SEDENTARY FISHERIES AND THE CONVENTION ON THE CONTINENTAL SHELF

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Of the Board of Editors

The Convention on the Continental Shelf of April 29, 1958—one of the works of the first United Nations Conference on the Law of the Sea—declares in Article 2(1) that the "coastal State exercises over the continental shelf sovereign rights for the purpose of exploring it and exploiting its natural resources." The fourth paragraph of the same article defines these resources as

> the mineral and other non-living resources of the seabed and subsoil together with living organisms belonging to sedentary species, that is to say, organisms which, at the harvestable stage, either are immobile on or under the seabed or are unable to move except in constant physical contact with the seabed or the subsoil.[1]

Thus one effect of these provisions is to bring sedentary fisheries in the high seas but on the shelf within the regime established by the convention, and thereby to rest on a fresh and novel ground the long-standing claim that such fisheries differ from other high-seas fisheries in fact and should be treated differently in law. This new approach does not appear to have attracted much attention from legal scholars since the signing of the convention, perhaps because sedentary fisheries are much less important than either the great ocean fisheries for swimming fish or the potential mineral resources of the continental shelf.[2] Yet the status of such fisheries presents interesting legal questions and their treatment may have substantial effects on other aspects of the law of the sea. In this article an effort has been made to draw together in one place a brief résumé of the legal situation as it stood before 1945, a note on the scientific problems involved, a narrative of the development of the convention provisions, and some comment on their scope, dangers, and practical consequences.

Throughout this discussion, the term "sedentary" in relation to fisheries and species is ordinarily used with the same meaning as in the convention, although certain shortcomings in this definition will later be pointed out. It should be noted, however, that some writers have used the term to

[1] Text in 1st U.N. Conference on the Law of the Sea (1958) (cited hereafter as 1958 Geneva Conference), 2 Official Records 142–143, U.N. Doc. A/CONF.13/38; 52 A.J.I.L. 858–862 (1958).

[2] Sedentary fisheries are not negligible, however. Pearl-shell, much of it found in the high seas, exported from Australia in 1958–1959 was valued at more than $1,300,000. Statesman's Year-Book (1960–1961) 473. An annual take of 45 to 95 tons of Libyan sponges is said to have brought in recent years export prices averaging $12,000 per ton. In the peak year of 1947, sponges sold at Tarpon Springs, Florida, had a sale value of $1,742,000. Morgan, World Sea Fisheries 228, 242 (1956).

include fisheries carried on by means of structures erected on the seabed, such as fixed fish-traps or weirs. Such fisheries are usually for mobile species and have no logical connection with the problem of taking sedentary varieties. They are not covered by the Continental Shelf Convention, but are the subject of a special article in its companion Convention on Fishing and Conservation of the Living Resources of the High Seas.[3]

I

Long before the appearance of the continental shelf doctrine, there was a current of opinion in international law that sedentary fisheries were an exception to the rule that navigation and fishing in the high seas were free to all alike. In the view of some governments and writers, the special nature of such fisheries made possible their legitimate subjection to the exclusive control of a single state. "Who can doubt," wrote Vattel in the middle of the eighteenth century, "that the pearl fisheries of Bahrein and Ceylon may be lawful objects of ownership?"[4] This rhetorical question of the distinguished but landlocked jurist has been uncritically echoed down the years by other authors as evidence of an established principle.[5] The factual considerations adduced in support of this position were thus summed up by Fulton in 1911:

> The other class of fisheries referred to, for sedentary animals connected with the bottom, such as oysters, pearl-oysters, and coral, which are found in shallow water, as a rule, and usually near the coast, have always been considered as on a different footing from floating fish. They may be very valuable, are generally restricted in extent, and are admittedly capable of being exhausted or destroyed; and they are looked upon rather as belonging to the soil or bed of the sea than to the sea itself.[6]

Some jurists, however, were not so ready to concede a special status to sedentary fisheries. Calvo expressed the opinion that such a derogation from the freedom of the seas would only be binding if sanctioned by formal agreements,[7] while Gidel in his great work declared that any exclusive claim to a sedentary fishery "cannot be considered legitimate except under certain conditions rigorously fulfilled," since it represented

[3] Art. 13. Text in 1958 Geneva Conference, 2 Official Records 139–141, U.N. Doc. A/CONF.13/38; 52 A.J.I.L. 851–858 (1958).

[4] Le Droit des Gens (translated by Fenwick in Classics of International Law), Book I, Sec. 287 (1758).

[5] *E.g.*, 1 Twiss, The Law of Nations 312–313 (2d ed., 1884); 1 Oppenheim, International Law 333 note (1st ed., 1905); 1 Westlake, International Law 190–191 (1st ed., 1904); Lindley, Acquisition and Government of Backward Territory in International Law 68–69 (1926). All cite Vattel as authority; all, incidentally, are British.

