeignty over a part of the sea is acquired in the same way as sovereignty elsewhere, that is, . . . through the instrumentality of persons and of territory. It is gained through the instrumentality of persons if, for example, a fleet, which is an army afloat, is stationed at some point of the sea; by means of territory, in so far as those who sail over the part of the sea along the coast may be constrained from the land no less than if they should be upon the land itself.

In 1704, Bynkershoek proposed that coastal state sovereignty over the territorial sea should be based on effective control from the land, measured by the range of cannon firing from the shore. One commentator later explained this proposition: the cannon-shot rule "was the rule that the sea should salute the land and the range of guns determined the limit within which the salute ought to be rendered."<sup>228</sup> The original assumption no longer holds true, of course, but it is still "the land which confers upon the coastal State a right to the waters off its coasts."<sup>229</sup> All off-shore zones are considered to be prolongations of the land territory of the coastal state. Conventions, proclamations, and the literature on the continental shelf, for example, refer to that zone in such terms as "close to its shore," "off its coast," "in front of the coast," "neighboring the coast," "adjacent to," and "contiguous."<sup>230</sup> It is logical, therefore, that the Draft Convention on the Law of the Sea should refer to the exclusive economic zone in geographical terms, as "an area beyond and adjacent to the territorial sea,"<sup>231</sup> which is itself described as "an adjacent belt of sea" beyond the land territory of a state.<sup>232</sup>

Geographical factors are also paramount in the conventional law relating to delimitation of territorial sea and fishery conservation zone boundaries. Article 12 of the Convention on the Territorial Sea and the Contiguous Zone provides that, failing agreement, neither of the two opposite or adjacent states is entitled to extend its territorial sea beyond a median line equidistant from the respective baselines of the states.<sup>233</sup> Equidistance is, of course, a purely geographical concept. The use of straight baselines is permitted under certain circumstances but the drawing of such lines "must not depart to any appreciable extent from the general direction of the coast, and the sea areas lying within the lines must be sufficiently linked to the land domain to be subject to the regime of internal waters."<sup>234</sup> The proposition that the land dominates the sea is evident in all these provisions. The Convention on Fishing and Conservation of the Liv-

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2 H. GROTIUS, *DE JURE BELLI AC PACIS LIBRI TRES*, ch. XIII(2), at 214 (F. Kelsey trans. 1925). See generally the dissenting opinion of Judge Read in *The Fisheries Case*, *supra* note 18, at 187; Kent, *The Historical Origins of the Three-Mile Limit*, 48 AM. J. INT'L L. 537 (1954).

228. Attributed to Fulton by C. COLOMBOS, *THE INTERNATIONAL LAW OF THE SEA* 92 (6th rev. ed. 1967). Bynkershoek wrote that "the territorial dominion ends where the power of weapons terminates." 2 C. BYNKERSHOEK, *QUAESTIONUM JURIS PUBLICI LIBRI DUO* 54 (T. Frank trans. 1930). See generally T. FULTON, *THE SOVEREIGNTY OF THE SEA* 537-603 (1911).

229. *Fisheries Case*, *supra* note 18, at 133.

230. *North Sea Continental Shelf Cases*, *supra* note 18, at 30.

231. *Draft Convention on the Law of the Sea*, *supra* note 6, art. 55.

232. *Id.* art. 2.

233. *Convention on the Territorial Sea and the Contiguous Zone*, *supra* note 1, art. 12. The text of Article 12 is provided at note 29, *supra*.

234. *Id.* art. 4(2).

ing Resources of the High Seas acknowledges the right of a coastal state, under certain conditions, to adopt unilateral measures of fishery conservation in areas of the high seas adjacent to its territorial sea. When there is a need to delimit the fishery conservation zones of opposite or adjacent states, the Convention provides that "the principles of geographical demarcation as defined in article 12 of the Convention on the Territorial Sea and the Contiguous Zone shall be adopted . . . ."<sup>235</sup>

The maritime zone that is most analogous to the economic zone is the continental shelf. It is even arguable that the economic zone subsumes the continental shelf; within that zone, the coastal state is accorded jurisdiction over the resources of the seabed and subsoil as well as those of the superjacent waters.<sup>236</sup> The close association of the two zones is reflected in the deliberations at UNCLOS III, which have produced draft articles with identical wording for delimitation of each of the two zones. The draft articles are based on the law that has developed in relation to delimitation of the continental shelf, as reflected in Article 6 of the Convention on the Continental Shelf and in the decisions and reasoning in the *North Sea Continental Shelf Cases* and the *Anglo-French Arbitration*.<sup>237</sup> Each of the draft articles provides that delimitation is to be effected by agreement and that such agreement is to be "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."<sup>238</sup> Earlier draft articles contained similar, but somewhat more detailed, wording.<sup>239</sup> The compromise texts that were eventually accepted contain references to agreement and equitable solution; together, these contain the essential ingredients of the law that has developed for the delimitation of continental shelf zones.

