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Development of Ocean Space - An International Dilemma

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DEVELOPMENT OF OCEAN SPACE—AN INTERNATIONAL DILEMMA*

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GENERAL PROBLEMS OF OCEAN SPACE

Science and technology are giving us power previously attributed to God alone. Advances in medical science, biology, and physics suggest that in a not too remote future it may be possible greatly to prolong useful human life and to create new forms of life; perhaps even a new man.[1] Nuclear energy, advances in engineering and a wide range of scientific fields, some totally new, are producing a new civilization. The dimensions of our world are exploding: on the one hand we are reaching to the planets, on the other to the mysterious depths of the oceans. We have, or soon will have, the knowledge and the power to realize the age-old dream of the prophets: the Kingdom of God on Earth.

Man can, however, use his unprecedented new power, wittingly or unwittingly, to destroy both himself and the very earth on which he lives. Nuclear energy, as we all know, can be used to destroy civilization. The recent discovery of anti-matter may within a generation give us the awesome power to destroy our planet. The infant science of genetic engineering could well place in the hands of government the power of creating a race forever destined to slavery. Our intrusion into the ocean depths in search of knowledge, wealth, or strategic advantage will enable us to appropriate, exploit, and also irreparably to contaminate an environment increasingly essential to all. Thus the present decade will probably mark the most momentous crisis ever experienced by mankind in its million year history: at stake is the survival of man.

It is increasingly accepted that the use of technology should be regulated by the state in the public interest. The vital challenge which we face is to extend this concept. We must convince states, in the interest of all, voluntarily to accept some limita-

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1. *See* G. TAYLOR, THE BIOLOGICAL TIME BOMB *passim* (1968).

tion on the manner in which they may use their technological capabilities. If we succeed in making progress in expanding international law to cover this new field, we may nourish the hope that our scientific knowledge and technological power will be used constructively and with increasing wisdom; if it becomes apparent that states will not accept necessary limitations to their traditional rights, there can be no doubt that international rivalries will compel the use of our unprecented technological capabilites for short term advantage without regard to long term consequences and the future will be dark indeed.

I would emphasize that scientific and technological advance is accelerating; we have little time to construct new international law to meet the vital needs of all states in the new world which is emerging. It is against this general background that we should view the contemporary debate on the oceans.

We all know that the seas cover more than two-thirds of our planet: the continents are but large islands in a global ocean. The ocean was the cradle of life; from the dark oceans the progenitors of man emerged. We still bear in our bodies—in our blood, in the salty bitterness of our tears—the marks of this remote past. But the ocean is more than man's past; it is his future. In the seas and oceans can be found unique opportunities for recreation for our urban populations, water for town and country, sources of new drugs; energy, food, and minerals in virtually inexhaustible profusion. Already scientists are living on the ocean floor for months at a time, perhaps soon the seabed will become part of our living space.

Increasingly, our civilization must turn to the seas, or rather return to the seas, to the seabed and to its sub-soil—to ocean space as a whole—for its continued existence. And this last great frontier on earth is becoming accessible to us at a critical point in time when increasing populations, spreading industrialization, and ever more urgent demands for improved standards of living are subjecting land-based resources to pressures they may not long be able to economically sustain.

In the past, for thousands of years, only the surface and upper layers of the ocean were used and exploited, mainly for navigation, in peace and war, and for fishing. Only late in the 19th century did man probe deeper with the first scientific expeditions, with the laying of the first transatlantic cables, and

with the construction of the first primitive submersibles. In the first half of this century, methods of exploration, use, and exploitation were improved and diversified. Minerals began to be extracted from sea-water; petroleum and sulphur began to be mined from under the ocean floor.[2]

During the past twenty years the pace of technology has greatly accelerated. Improved scientific methods and a host of new devices from underwater photography and television to deep submergence vehicles have enabled us to gather more knowledge about the deep seas and the seabed during this period than in all previous history. Technology is also permitting exploitation of living and mineral resources at ever greater, although still comparatively modest, depths. Thus, for instance, prototype subsea systems for deep water drilling and petroleum production capable of operating at depths exceeding 1,000 feet will probably be in operation this year. This is almost double the depth that had been thought economically feasible only a very few years ago. At the same time, deep saturation diving techniques enable man to live and work in depths up to 600 feet, and it is expected that this capability will extend to over 1500 feet in the near future.