[6] Fulton, The Sovereignty of the Sea 696–697 (1911).

[7] 1 Calvo, Droit International 481 (5th ed., 1896). An example of state practice in accord with Calvo's view was the British refusal in 1825 to recognize a French claim to property rights in oyster beds more than one league off the French coast—a dispute settled by the Anglo-French Convention of 1839. 2 Smith, Great Britain and the Law of Nations 148–149 (1935); Leonard, International Regulation of Fisheries 35–42 (1944).

a clear infringement of the principle of freedom.[8] These conditions in his view called for prolonged and effective use without objection from other states.

The legal nature of the alleged exclusive right over sedentary fisheries, and the method of its acquisition, were problems of some difficulty in the days before the shelf concept. In the opinion of most of its proponents, the right was more than a mere authority to control the fishing activity: it amounted rather to a right of property in the beds themselves and their contents. In support of this view much was made of the seeming similarity to crops on land, and the oysters or other species were often spoken of as a *fructus* of the seabed, to be harvested rather than hunted like swimming fish. From Sir Travers Twiss in 1871 to writers of the 1950's this concept of *fructus* has been a beguiling one.[9]

A number of leading scholars, such as Gidel, in the passage referred to above, held the claimed right to be essentially prescriptive in nature, depending on long and uncontested usage, preferably from a time immemorial or at least from a time antedating modern concepts of maritime jurisdiction. The very ancient pearl fishery in the waters between Ceylon and India is often cited as an example of such a fishery with a long history of control by local rulers.[10] The element of prescription at times loomed so large in legal thinking that in 1893 the British Government was advised that it lacked power to regulate a pearl fishery more than three miles offshore from certain Burmese islands, because there did not appear to be the immemorial claim to control which characterized the Ceylon fishery.[11] As this instance showed, prescription alone was sometimes inadequate to reach the desired end: not only was evidence of long usage often lacking, but there were inconvenient theoretical difficulties about applying prescription in the strict sense, with its connotation of adverse possession, to areas of the high seas.

In a much-cited article first published nearly forty years ago, Sir Cecil Hurst put forward the "theory of the bed of the sea being a no man's land in which property can be and is acquired by occupation."[12] This approach significantly shifted emphasis away from the elements of immemorial usage and acquiescence by others important to a prescriptive title. On an occupation theory, the affirmative acts of appropriation and

[8] 1 Gidel, Droit International Public de la Mer 500–501 (1932).

[9] For Twiss, see 2 Smith, Great Britain and the Law of Nations 121 (1935). Among modern commentators see O'Connell, "Sedentary Fisheries and the Australian Continental Shelf," 49 A.J.I.L. 185, 206 (1955); Johnson, "The Legal Status of the Sea-Bed and Subsoil," 16 Zeitschrift für Völkerrecht 469 (1956). *Contra*, Mouton, The Continental Shelf 150 (1952).

[10] After some years of decline, efforts are reportedly now being made in India to revive the pearl and chank fishing industry. During the 1960 season a record number of 15,000,000 oysters were said to have been taken off Tuticorin. New York Times, Aug. 25, 1960.

[11] 1 McNair (ed.), International Law Opinions 259–264 (1956).

[12] Hurst, "Whose Is the Bed of the Sea?" 4 British Year Book of International Law 34, 42 (1923–1924).

control performed by the claiming state become of primary significance: they need not go far back if they are definite and reasonably effective. Occupation is thus a somewhat easier and shorter way to title, and probably for this reason it won favor with many proponents of a special status for sedentary fisheries. Official support for this view was given by the British Government in statements both in 1928 to the preparatory committee for the 1930 League of Nations Codification Conference and in 1952 to the International Law Commission;[13] although prescription was not ignored in these statements as a possible basis of title, stress was laid on occupation and use, and in 1952 the thesis of Hurst was expressly endorsed. The approved view was summed up as follows in Oppenheim through 1948:

> Although it is traditional to base some of these cases on the ground of prescription, it is submitted that it would be not inconsistent with principle, and would be more in accord with practice, to recognise frankly that, as a matter of law, a State may by strictly local occupation acquire, for sedentary fisheries and for other purposes, sovereignty and property in the surface of the sea-bed, provided that in so doing it in no way interferes with freedom of navigation and, perhaps we should add, with the breeding of free-swimming fish.[14]

II

The passage from Oppenheim reflects the terms in which the question stood at the time it came to be considered by the International Law Commission as part of its study of the law of the sea. During the course of this study, the Commission recognized as early as 1950 the possible special character of sedentary fisheries, and it examined this topic specifically at its sessions in 1951, 1953, and 1956. Inasmuch as its work was the basis of the conventions framed at the Geneva Conference in 1958, it is instructive to note how its views developed during this formative period.