The emerging law that relates to delimitation of economic zone boundaries is, in its essence, the same as the law applicable to delimitation of continental shelf boundaries. The duty to negotiate in

235. Convention on Fishing and Conservation of the Living Resources of the High Seas, *supra* note 30, art. 7(5).

236. 1. In the exclusive economic zone, the coastal State has

(a) sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources, whether living or non-living, of the sea-bed and subsoil and the superjacent waters, and with regard to other activities for the economic exploitation and exploration of the zone . . . .

Draft Convention on the Law of the Sea, *supra* note 6, art. 56.

237. See note 49 and accompanying text *supra*.

238. The texts of the two articles adopted by the Resumed Tenth Session of UNCLOS III as they appear in the Draft Convention on the Law of the Sea, *supra* note 6, are provided at note 20 *supra*. For the text of the prior versions, see note 20 *supra*.

239. For the provisions of earlier negotiating texts, see Comment, *Boundary Delimitation in the Economic Zone: The Gulf of Maine Dispute*, *supra* note 14, at 226-29; for the provisions of several compromise texts, see Adede, *supra* note 20, *passim*.

good faith on the basis of international law to achieve an equitable solution is at the core of this law. The equitable principles of equidistance and proportionality, therefore, are equally relevant to the two zones. Even the consideration of relevant circumstances is essentially the same. The most relevant circumstances for both zones are clearly geographical and include such features as coastline configuration and the location of islands. The combined equidistance-proportionality method of delimitation takes these circumstances into account. And because the economic zone includes jurisdiction over the resources of the seabed and subsoil as well as the resources of the water column, the possible relevance of geological features and unity of mineral deposits is the same for the two zones.

*B. The Relevance of Historic Use and Economic Dependency*

The possibility that circumstances of historic use and economic dependency might be relevant to economic zone boundary delimitation is the principal difference in the law relating to delimitation of boundaries in the two zones. This difference arises from historic fishing rights and economic dependencies on particular fish stocks, which might have been established in certain areas of the economic zone. These resources, unlike those of the continental shelf, have been subjected to exploitation for centuries. The significance of historic rights in water columns is acknowledged in the boundary delimitation provision of the Convention on the Territorial Sea and the Contiguous Zone. Article 12 provides that strict application of the equidistance method does not apply "where it is necessary by reason of historic title or other special circumstances to delimit the territorial seas . . . in a way which is at variance with this provision."<sup>240</sup> Similar wording is used in the territorial sea delimitation provision of the Draft Convention on the Law of the Sea.<sup>241</sup> President Truman's seminal proclamation asserting the right of coastal states to establish fishery conservation zones in areas adjacent to the territorial sea acknowledged "the special rights and equities" not only of the coastal state but also of "any other State which may have established a legitimate interest therein."<sup>242</sup> The Convention on Fishing and Conservation of the Living Resources of the High Seas indirectly acknowledges the significance of historic rights by providing for delimitation of fishery conservation zones in accordance with the provisions of Article 12 of the Convention on the Territorial Sea and the Contiguous Zone.<sup>243</sup>

1. *The Anglo-Norwegian Fisheries Case*. Decisional law also

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240. See note 29 *supra*.

241. See note 20 *supra*.

242. Pres. Proc. No. 2668, Policy of the United States with Respect to Coastal Fisheries in Certain Areas of the High Seas, *supra* note 68.