The potential benefits, both to individuals and to the world community, that can be derived from the exploration, use, and exploitation of ocean space are obvious; the dangers are less so. The latter derive not so much from bad intentions on the part of individuals or states as from the pressures of international economic, political, and military competition and from inertia, due to rooted habits of thought, in the face of massive intensification and diversification in the use and exploitation of all dimensions of an environment where traditionally *laissez faire* has been the rule.

One hundred, even fifty years ago, recreational use of coastal waters was rare; now beaches near coastal cities are crowded; recreational sailing is popular and skindivers and recreational submersibles are penetrating the deeper strata of the seas.[3] Ships are becoming bigger; not long ago a supertanker carried 35,000 deadweight tons. Now a fleet of ships each with nearly

2. *See generally* Report of the Commission on Marine Science, Engineering and Resources, *Our Nation and the Sea—A Plan for National Action*, H.R. Doc. No. 91-42, 91st Cong., 1st Sess. ch. 4 (1969).

3. *See generally id.* at ch. 3.

ten times that capacity is coming into being. An accident now could have far more serious consequences for the marine environment than a few years ago.

Fixed navigational aids in the seas, apart from lighthouses, were rare outside the immediate approaches to ports; now the seabed is crisscrossed by cables and increasingly by pipelines, and a variety of weather and navigational buoys dot the oceans. Structures erected on the seabed were virtually unknown before the beginning of this century and were rare until twenty years ago. Now a forest of oil derricks covers some areas near the coast. Underwater oil storage tanks, scarcely conceivable even five years ago, are being built; underwater habitats are beginning to be erected.

Until recently, military uses of ocean space were limited to the surface and to the upper layers of the waters. Now a variety of deep submergence vehicles penetrate thousands of feet, sonar systems detect and track vessels moving on and under the surface of the oceans, and deployment of nuclear missile systems on the ocean floor is being discussed.

Finally, man, until recently, could safely utilize the sea as a receptacle for sewage and other effluents, confident that the wastes would be rapidly diluted, dispersed, and degraded. This now is becoming increasingly hazardous, for, as Wenk observes, "With the growth of population and the concentration of coastal industry . . . [t]he sheer bulk of the material to be disposed of and the presence of new types of non-degradable waste products are a special threat to coastal waters . . . ."[4] The dumping of radioactive wastes, intensified offshore exploitation of mineral resources, particularly petroleum; the runoff of chemicals and insecticides, such as D.D.T.; the effect of increasing air pollution—for instance, lead from the internal combustion engine is carried into the atmosphere and has a fallout rate into the sea of some 100,000 tons per year—all these are subjecting the ecology of the coastal margin of industrial countries to unendurable strains. Pollutants are beginning to appear with increasing frequency in the open ocean. Efforts, of course, are being made to mitigate the pollution of coastal water. The major thrust, however, is not so much to reduce the sources of pollution globally but for each

4. Wenk, *The Physical Resources of the Ocean*, SCIENTIFIC AMERICAN 167, 168 (Sept. 1969).

state to dispose of wastes in a way that will not impair the use of its coastal waters: already wastes are conveyed by pipes beyond territorial waters and projects are afoot to discharge wastes of whole regions many miles from the coast where currents can disperse them or carry them, hopefully diluted, to other countries. Such projects, however, can provide but temporary relief; not only is total ocean pollution not diminished but, in time, international disputes are bound to arise.

I do not, of course, intend to suggest that we are yet close to facing the necessity of closing the ocean to all human use, as Cousteau suggested might one day be necessary: the oceans can undoubtedly stand much abuse. But already the serious consequences of present practices are being felt. Pollution threatens some fisheries, and in many coastal areas mariculture is impossible: more than one-tenth of the shellfish producing waters in the United States are already unusable.