In 1951 the Commission prepared seven draft articles on the continental shelf and four additional articles on related subjects. Of these four, the third dealt with sedentary fisheries in the following terms:

> The regulation of sedentary fisheries may be undertaken by a State in areas of the high seas contiguous to its territorial waters, where such fisheries have long been maintained and conducted by nationals of that State, provided that non-nationals are permitted to participate in the fishing activities on an equal footing with nationals. Such regulation will, however, not affect the general status of the areas as high seas.

In the accompanying commentary, the Commission declared that in its view

> sedentary fisheries should be regulated independently of the continental shelf. The proposals relating to the continental shelf are

[13] League of Nations Doc. C.74.M.39.1929.V, 162. Views to the same effect were also expressed by India, New Zealand, the Union of South Africa, and Australia: *ibid.* 106, 166, 176; Doc. C.74(a).M.39(a).1929.V, 2. The 1952 comments are printed in International Law Commission, 1953 Report 69–70, U.N. Doc.A/2456.

[14] 1 Oppenheim, International Law 576 (7th ed., Lauterpacht, 1948). In the 8th ed. (1955), p. 628, the phrase "by strictly local occupation" was omitted.

> concerned with the exploitation of the mineral resources of the subsoil, whereas, in the case of sedentary fisheries, the proposals refer to fisheries regarded as sedentary because of the species caught or the equipment used, e.g., stakes embedded in the sea-floor. This distinction justifies a division of the two problems.[15]

At this stage, it is clear, the Commission considered the shelf regime to be confined to mineral resources, and thought of sedentary fisheries as including those carried on with fixed devices. Its tendency was to treat them much as it was treating other high-seas fisheries: especially noteworthy in this regard was the restriction of the coastal state's power to regulation only, and the affirmation of the right of non-nationals to take part on an equal footing.

When the Commission reverted to the problem two years later, it adopted a position diametrically opposed to its earlier view. In the 1953 version of its draft, the article on sedentary fisheries was dropped entirely and replaced by two paragraphs in the commentary. In these the Commission stated that it had come to the conclusion that:

> the products of sedentary fisheries, in particular to the extent that they were natural resources permanently attached to the bed of the sea, should not be outside the scope of the régime adopted and that this aim could be achieved by using the term "natural resources." It is clearly understood, however, that the rights in question do not cover so-called bottom-fish and other fish which, although living in the sea, occasionally have their habitat at the bottom of the sea or are bred there. Nor do these rights cover objects such as wrecked ships and their cargoes (including bullion) lying on the sea-bed or covered by the sand of the subsoil.[16]

The Commission went on to say that existing rights of nationals of other states must be respected; but it made it plain that, with this qualification, the coastal state's rights over the shelf extended fully to sedentary fisheries, which therefore no longer required separate treatment.

It would not appear that this change of view came about as the result of any great outcry by governments or scholars against the Commission's earlier stand. In the comments made by governments on the 1951 draft, only that of Denmark had proposed the placing of sedentary fisheries under the shelf regime, although Chile, not surprisingly, had been in favor of so placing all fisheries. Several governments had concurred in general with the draft article, some had asked for a more precise definition of the fisheries covered, and others (including the United States) had made no comment at all.[17] Nor had the draft article attracted any great criticism from learned bodies or private commentators.[18]

[15] International Law Commission, 1951 Report 20, U.N. Doc. A/1316; 45 A.J.I.L. Supp. 145–146 (1951).

[16] International Law Commission, 1953 Report 14, U.N. Doc. A/2456; 48 A.J.I.L. Supp. 32 (1954).

[17] The comments of governments on the 1951 draft are printed in the Commission's 1953 Report 42–72.

[18] Mouton, The Continental Shelf 151–161 (1952); Young, "The International Law Commission and the Continental Shelf," 46 A.J.I.L. 127–128 (1952).

The generally favorable attitude thus disclosed led the Commission's special *rapporteur,* Professor François, to propose in his report that the draft on the continental shelf be modified to read "mineral resources" rather than "natural resources," with the definite intent of excluding sedentary fish from the ambit of the coastal state's authority.[19] After considerable inconclusive discussion, Mr. (later Judge) Lauterpacht moved the retention of the phrase "natural resources," and made it clear that he meant to include therein pearl and oyster beds and sponge deposits. This view prevailed by a vote of six to four, with three abstentions. Subsequent efforts to reopen the matter were unsuccessful, the decision stood to bring sedentary fisheries under the shelf regime, and the 1951 draft article was eliminated.[20] Despite this unanticipated reversal of view, the Commission's action evoked as little reaction from governments as had its earlier stand—a result attributable in part, no doubt, to the fact that not many states have a direct concern in sedentary fisheries outside of territorial waters.[21] Although some writers voiced objection,[22] the Commission at its 1956 session retained almost verbatim its 1953 language on the subject, which thus became part of the commentary accompanying its final comprehensive draft articles on the law of the sea.[23]