243. See note 30 *supra*.

supports the proposition that historic use and economic dependency might have relevance in economic zone boundary delimitation. Therefore, decisional law's deference to geographical factors, even in situations in which historic use and economic dependency are considered relevant, is even more significant. The 1951 decision of the International Court of Justice in the *Anglo-Norwegian Fisheries Case*,<sup>244</sup> which upheld the validity of Norway's use of straight baselines to determine the outer limit of a portion of its territorial sea, attached certain weight to usage and dependency factors but only as support for more important geographical factors. The court explained that the northernmost part of the Norwegian coast, the area in dispute, is of a very distinctive configuration: it is very broken along its whole length, constantly opening out into indentations that penetrate for great distances inland. The court stated that the numerous islands, islets, rocks, and reefs (the "skjaergaard") are but an extension of the Norwegian mainland. Considering these geographical facts, the coast of the mainland does not constitute a clear dividing line between land and sea.<sup>245</sup> The court declared: "What matters, what really constitutes the Norwegian coast line, is the outer line of the 'skjaergaard.'"<sup>246</sup> The court explained that the use of the outer line of the "skjaergaard" as the baseline was "dictated by geographical realities."<sup>247</sup>

In appraising the actual lines drawn by Norway, the court relied primarily on geographical factors. It noted initially that even in the absence of rules of a technically precise character, certain considerations inherent in the very nature of the territorial sea provide an adequate basis for decisions.<sup>248</sup> The first of these considerations, the close dependence of the sea upon the land domain, requires that the drawing of baselines "must not depart to any appreciable extent from the general direction of the coast."<sup>249</sup> Secondly, the court stated that a close geographical relationship between sea areas and land formations is a "fundamental consideration" in determining "whether certain sea areas lying within [the baselines] are sufficiently linked to the land domain to be subject to the regime of internal waters."<sup>250</sup> Finally, the court said that "there is one consideration not to be overlooked, the scope of which extends beyond purely geographical factors: that of certain economic interests pecu-

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244. [1951] I.C.J. 116. See generally T. KOBAYASHI, *THE ANGLO-NORWEGIAN FISHERIES CASE OF 1951 AND THE CHANGING LAW OF THE TERRITORIAL SEA* (1965); Evensen, *The Anglo-Norwegian Fisheries Case and Its Legal Consequences*, 46 AM. J. INT'L L. 609 (1952).

245. *Fisheries Case*, *supra* note 18, at 127.

246. *Id.*

247. *Id.* at 128.

248. *Id.* at 133.

249. *Id.*

250. *Id.*

liar to a region, the reality and importance of which are clearly evidenced by a long usage."<sup>251</sup> These economic factors were considered, however, only because geographical factors clearly established the right to use straight baselines. The court also stated that it was "led to conclude that the method of straight lines, established in the Norwegian system, was imposed by the peculiar geography of the Norwegian coast . . ."<sup>252</sup> Considerations of historic rights and economic dependency were used by the court as supportive criteria, particularly in the area of the LoppHAVET basin, where the Norwegian straight lines extended over a distance of forty-four miles. In response to the British criticism that the line in this region did not exactly follow the general direction of the coast, the court stated that even if there were a pronounced deviation, the Norwegian Government had relied on "historic title clearly referable to the waters of LoppHAVET, namely the exclusive privilege to fish and hunt whales granted at the end of the 17th century . . ."<sup>253</sup> Moreover, these traditional fishing rights were "founded on the vital needs of the population" and, consequently, could legitimately be taken into account.<sup>254</sup>

2. *The Grisbadarna Case.* The *Grisbadarna Case*,<sup>255</sup> decided by a tribunal of the Permanent Court of Arbitration in 1909, is instructive because it illustrates that historic use and economic dependency might justify a slight deviation from a maritime boundary line based solely on geographical considerations. In the late nineteenth century, a dispute arose between Norway and Sweden regarding the precise location of their maritime boundary in the area of the Grisbadarna banks, which had been found to be rich in lobsters. The arbitral tribunal was asked to decide whether the maritime boundary was fixed, in whole or in part, by the boundary treaty concluded between the two states in 1661, and, if not, to determine the correct boundary in accordance with "the circumstances of fact and the principles of international law."<sup>256</sup> The tribunal held that the boundary had been determined by the treaty but that beyond a certain point its precise location was not clear. The Grisbadarna banks lie beyond that point. After rejecting the equidistance method because it had

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251. *Id.*

252. *Id.* at 139.

253. *Id.* at 142.

254. *Id.*

255. See note 174 *supra*. See generally Y. BLUM, *HISTORIC TITLES IN INTERNATIONAL LAW* 198-99 (1965); K. STRUPP, *DER STREITFALL ZWISCHEN SCHWEDEN UND NORWEGEN* (1914); Elias, *The Doctrine of Intertemporal Law*, 74 *AM. J. INT'L L.* 285, 289-90 (1980).