I would mention one further recent and very important development. Man has acquired the ability seriously to affect the ocean far from the site of his intervention, not merely through pollution. I do not refer so much to contemporary research on the possibility of diverting ocean currents to benefit the climate of some countries or to the possible use of nuclear explosives for seabed exploitation, but to more subtle forms of intervention. For instance, completion of the Aswan dam, by halting the annual release of Nile water into the Mediterranean, has increased the salinity and density of the surface water of the Eastern Mediterranean and has diminished the number of fish previously supported by the nutrient elements supplied to the sea by the river water.

We are witnessing also an intensification of exploitation of the oceans. In the field of fisheries, the world catch has trebled since 1938 from around 20 to over 60 million tons, and the catch is expected to double again within the next fifteen years through the use of deeper trawls and the exploitation of less desirable species of fish. But already there are misgivings; Soviet academician Boris Bykhovsky believes that present fishing methods are leading to a depletion of some fish stocks. This opinion seems to be borne out by our experience. Several whale species have already been virtually destroyed; while overfished stocks which in 1949 included only a few high-priced species such as plaice,

halibut, or salmon now include some tunas, cod, ocean perch, and even the North Atlantic herring. Further, fleets cannot continue indefinitely to move from an overfished area to another more distant and less fished.

About a dozen states are still responsible for some three-quarters of the world catch. They have negotiated agreements for the conservation of specific fishing stocks; sometimes based on the principle of abstention, more often on the principle of preference for the coastal state. A number of inter-governmental bodies, such as the Commission for the Conservation of Atlantic Tunas, the International North Pacific Fisheries Commission, and many others, have been established by treaty between some or all of these countries for the purpose of regulating commercial fishing and adopting conservation measures for particular stocks of fish. But, new nations are building or expanding their fishing fleets. Fishing methods are becoming more efficient, and it is virtually impossible to enforce an impartial and credible regulation of the catch of commercial fishermen on the basis of present inter-governmental mechanisms. Consequently, fishing is becoming more competitive and economically wasteful; cost of production per unit of catch is rising; and there is danger that the quantity and quality of the world catch may decline in the long term instead of increasing, as it could and should in the case of most fish stocks, were it possible rationally to apply the principle of the "maximum sustainable yield."

Furthermore, as Holt rightly observes, schemes for the cultivation of highly valued species of fish by transplanting the young to good high seas feeding areas or projects aimed at increasing yields by rearing young fish to viable size, are frustrated by the lack of protection afforded to investments by present international legal norms.[5] Absence of international norms also discourages the substantial investments required to develop and to exploit the mineral resources of the seabed.

In short, the unprecedented and accelerating development of technology which is making possible the intensified use and exploitation of ocean space for an increasing variety of purposes and in all its dimensions—surface, subsurface, and bottom—offers immense opportunities to mankind but also the immense

5. Holt, *The Food Resources of the Ocean*, SCIENTIFIC AMERICAN 178 (Sept. 1969).

danger of cumulative adverse change in a vital environment unless international norms are elaborated and institutions created to bring under the rule of law the fundamentally new situation which is emerging. International law must be capable of insuring that use and exploitation of ocean space take place in a manner that maximizes the possibilities of beneficial utilization, encourages scientific research, and minimizes conflicts and dangers to the marine environment. This present international law cannot do because of fragmentation of competence and absence of authority.

Contemporary international law, as embodied in the Convention on the Territorial Sea,[6] subjects a narrow but not precisely defined band of water—the territorial sea—to the full sovereignty of the coastal state and a wider band of water—called the contiguous zone—to coastal state control for the purpose of preventing infringement of its customs, fiscal, immigration, or sanitary regulations.[7]

Beyond the contiguous zone there are the high seas. These are open to all nations: nobody may appropriate the high seas, nor does anybody bear responsibility for that area. The freedoms of the high seas comprise freedom of navigation, freedom of fishing, freedom to lay submarine cables and pipelines, freedom of overflight,[8] and freedom of scientific research is generally considered to be also included in the formulation of article 2 of the Convention on the High Seas of April 28, 1958.[9] The freedom of the high seas has meant in practice the freedom of all states to use the high seas as they thought best, subject only to "reasonable regard to the interests of other states in their exercise of the freedom of the high seas."[10] Grotius based the concept of the freedom of the high seas on the supposed physical impossibility of exercising the same type of dominion over the oceans as on land. That concept basically rests on three postulates:

6. Convention on the Territorial Sea and the Contiguous Zone, *done* April 29, 1958, [1964] 2 U.S.T. 1606, T.I.A.S. No. 5639, 516 U.N.T.S. 205 (effective Sept. 10, 1964).