One major point never adequately determined during the Commission's deliberations was the precise meaning of the word "sedentary" as applied to fisheries. After 1953 it seems to have been narrowed down in the Commission's thinking to fisheries for sedentary species; this reduced the confusion somewhat, but no firm rule was proposed for ascertaining what species were sedentary and hence subject to the shelf regime. Although this question was still left hanging even in the final draft, the Commission should not be criticized too harshly for its failure to provide an answer. On the whole, its reluctance to be more specific reflected a sophistication about the facts of marine life which had grown greatly in six years, and an awareness of the errors likely to occur in any amateur formula. It should also be noted, in fairness to the Commission, that, although it received much valuable data on fishing in general from the work of the Technical Conference on the Conservation of the Living Resources of the Sea held at Rome in 1955, this material included almost no information on sedentary fisheries.[24]

[19] U.N. Doc. A/CN.4/60, pp. 104–105 (Feb. 19, 1953).

[20] International Law Commission, 5th Session (1953), Summary Records of the 198th–201st, 205th, 208th, 209th Meetings, U.N. Docs. A/CN.4/SR. 198–201, 205, 208, 209.

[21] "The American oyster fishery is domestic, since that fishery is confined to the coastal waters." Statement of the U.S. Acting Commissioner of Fisheries, Dec. 7, 1935, quoted in 1 Hyde, International Law 760 (2d ed., 1945).

[22] Mouton, "The Continental Shelf," 85 Hague Academy Recueil des Cours 441–445 (I, 1954), a well-considered analysis. A full-length study critical of the Commission's marriage of sedentary fisheries and the continental shelf is Papandreou, La Situation Juridique des Pêcheries Sédentaires en Haute-Mer (1958).

[23] International Law Commission, 1956 Report 42, U.N. Doc. A/3159; 51 A.J.I.L. 154 (1957).

[24] Report of the Conference, U.N. Doc. A/CONF.10/6 (July, 1955); Papers Presented at the Conference, U.N. Doc. A/CONF.10/7 (January, 1956).

On the basis of its limited knowledge, the Commission felt unable to do more than set up two limitations in its final remarks on the subject. On the one hand, it observed, sedentary fisheries certainly included "natural resources permanently attached to the bed of the sea"; on the other hand, they did not, in its opinion, embrace "so-called bottom-fish or other fish which, although living in the sea, occasionally have their habitat at the bottom of the sea or are bred there." But in between these extremes there was left a vast area of uncertainty, its extent depending on the exact meaning to be given the word "sedentary."

The difficulties of practical definition which this problem presents can perhaps be shown most effectively by brief reference to a few facts of nature. For example, it might seem simple (though possibly too strict) to limit the sedentary category to so-called sessile species—those having an actual physical attachment to the seabed, like sponges, corals, and the edible mussels. Yet this would be imprecise without further reference to a stage of life, for most animals, sessile in adulthood, go through an earlier free-swimming period; while others, like some jellyfish, are just the reverse.[25] So restricted a definition would also exclude such species, often called sedentary, as the *bêche-de-mer* (a sea-cucumber esteemed as a delicacy in the Orient), which creeps and burrows on the bottom, and the commercially important gold-lip pearl oyster, which at maturity merely lies on the seabed.[26] Then there is the chank, memorably described by a learned British judge as "an incompletely sedentary crustacean," since it "moves very slowly: *eppur si muove.*"[27] But even if such relatively slow creatures were to be considered sedentary, there would arise still further questions regarding crustaceans such as lobsters, crabs, and the like, which can display considerable speed and agility but which generally require in adulthood a surface to move upon.[28] From lobsters and crabs it is biologically only a step to their relatives, the shrimp, but these for the most part are swimming fish excluded by the Commission from the shelf regime.

From examples such as these and many others, the conclusion is inescapable that in nature there is no simple line of demarcation between sedentary and other fish, but only a long series of gradations from the unquestionably fixed at one extreme to the unquestionably free at the other. Thus a key problem before the Geneva Conference in connection with sedentary fisheries and the continental shelf was the framing of a definition of such fisheries that would have some practical value in determining the application of the appropriate legal regime. Fortunately, the Conference was assisted by technical experts familiar with the scientific facts; and it

[25] Sverdrup, Johnson, and Fleming, The Oceans 306, 315, 319–320 (1942).

[26] Allan, Australian Shells 266 (1950).

[27] Lord Asquith of Bishopstone, Award in Petroleum Development Ltd. *v.* Sheikh of Abu Dhabi, 1955 Int. Law Rep. 155 note.