256. Convention for the Reference to Arbitration of the Question of a Certain Portion of the Sea-Limit in Connection with the Grisbadarna Rocks, March 14, 1908, Norway-Sweden, 2 *Martens Nouveau Recueil* 761 (3d Ser.), art. 3; an English version is appended to *Grisbadarna Case*, *supra* note 174, at 133.

not achieved sufficient validity in the international law of the seventeenth century<sup>257</sup> and, consequently, could not have been in the minds of the negotiators of the treaty, the tribunal decided that the line should be drawn perpendicularly to the general direction of the coast.<sup>258</sup> This method, the tribunal noted, would be most in accord with the notions of law prevailing at the time of the treaty's conclusion.<sup>259</sup>

The significance of the *Grisbadarna* Award to maritime boundary delimitation in the 1980's is in its use of "circumstances of fact" to draw the actual line. A line drawn perpendicularly to the coast would have cut across the *Grisbadarna* banks, a result unsuitable to both parties.<sup>260</sup> The tribunal decided to diverge by one degree from the purely geographical perpendicular line in favor of Sweden. The principal reasons for the direction of the variance were historic use, economic dependency, and acquiescence. The tribunal noted that lobster fishing was the most important fishing activity on the *Grisbadarna* banks and that Swedish fishermen had carried on lobster fishing in the shoals of *Grisbadarna* for a much longer time and to a much greater extent than had the subjects of Norway.<sup>261</sup> The tribunal further noted that fishing on the *Grisbadarna* banks was much more important to the inhabitants of Koster, in Sweden, than to those of Hvaler, in Norway.<sup>262</sup> Considering these facts, the applicable principle was stated succinctly: "[i]t is a settled principle of the law of nations that a state of things which actually exists and has existed for a long time should be changed as little as possible."<sup>263</sup> Another circumstance considered relevant was that Sweden, at considerable expense and without protest from Norway, had performed various acts in the disputed region, including the installation and maintenance of beacons and a light-boat. The only remotely comparable measure taken by Norway was the placement, for a short while, of a bell-buoy in the region.<sup>264</sup> The tribunal concluded that the assignment of the *Grisbadarna* banks to Sweden was "in perfect accord with the most important circumstances of fact."<sup>265</sup>

Significantly, the tribunal viewed these factual circumstances as supporting evidence for a slight variation of a line based on purely

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257. *Grisbadarna* Case, *supra* note 174, at 129.

258. *Id.* The International Law Commission's Committee of Experts rejected this method in 1953 because it was considered to be impractical in many situations. Report of the Committee of Experts on Technical Questions Concerning the Territorial Sea, *supra* note 88, at 256.

259. *Grisbadarna* Case, *supra* note 174, at 129.

260. *Id.*

261. *Id.* at 130.

262. *Id.* at 131.

263. *Id.* at 130.

264. *Id.* at 131.

265. *Id.* at 132.

geographical factors rather than independent sources of right to maritime territory. The primacy of these factors was clearly shown in the tribunal's somewhat curious explanation of its allocation to Norway of the Skjottegrunde, another fishing bank in the vicinity of the boundary line. The tribunal noted that the Skjottegrunde was of lesser importance than the Grisbadarna and that, although Swedes had also fished there longer and to a greater extent than had Norwegians, the fishermen of Norway had "never been excluded from fishing there" and had participated in the lobster fishery on the Skjottegrunde "in a comparatively more effective manner than at the Grisbadarna."<sup>266</sup> The tribunal could not have given a clearer, if indirect, statement of the primacy of geographical factors.