7. *Id.* art. 24, [1964] 2 U.S.T. 1612, T.I.A.S. No. 5639, 516 U.N.T.S. 211 (effective Sept. 10, 1964).

8. Convention on the High Seas, *done* April 29, 1958, art. 2, [1962] 2 U.S.T. 2314, T.I.A.S. No. 5200, 450 U.N.T.S. 82 (effective Sept. 20, 1962).

9. *Id. See also* Convention on the Continental Shelf, *done* April 29, 1958, art. 5, para. 8, [1964] 1 U.S.T. 474, T.I.A.S. No. 5578, 499 U.N.T.S. 316 (effective June 10, 1964).

10. Convention on the High Seas, *done* April 29, 1958, art. 2, [1962] 2 U.S.T. 2314, T.I.A.S. No. 5200, 450 U.N.T.S. 82 (effective Sept. 30, 1962).

(a) that the seas are so immense that conflict deriving from competing or conflicting uses is unlikely; (b) that the potential of the oceans in living resources is virtually inexhaustible; and (c) that the danger of large scale impairment of the marine environment is remote. These assumptions, however, are rapidly becoming invalid, since they are increasingly contradicted by experience. Conflicting uses of the sea are increasingly troublesome, desirable stocks of living marine resources are increasingly endangered, and ocean pollution is becoming a real threat: these developments are causing an increasing number of coastal states to regulate navigation and fishing in some areas of the high seas. Yet, attempts to change present international law governing the seas and the exploitation of their living resources into accordance with present needs which require a measure of international administration are unlikely to be successful at this stage in view of the multiplicity of rooted, extensive, and conflicting national interests and the vast body of existing customary and conventional international law on the subject.

International management of the oceans and their resources may be necessary in the interests of all; but, until present chaos is further compounded, until ocean living resources are seen globally to become scarcer, and until the ecology of the oceans is visibly and gravely impaired over the greater part of our planet, it is to be feared that states will prefer to continue with the present system, seeking to mitigate the negative effects of absence of authority and uncontrolled use by bringing ever wider areas of the seas under national regulation. This is occurring with increasing frequency; recently, for instance, Canada advanced a claim to special rights in Arctic waters, ostensibly to prevent their pollution.[11] This attitude, which is ultimately self-defeating and appears incomprehensible, is due in part to international political rivalries and in part to the reluctance of states to surrender any of their legal rights under international law to achieve a common beneficial purpose for all unless the imminence of common disaster makes such surrender imperative.

While a considerable, although largely outdated, body of international law exists for the seas, there is virtually no law with regard to the seabed. From a geological point of view the

11. Arctic Waters Pollution Prevention Act, C-202, Second Session, 28th Parliament, 18-19 Eliz. 11, 1969-70.

land underlying the seas and oceans is divided into continental shelf, continental slope and the abyss. The continental shelf can be defined as that area of the sea or ocean floor between the mean low water line and that sharp change in the inclination of the floor, occurring usually around the 130 to 150 meter isobath, which marks the landward edge of the continental slope.[12] The width of both the geological shelf and of the slope varies widely in different parts of the world. The abyss or ocean floor is a rolling plain scarred by deep gorges, called trenches, and studded by seamounts and guyots. Ocean basins are frequently separated by great mountain ranges, the peaks of which sometimes rise above the water.[13]

A variety of minerals—tin, diamonds, and phosphorite—are known to lie on the geologic continental shelf and have long been mined. Under the shelf floor, sulphur and vast quanities of hydrocarbons have been found and are being increasingly exploited. Some sixteen percent of world petroleum production is of offshore origin. This percentage may well double within the next ten years.