[28] The spiny lobster of the Gulf of Mexico, a pedestrian, has been known to travel 100 miles in about as many days. Walton Smith, "Biology of the Spiny Lobster," U.S. Fish and Wildlife Service, Fishery Bulletin 89, Gulf of Mexico: Its Origin, Waters, and Marine Life 464 (1954).

further benefited from having before it, in one of its preparatory documents, a valuable study prepared by the Secretariat of the Food and Agriculture Organization. This set forth, briefly but lucidly, useful data illustrating the complex relationships of living organisms with each other, the sea, and the seabed.[29]

III

When in due course Article 68 of the International Law Commission's final draft was taken up in the Fourth Committee (Continental Shelf) of the Geneva Conference, the meaning to be given to the phrase "natural resources" was the subject of much debate and several proposed amendments.[30] The opinions expressed fell into three main groups: one which favored a strict construction of the term as applying only to mineral or non-living resources; another which sought an enlarged interpretation, to bring at least bottom-fish and perhaps all fish in shelf waters within the shelf regime; and a third group in the center which agreed in general with the Commission's approach but was ready to welcome a more precise definition than the Commission had supplied. Only one speaker suggested that the whole question of fisheries, including sedentary fisheries, was one properly for the Third Committee (Conservation of Living Resources), although several suggested the possibility of joint consultations.

In the discussion, spokesmen for states in the first group, which included among others Greece, Japan, the Federal Republic of Germany, and (for a time) Sweden, argued that restriction of the shelf regime to mineral resources would be in harmony with the original purpose of the doctrine, *i.e.*, to provide a guiding principle in a new field and not to overturn established concepts of fishery law. They emphasized the difficulty of defining sedentary fisheries satisfactorily and the danger of creeping encroachment on the general freedom to fish in the high seas. Also pointed out was the impracticability, whatever the theoretical right, of conducting an international fishery for mobile species in the same waters as a sedentary fishery under a different regime: interference and conflict would be inevitable. But these arguments were apparently not persuasive, as the views of the first group were heavily voted down by a tally of 52 opposed, seven in favor, with six abstentions.

The states in the second group, among which Burma, Mexico, Peru, and Yugoslavia were prominent, agreed with the first that there was danger of conflict if fisheries were to be divided between two separate regimes, but urged this as a reason to bring at least all bottom-fish under the shelf regime and the authority of the coastal state. On the basis of the FAO study and other scientific data, they claimed that biological dependence

[29] Preparatory Doc. No. 10, Examination of Living Resources Associated with the Sea Bed of the Continental Shelf, U.N. Doc. A/CONF.13/13 (Nov. 6, 1957).

[30] The proceedings may be followed in 1958 Geneva Conference, 6 Official Records 48–72, U.N. Doc. A/CONF.13/42. See also Whiteman, "Conference on the Law of the Sea: Convention on the Continental Shelf," 52 A.J.I.L. 638–640 (1958); García-Amador, Exploitation and Conservation of the Resources of the Sea 126–128 (1959).

on the seabed of the shelf was not confined to sessile or creeping species, but was an essential feature of life for many free-swimming fish as well. Although this position won slightly more support than that of the first group, it was nevertheless decisively rejected in the critical test by a vote of 42 opposed, 11 in favor, with 11 abstentions.

In the middle group, support was centered early on a draft amendment proposed jointly by Australia, Ceylon, Malaya, India, Norway, and the United Kingdom, and supported subsequently by both the United States and the Soviet Union. In the form in which it was eventually adopted by the Committee (41 in favor, 11 opposed, 17 abstentions) as paragraph 4 of the revised Article 68, it read as follows:

> The natural resources referred to in these articles consist of the mineral and other non-living resources of the seabed and subsoil together with living organisms belonging to sedentary species, that is to say, organisms which, at the harvestable stage, either are immobile on or under the seabed or are unable to move except in constant physical contact with the seabed or the subsoil; but crustacea and swimming species are not included in this definition.[31]

The sponsors stressed in the debate that their text was intended as a compromise based on "considerations of legal principle and practical utility" and resulting from "close consultation between lawyers and biologists." As the representative of Ceylon explained, the authors had divided marine organisms into (1) those which were immobile; (2) those which moved only a few feet or less; and (3) those which moved considerable distances, *i.e.*, swimming species and crustacea; and it had seemed reasonable to them to draw the line between (2) and (3). These contentions in favor of all parties meeting on a middle ground at length prevailed, although a Mexican move to delete the words "crustacea and" was very narrowly rejected.