In circumstances other than those in which minor modification of a maritime boundary line drawn on the basis of geographical factors will accommodate interests based on historic rights and economic dependency, fishery resource issues should be resolved through negotiations directed toward reaching agreement on measures required for conservation, development, and equitable exploitation of the resource. State practice is moving in this direction.<sup>267</sup> The duty to negotiate in good faith is already regarded as a customary rule of international law regarding oil and gas deposits located in the vicinity of a maritime boundary.<sup>268</sup> Legal theory also supports this proposition. Claims to historic fishing rights and economic dependency on particular fish stocks are not normally relevant to boundary delimitation because such rights are nonexclusive. Specifically, they do not raise a legitimate claim to sovereignty or title to territory;<sup>269</sup> rather, they merely give rise to a valid claim to continue the fishing activity within the waters in question.<sup>270</sup>

3. *The Fisheries Jurisdiction Case.* Historic rights and economic dependency were carefully analyzed by the International Court of

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266. *Id.*

267. See notes 72-75 and accompanying text *supra*.

268. Lagoni, *supra* note 174, at 243.

269. For a careful analysis of non-exclusive historic rights, see Y. BLUM, *supra* note 256, *passim*, and especially at 310-34.

270. Thus if the fishing vessels of a given country have been accustomed from time immemorial, or over a long period, to fish in a certain area, on the basis of the area being high seas and common to all, it may be said that their country has through them (and although they are private vessels having no specific authority) acquired a vested interest in that the fisheries of that area should remain available to its fishing vessels (of course on a non-exclusive basis)—so that if another country asserts a claim to that area as territorial waters, which is found to be valid or comes to be recognized, this can only be subject to the acquired rights of fishery in question, which must continue to be respected.

Fitzmaurice, *The Law and Procedure of the International Court of Justice, 1951-1954: General Principles and Sources of Law*, 30 BRIT. Y.B. INT'L L. 1, 51 (1953).

Justice in the *Fisheries Jurisdiction Case*,<sup>271</sup> which involved a conflict between Iceland's proclaimed fifty-mile exclusive fishing zone and the traditional fishing activities of subjects of the United Kingdom in that area.<sup>272</sup> Although the court did not pronounce directly on the legality *vel non* of the expanded fishing zone,<sup>273</sup> it stated unequivocally that under customary international law, which had emerged since the 1960 Geneva Conference on the Law of the Sea, a coastal state may claim preferential rights when it is in a situation of dependency on coastal fisheries.<sup>274</sup> These preferential rights arise when intensified exploitation of fishery resources necessitates introduction of a regulatory system to preserve the affected fish stocks.<sup>275</sup> Iceland was deemed to have acquired preferential rights because it was clearly dependent on its coastal fisheries and because those fisheries were subjected to intensified exploitation.<sup>276</sup> The court said, however, that even when these conditions obtain, a coastal state is not "free, unilaterally and according to its own uncontrolled discretion, to determine the extent of [its] rights. The characterization of a coastal State's rights as preferential implies a certain priority, but cannot imply the extinction of the concurrent rights of other States. . . ."<sup>277</sup> The coastal state is obligated to give particular regard to the rights of other states, which have been engaged in the same fishery over a considerable period of time and which have established an economic dependency on the same fishing grounds.<sup>278</sup>

The court found that the United Kingdom had established historic rights in, and economic dependency on, certain fish stocks located in the exclusive fishing zone proclaimed by Iceland. The court noted that British vessels had been "fishing in Icelandic waters for centuries and that they have done so in a manner comparable with their present activities for upwards of 50 years."<sup>279</sup> British ships had fished for demersal species in the area on a continuous basis since 1920 and their total catch "ha[d] been remarkably steady."<sup>280</sup> Re-

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271. [1974] I.C.J. 3.

272. See generally Churchill, *The Fisheries Jurisdiction Cases: The Contribution of the International Court of Justice to the Debate on Coastal States' Fisheries Rights*, 24 INT'L & COMP. L.Q. 82 (1975); Note, 16 HARV. INT'L L.J. 474 (1975).

273. The implication is, however, that the court considered the Icelandic claim to be contrary to international law. The court stated, for example, that although numerous states had established 12-mile exclusive fishing zones and UNCLOS III had under consideration even greater claims, a court of law "cannot render judgment *sub specie legis ferendae*, or anticipate the law before the legislator has laid it down." *Fisheries Jurisdiction Case*, *supra* note 18, at 23-24.

274. *Id.* at 23.

275. *Id.* at 27.

276. *Id.* at 26-27.

277. *Id.* at 27-28.

278. *Id.* at 28.