The continental slope is also known to contain gas and petroleum, but the means for their exploitation are only now becoming available. Little is known of the mineral resources of the abyss, beyond the vast quantities of manganese nodules containing manganese, copper, nickel, cobalt, iron, and other minerals in varying concentration. In some oceanic trenches, there are hot muds containing rich concentrations of gold, silver, copper, and zinc ores.[14]

Until the second world war, legal interest in the land underlying the world oceans was confined almost exclusively to rather

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12. In strict geological terminology, the continental shelf begins with the upland coastal plain and extends seaward until a marked increase in slope occurs. *See* Franklin, *The Law of the Sea: Some Recent Developments*, 53 NAV. WAR COLL. BL. BK. SER. 16 (1961); 1 A. SHALOWITZ, SHORE AND SEA BOUNDARIES 182-183 (1962). Legally, the Convention on the Continental Shelf defines the continental shelf as "the seabed and subsoil of the submarine areas adjacent to the coast [including the coasts of islands] but outside the area of the territorial sea, to a depth of 200 meters or, beyond that limit, to where the depth of the superadjacent waters admits of the exploitation of the natural resources of the said areas." Convention on the Continental Shelf, *done* April 29, 1958, art. 1, 1964, 1 U.S.T. 473, T.I.A.S. No. 5578, 499 U.N.T.S. 312 (effective June 10, 1964).

13. Menard, *The Deep Ocean Floor*, SCIENTIFIC AMERICAN 127 (Sept. 1969).

14. Wenk, *The Physical Resources of the Ocean*, SCIENTIFIC AMERICAN 167, 172 (1969).

theoretical legal disputes as to whether it should be considered *res omniun communis* or *res nullius.*

The Truman Proclamation of 1945[15] introduced a new era. The Proclamation declared that since modern technology was capable of exploiting the resources of the continental shelf, since recognized jurisdiction over these resources was necessary, and since the exercise of such jurisdiction was just and reasonable, the United States regarded the resources of the shelf contiguous to it as "appertaining to the United States and subject to its jurisdiction and control" without in any way affecting the status of the waters above the shelf as high seas. The continental shelf was not defined in the proclamation, but a subsequent State Department press release stated that it was delimited by the 100 fathom isobath.[16]

The Truman Proclamation was followed by pronouncements from a number of states asserting various rights, including sovereignty, over areas of the seabed extending to varying distances from their coasts. Even a decade later, political, economic, and legal interest was confined to the shallow waters of the geologic continental shelf. Thus, when the International Law Commission studied the problem, it saw no reason to suggest any international norms for the area beyond the continental shelf; none were consequently included in the 1958 Geneva Continental Shelf Convention, and none exist today except for: (a) the general obligation to exercise regard to the interests of other states in the use of the seabed; (b) the freedom to lay submarine pipes and cables; and (c) a general obligation for states to draft regulations to prevent pollution of the seas resulting from the exploitation and exploration of the seabed and its subsoil,[17] and from the dumping of radioactive wastes.[18] Needless to say, not all states have complied with the latter obligations.

Thus some attempt at regulation under international law exists today only with regard to the continental shelf. The contents of the relevant convention—the 1958 Geneva Convention of the Continental Shelf—seem curiously irrelevant, however,

15. Pres. Proc. No. 2667, 3 C.F.R. 67 (1945); 13 DEP'T OF STATE BULL. 485 (1945).

16. *See* 13 DEP'T OF STATE BULL. 484 (1945).

17. Convention on the High Seas, *done* April 29, 1958, art. 24, [1962] 2 U.S.T. 2319, T.I.A.S. No. 5200, 450 U.N.T.S. 96 (effective Sept. 30, 1962).