In subsequent plenary meetings of the Conference, it was decided to incorporate the provisions on the continental shelf in a separate convention and draft Article 68 became Article 2 of the new instrument. In the same meetings, the final phrase of paragraph 4, "but crustacea and swimming species are not included in this definition," was stricken out. The decision was taken in two steps, the first vote being on the words "crustacea and," the second on the remainder of the phrase. Although the balloting has been described by a delegate as confused,[32] in both cases the words were deleted by substantial majorities. The wording of the article in final form, as quoted at the beginning of this study, was then approved by a vote of 59 to five, with six abstentions.[33]

As finally adopted, the text of paragraph 4 showed considerable development over the language of the International Law Commission draft, and

[31] 1958 Geneva Conference, 6 Official Records 143, U.N. Doc. A/CONF.13/42.

[32] Whiteman, *loc. cit.* 638 note.

[33] The proceedings in the plenary sessions are reported in 1958 Geneva Conference, 2 Official Records 13–15, U.N. Doc. A/CONF.13/38.

went far toward answering some of the unsettled questions of definition. Thus the phrase "at the harvestable stage"—which was declared to refer to the harvestable stage of the creature's life cycle—furnishes a common-sense rule for determining at what point of time the sedentary character of a species is to be ascertained. The term "sedentary" is also given greater precision as meaning organisms "immobile on or under the seabed" or at least "unable to move except in constant physical contact therewith." This covers satisfactorily both attached and unattached species that are not self-propelled,[34] as well as the various forms of creeping and burrowing animals. At the same time, creatures which are free-swimming at the harvestable stage, even though, like halibut, they spend much time at the bottom, are necessarily excluded. While, no doubt, some technical holes could be picked in the text, it would appear to deal adequately for most purposes with the problem of determining which species come under each regime. Of the creatures important to man, only the crustaceans still seem to be in an uncertain position. These had been expressly excluded in the sponsors' original draft of the text; and Dr. García-Amador has affirmed, with the authority of first-hand knowledge, that this is still the case.[35] Yet it is submitted, with all respect, that this is not self-evident. Certain crustaceans, such as the spiny lobster, would appear to meet the requirement of being at the harvestable stage in constant physical contact with the seabed, and so to come within the shelf regime. Doubt on this point may persist until resolved by practice.

IV

What has been the effect of subjecting sedentary fisheries to the shelf regime and what would appear to be their future status under the principles framed at Geneva? The answer must be in some degree theoretical, for the convention has not yet entered into force and the amount of national legislation and practice influenced by it remains small.[36] But with an eye to the future it may be useful to consider briefly the true position of such fisheries in the absence of the shelf doctrine and then examine the probable impact of the convention.

As noted earlier in this discussion, the concept of a special status for sedentary fisheries is far from new. Yet in spite of some respectable support, it may be doubted whether it ever received such broad acceptance

[34] It seems unlikely that controversy will soon arise over oysters grown on racks suspended in the water, as is the case in certain Norwegian fjords. This technique is employed because the deep bottom waters of the fjords, cut off from free circulation with ocean waters by high sills at the entrances, accumulate amounts of hydrogen sulphide toxic to oysters and most marine life. Sverdrup, Johnson, and Fleming, The Oceans 802 (1942). Yet one may speculate: Are such oysters sedentary?

[35] García-Amador, Exploitation and Conservation of the Resources of the Sea 128 (1959).

[36] An example is the United Arab Republic decree on the continental shelf of Sept. 3, 1958, which is framed in harmony with the convention. Text (translated) in 54 A.J.I.L. 491–492 (1960).

as to become a general rule of law.[37] It never acquired such notoriety as to make a lack of challenge equivalent to acquiescence, and from time to time some examples of state practice ran against the concept.[38] This is not to say that in some particular instances, such as the ancient pearl fisheries of Ceylon and the Persian Gulf, a special status might not have been justifiably asserted; but if so, this would have been because of unique local considerations and not because of any universal rule applicable to all sedentary fisheries.

Further, in the absence of the shelf doctrine, the case for a special status would probably have grown weaker rather than stronger, as scientific knowledge of the world's ocean fisheries increased during the twentieth century. The arguments which distinguished sedentary fisheries from others on the reasoning that they were always in the same place, were harvestable like a crop, and were capable of exhaustion, tended to become less and less persuasive in the light of new data. This was not because the contentions were false, but because they were found to be distinctions without a difference. Fisheries for mobile species were also shown to be often tied closely to particular areas, to be capable of exhaustion, and to respond like a crop to good husbandry. In the face of growing world demand for food and marine products, it began to seem more and more sensible to regard all the major fish populations as crops, gradually to be brought as required under prudent management for the long-term benefit of all, particularly since it was felt that the scientific techniques for such a task were now known or could be developed. On any such global approach, it seems probable that there would have appeared to be no reason for perpetuating an outmoded and unhelpful division into sedentary and non-sedentary classes: the problem would have been one of the living resources of the ocean as a whole.