279. *Id.*

280. *Id.*

garding economic dependency, the court pointed out that exclusion of British vessels would have "very serious adverse consequences, with immediate results for the affected vessels and with damage extending over a wide range of supporting and related industries."<sup>281</sup> The court asserted that the same considerations that prompted the recognition of the preferential rights of coastal states applied when coastal populations in other fishing states were also dependent on certain fishing grounds.<sup>282</sup>

Because due recognition had to be given to the rights of both parties—the preferential rights of Iceland and the rights of British fishermen to continue fishing in the waters in dispute—the court decided that "[t]he most appropriate method for the solution of the dispute is clearly that of negotiation."<sup>283</sup> The objective of the negotiations should be "to balance and regulate equitably questions such as those of catch-limitation and share allocations."<sup>284</sup> The parties were also obligated to pay due regard "to the interests of other States in the conservation and equitable exploitation of these resources."<sup>285</sup>

These pronouncements were significant in the development of the concept of the exclusive economic zone. But, importantly, the rights accorded to coastal states in the emerging economic zone are considerably greater than the preferential rights accorded by customary international law; such rights relate to "sovereign rights for the purpose of exploring and exploiting, conserving and managing the natural resources,"<sup>286</sup> rather than merely to priority in share allocations. All resources within the economic zone are placed under the jurisdiction of the coastal state, subject only to the duties to practice conservation and management measures<sup>287</sup> and to allow other states to catch "surplus" fish.<sup>288</sup> The coastal state determines both the total allowable catch<sup>289</sup> and the capacity of its nationals to harvest those resources.<sup>290</sup> Only when the coastal state does not possess the capacity to take the entire allowable catch must that state, through agreement, give other states access to the surplus.<sup>291</sup> The concept of historic rights remains relevant only to the extent that "the need to minimize economic dislocation in States whose nationals have

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281. *Id.*

282. *Id.* at 29.

283. *Id.* at 31.

284. *Id.*

285. *Id.* at 34.

286. Draft Convention on the Law of the Sea, *supra* note 6, art. 56.

287. *Id.* art. 61.

288. *Id.* art. 62.

289. *Id.* art. 61.

290. *Id.* art. 62.

291. *Id.*

habitually fished in the zone"<sup>292</sup> is among the factors to be taken into account in giving access to surplus fish.

Perhaps the concept of historic rights is inapplicable to the exclusive economic zone. As Yehuda Blum has stated regarding exclusive fishing zones within which traditional fishing activities can be phased out: "It is difficult to see how rights of such a temporary nature, which are to be enjoyed only for a definite period of time and not in perpetuity, are to be regarded as 'historic rights' in the meaning normally attached to this term."<sup>293</sup> Surely such rights are of insufficient weight to affect exclusive economic zone boundary delimitation, which involves claims to exercise sovereign rights over territory. The duty to negotiate in good faith, however, continues to be relevant, particularly regarding fish stocks located in the vicinity of an exclusive economic zone boundary. The Draft Convention on the Law of the Sea provides that neighboring states must agree "upon the measures necessary to co-ordinate and ensure the conservation and development of such stocks."<sup>294</sup>

Analysis of conventional law, decisional law, and the theory of coastal state entitlement to maritime zones leads to the conclusion that the process by which an equitable delimitation of exclusive economic zone boundaries is to be achieved is essentially the same as that required for delimitation of continental shelf boundaries. Claims to wide-ranging variations from geographically based lines are not justified by historic fishing rights or economic dependency. Issues relating to such factors must be resolved by good-faith negotiations directed toward equitable fishery resource management and exploitation.

## V. CONCLUSION

In this Article, the authors seek to focus attention on the principal maritime delimitation problem of the coming decade: the delimitation by negotiated agreement or third-party dispute settlement of single maritime boundaries dividing continental shelf zones and exclusive economic zones between opposite and adjacent states. The authors contend that state practice and decisional law are presently sufficient to provide an adequate legal framework for negotiations as well as for third-party adjudications. These legal materials clearly show that primacy must be accorded to geographic factors in delimiting maritime boundaries. These materials also strongly support the equidistance-proportionality method as a means of giving effect to geographic factors. Nongeographic considerations, such as geological formations and economic use or dependency, play a subsidiary role

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292. *Id.*

293. Y. BLUM, *supra* note 255, at 319. See also Bowett, *The Second United Nations Conference on the Law of the Sea*, 9 INT'L & COMP. L.Q. 415, 424-26 (1960).

294. Draft Convention on the Law of the Sea, *supra* note 6, art. 63.

in maritime boundary delimitation. Such considerations allow for minor variances from a line determined solely by reference to geographic factors only in exceptional situations.