18. *Id.* art. 25, [1962] 2 U.S.T. 2319, T.I.A.S. No. 5200, 450 U.N.T.S. 96 (effective Sept. 30, 1962).

to the real problems of ocean space. The main thrust of the Convention is to assure the soverign rights of coastal states to explore and exploit the natural resources of the continental shelf adjacent to their coasts.[19] There are elaborate rules for the delimitation of a shelf shared by two or more states,[20] but only one article—article five—lays down any rules with regard to accommodation between different uses of the seabed. The Convention nowhere limits the power of a coastal state to utilize the seabed in a manner that may endanger marine ecology or that may result in large scale pollution of the seas, and there is no reference to international responsibility of states for damage caused to other states through careless or irresponsible use of their continental shelves.

The 1958 Geneva Convention on the Continental Shelf is best known for its ambiguous definition of the legal shelf, which reads as follows:

"For the purpose of these articles, the term continental shelf is used as referring: (a) to the seabed and subsoil of the submarine areas adjacent to the coast, but outside the area of the territorial sea to a depth of 200 meters or, beyond that limit, to where the depth of the superjacent waters admits of the exploitation of the natural resources of the said areas; (b) to the seabed and subsoil of similar submarine areas adjacent to islands."[21]

Although the definition contains ambiguities, I am satisfied that at the time the Convention was framed, it was intended to use the word "adjacent" in its normal sense of "near to" and that this word was intended to govern both the depth criterion of 200 meters and the exploitability criterion. Thus, I read the definition as indicating that submarine areas situated under waters less than 200 meters deep and deeper areas which are exploitable are subject to national jurisdiction only if they are reasonably near to the coast.

This, however, is now a minority opinion. It is generally assumed that the entire area of the seabed under less than 200

19. *See, e.g.*, Convention on the Continental Shelf, *done* April 29, 1958, art. 2, [1964] 1 U.S.T. 473, T.I.A.S. No. 5578, 499 U.N.T.S. 312 (effective June 10, 1964).

20. *Id.* art. 6, [1964] 1 U.S.T. 474, T.I.A.S. No. 5578, 499 U.N.T.S. 316 (effective June 10, 1964).

21. *Id.* art. 1, [1964] 1 U.S.T. 473, T.I.A.S. No. 5578, 499 U.N.T.S. 312 (effective June 10, 1964).

meters of water is *ipso facto* under the limited sovereignty of the coastal state, even if hundreds of miles distant from the coast. Some states, and the National Petroleum Council,[22] even take the position that the entire submerged land mass—including continental slope and rise—has been placed under the jurisdiction of the coastal state by the 1958 Geneva Convention.

Sometimes suggestions have been advanced that, since exploitability is a wasting limitation which will gradually disappear with the progress of technology, every coastal state will eventually be able to claim as continental shelf all the seabed from its coasts until it meets the seabed of another coastal state. For the time being, this argument is a dead issue since the debates and arguments in the United Nations have shown a virtual unanimity in the rejection of that view. But the argument may be revived if progress is not made in reaching a consensus on a precise definition of the limits of national jurisdiction.

To some extent, the different interpretations regarding the width of the legal continental shelf under the 1958 Convention reflect genuine uncertainties; to some extent, however, they may be but a legal peg on which to hang the protection of political or economic interests. Thus for instance, a wide legal shelf—comprising geological shelf, slope, and rise—would enable developed coastal states to exploit, as they wish and without fear of competition, any mineral resources likely to be accessible and commercially exploitable for some time in the future. Less technologically advanced coastal states could sell exploitation rights to those possessing capital and technology. A narrow shelf would on the other hand enable landlocked countries and those with limited access to the sea to share in the benefits derived from resources of most of the seabeds of the world.

The issue, however, has deeper implications. We should view the problem in the light of what is happening in ocean space as a whole and in the light of the probable consequences of our decisions. Thus, as Professor Henkin observes, "the principal reasons for insisting on a narrow shelf are the reasons that have kept the territorial sea narrow—competing interests and uses in the sea. Most States are coastal States and in that capacity would of course wish to extend coastal State jurisdiction. But

22. *See Petroleum Resources under the Ocean Floor* (March 1969), prepared by the National Petroleum Council's Committee on Petroleum Resources under the Ocean Floor.

many States have other interests in the sea which run counter to coastal State exclusivity . . . military activities, navigation, fishing. . . . [T]he 1958 Convention was compelled to recognize new rights in the coastal State to regulate navigation and scientific research: inevitably there has been some interference with navigation; all are agreed that scientific research has suffered grieviously. A wider shelf will enable the coastal State to interfere with such other uses of the sea in a wide and expanding area."[23] Professor Henkin also points out that exclusive rights for some purposes tend to become exclusive rights for other purposes and that there is no compelling reason why a coastal state should have exclusive rights in the seabed but not in the superjacent waters or in the airspace above.