Hence it seems only a slight exaggeration to suggest that proponents of national claims to sedentary fisheries were rescued from an increasingly precarious position by the timely advent of the continental shelf concept, which first became important in the years after 1945. (For that matter, the concept was also a gift to the proponents of national claims to all offshore fisheries.) No longer was it necessary to rely on dubious factual arguments or on debatable applications of the principles of prescription, usage, occupation, and acquiescence. All that was now required was to establish a connection between the sedentary species and the shelf and then to contend that this connection made the species one of the natural

[37] *Cf.* the rejection by the International Court of Justice in the Fisheries Case of the ten-mile limit for territorial bays, on the ground of its not having "acquired the authority of a general rule of international law." [1951] I.C.J. Rep. 116, 131.

[38] See note 7 above. Another instance may be found in the Australian pearling legislation of 1888 and 1889, which undertook to regulate pearling beyond territorial limits, but which, in accordance with ordinary jurisdictional principles, was expressly confined to British ships. Federal Council of Australasia, Queensland Pearl-Shell and Bêche-de-Mer Fisheries (Extra-territorial) Act, 51 Vict. No. 1 (1888); Western Australian Act, 52 Vict. No. 1 (1889); texts in 18 Hertslet, Commercial Treaties 573, 576.

resources of the shelf, subject to the exclusive control of the coastal state.[39] The fact that the shelf concept in its original form had been carefully restricted to mineral resources of the seabed and subsoil did not long inhibit efforts to expand its scope to include sedentary fisheries and more. Recent years have seen a number of attempts to bring all marine organisms on the shelf or in the superjacent waters under the control of the coastal state by means of the shelf doctrine; and it is difficult to deny that some of the arguments which support the association of sedentary species with the shelf tend logically to support a similar association of at least some bottom-fish, if not all fish found in the shelf waters. This ultimate extension has been resisted as too extreme an innovation by states mindful of the traditional freedom to fish in the high seas and with an interest in preserving that freedom; but the Continental Shelf Convention affirms their concession that certain species should come under the shelf regime. This represents a fundamental change in the rationale of a special status for sedentary fisheries. As a distinguished commentator observed when the International Law Commission first adopted this view in 1953, "What was a harmless local anomaly has been made into a dangerous general rule."[40]

Whatever the abstract merits of the points just discussed, it appears that henceforth the status of sedentary fisheries will have to be considered in the context of the continental shelf doctrine.[41] This is likely to be the case, whether or not the convention itself actually enters into force; but in either event the convention standards may be expected to influence state practice for at least some years to come. For this reason it would seem pertinent to consider just what status it does provide, what its scope would appear to be, and what problems might arise under it.

By the terms of Article 2, a coastal state exercises over sedentary species on the shelf "sovereign rights" for the purpose of exploiting them. These rights are declared to be exclusive, and no other state can join in the exploitation without permission. It is not wholly clear whether this bar extends to states which had previously participated, and thus destroys a pre-existing interest of their nationals. It should not do so; and in its 1956 report the International Law Commission rightly affirmed that interests

[39] The effect of the change in basis is easily seen in the history of the 1952–1953 Australian legislation asserting jurisdiction over pearl fisheries beyond territorial limits. The Pearl Fisheries Act 1952, Act. No. 8 of 1952, was apparently conceived on traditional theories of occupation and use, and its validity against non-nationals was seriously questioned. Pankhurst, "The Fisheries Act and the Pearl Fisheries Act," 1 Sydney Law Review 96–104 (1953). The Act was never brought into force in its original form. After the International Law Commission's reversal of view in 1953, the statute was immediately amended so as to found the claim of jurisdiction on the shelf doctrine. Pearl Fisheries Act (No. 2) 1953, Act No. 38 of 1953.

[40] Mouton, "The Continental Shelf," 85 Hague Academy Recueil des Cours 444 (I, 1954).

[41] Although sedentary fisheries may exist in shallow areas of the high seas which do not lie upon any continental shelf, they are not believed to present a problem of practical importance.

of this kind should be recognized and safeguarded.[42] The convention itself, however, contains no such protective provision. In this emphasis on exclusiveness it goes beyond both the traditional older views and the Commission's first draft article in 1951, which expressly confirmed the right of non-nationals to participate. This is also shown by the fact that, thanks to the shelf doctrine, there is no longer any requirement of use or occupation: however new the coastal state's interest may be, it is paramount. Indeed, it is clear from the Conference discussions that the coastal state need not engage at all in actual exploitation in order to preserve its rights. In all these respects, the convention confers on the coastal state much broader rights, at much less cost to it in time and effort, than it could ever have expected to acquire in an earlier day. From one standpoint this is progress, for the establishment of a basis for orderly control over exhaustible natural resources of this kind is not to be undervalued. But it remains to be seen whether this is the best means to that end in terms of the general interest.

The definition in Article 2(4) of the species subject to the shelf regime does not go beyond those which have been the object of traditional claims in the past. In this respect the convention does not break new ground, although there may be some question in future about possible loose ends in the definition, as has already been mentioned. Precision on this point is not only desirable for its own sake but also because of the need to have the Shelf Convention march in step with its companion instrument on fishing and the conservation of living resources. The latter document is framed in comprehensive terms and makes no exception in its language for living resources under the shelf regime; but the general tenor of its provisions, with their high regard for the interests of the coastal state, would seem to make unlikely as a practical matter any serious conflict over the allocation of a particular organism to one regime or the other.

It must be recognized, however, that the extension of the shelf concept to cover certain living resources in the sea does raise other risks of a potentially more serious nature. One such hazard is that the exclusive rights possessed by the coastal state over sedentary fisheries might impede rather than promote beneficial exploitation; that valuable resources would lie idle because the coastal state was unable or unwilling to make use of them and no other state could lawfully do so. A lesser form of this danger might arise in cases where the exploitation under the auspices of the coastal state was unnecessarily wasteful or costly.

A second type of hazard might occur in the situation where the coastal state's regime for sedentary fisheries amounted to an excessive interference with other fisheries or other uses of the waters in an area. The waters above the shelf are high seas, and the coastal state is bound by Article 5(1) of the convention not to interfere unjustifiably with their use; but the difficulty here is that a reasonable regulation to protect a sedentary fishery

[42] International Law Commission, 1956 Report 42, U.N. Doc. A/3159. But as Professor Waldock has observed, explanations in a commentary are unlikely to impress states bent on enlarging their maritime claims.

—*e.g.*, a prohibition against the passage or anchorage of vessels—may still be in fact a substantial hindrance to some other legitimate activity. The conflict is likely to be worse than in the case of mineral resources in the subsoil, for in the latter instance the two activities involved are not both being carried on in the same medium. Oil, for example, can usually be drawn from an offshore well without permanently disrupting a neighboring fishery; but the banning of trawling over oyster banks puts the trawler wholly out of business in that vicinity. It is obvious that in situations of this kind the inclusion of sedentary fisheries in the shelf regime increases the potential control which a coastal state can exert over other uses of the high seas lying above its shelf.

The possibility of interference perhaps need not be a major source of concern as long as a state acts with responsibility and good faith in the exercise of its authority. A more alarming prospect would appear, however, if a state should decide by any chance to use its powers for some ulterior purpose. Thus regulations ostensibly designed to safeguard sedentary fisheries might in fact be intended to eliminate foreign competition from a free fishery in the same waters, or to obstruct navigation en route to an unfavored destination, or to disguise police measures for other purposes. Such actions would be a wholly wrongful abuse of power; but if they were cleverly conceived, countermeasures might be difficult to frame effectively.

One final risk, which perhaps is potentially more threatening than any other to the existing legal character of high-seas fisheries, is that of encroachment: the gradual extension of the unilateral authority of the coastal state over non-sedentary fisheries in the waters above the shelf. It has been said with some truth that the agreement to apply the shelf regime to sedentary fisheries was the opening wedge which makes this possibility conceivable. Once any living resource was brought under the shelf regime, the way was cleared to contend that others also properly belonged there. Scientific arguments of considerable plausibility can be adduced to show that bottom-fish are as closely related to the shelf as some sedentary varieties, and the arguments do not always stop there. Judging from views already expressed at the Geneva Conference and elsewhere, it will probably be only a matter of time before there is considerable pressure on the international front to bring at least some species of swimming fish under the authority of the coastal state by means of the shelf concept. If this is once successful, it would seem difficult to maintain any further barrier against unilateral claims to control almost all other varieties of living resources in the shelf waters. It is to be hoped that the system established in the Conservation Convention will prove sufficiently attractive to enough states to reduce the pressures of unilateralism and prevent new controversies in this field.

Up to the present time, it is fair to say, the risks discussed have been only risks, and it is not impossible that they will remain no more than that. Although the extension of the continental shelf doctrine to embrace sedentary forms of marine life may have been logically unsound, this

does not mean that the solution worked out in the Continental Shelf Convention need be unsatisfactory from a practical standpoint. The convention reflects a remarkable measure of agreement among the delegations of many states, and its framing was an "encouraging example of the codification and progressive development of a special section of international law to which modern technology has given prominence."[43] Even now, two years after its signing, it cannot be predicted with certainty how wide its acceptance will be, but the prognostications are not unfavorable. It may not be an ideal formulation, but without it the prospects would probably be even more confused and uncertain.

[43] Sørensen, "Law of the Sea," International Conciliation, No. 520, p. 231 (1958).