Despite the convincing reasons advanced by Professor Henkin for a narrow shelf, the trend is in the opposite direction. States are increasingly claiming or asserting jurisdiction over ever wider areas of the seabed and superjacent waters. There are several reasons for this trend: the ambiguity of present international law; security considerations; the anxiety of states to exclude others from exploiting ocean resources near their coasts, etc. But the long term consequences could be disastrous: increasing ocean pollution, curtailment of scientific research, tension and conflict between states, massive economic waste, and so on.

It was mainly in order to halt the increasing erosion of world community interest and to seek to establish an effective international legal regime in ocean space that would protect equally the legitimate interests of all states and the international community that my government three years ago suggested in the United Nations:

> (1) Adoption of the concept of common heritage of mankind to govern the legal regulation of the seabed beyond national jurisdiction. As a consequence of the adoption of this concept, this area should not be appropriated by any state, should be reserved exclusively for peaceful purposes, and should be exploited primarily in the interests of mankind with special regard to the needs of poor countries; and

23. Henkin, *The Extent of the Continental Shelf*, PREPARATORY CONFERENCE ON THE LEGAL FRAMEWORK AND CONTINENTAL SHELF, PACEM IN MARIBUS 18-19 (February 1970).

(2) That exploration, use, and exploitation of the seabed beyond national jurisdiction should be conducted in a manner consistent with the principles and purposes of the United Nations Charter and without causing serious impairment of the marine environment.

We suggested a declaration of principles by the United Nations embodying these basic points among others, to be followed by the establishment of a United Nations Committee to negotiate a comprehensive treaty which would:

(a) precisely define the limits of national jurisdiction;

(b) safeguard the interests of the world community and the international character of the seabed beyond national jurisdiction; and

(c) establish an agency, linked to, but not necessarily part of, the United Nations system to assume jurisdiction, not as a sovereign, but as a trustee for all countries, over the seabed beyond national jurisdiction.

In view of the unity of ocean space, the agency was envisaged as having global competence over the marine environment. We have stated in the United Nations Seabed Committee that, "while the competence of the agency should be global, it need not, in fact it cannot, be the same in all parts of the marine environment. In waters within the territorial sovereignty of a state, the competence of an international agency can only be of an advisory nature. Established interests of states and a considerable body of international law exist with regard to the high seas and their living resources; the functions of an international agency with regard to this part of the marine environment must therefore be confined to facilitating and harmonizing national activities with functions substantially similar to those being undertaken, in fragmented and insufficiently coordinated fashion, by half a dozen agencies within the United Nations system. On the other hand, with regard to the seabed beyond national jurisdiction, we think that it is essential that whatever international machinery is established be able to provide not only for the allocation of exclusive rights to the development of non-living resources, but also for the management of these resources. It is of course essential that development take place

in such a manner that a substantial portion of the benefits will accrue to developing countries."[24]

THE SEABED BEYOND NATIONAL JURISDICTION

International law has traditionally served the following functions:

(1) to prevent conflict;

(2) to establish predictability, that is, the ability to foresee what activities can be undertaken with reasonable assurance that other states will acquiesce; and

(3) to establish an accommodation and equilibrium between different, and sometimes conflicting, interests of members of the international community.

Increasingly, however, the functions of international law are broadened. The great increase in the size of the international community and the physical internationalization of the world have increased the need to deal with many problems, formerly dealt with on a bilateral or regional basis, in a broad multilateral context in order to avoid a multiplicity of sometimes inconsistent arrangements with essentially the same purpose. Increasingly also, international law must deal with the common needs and interests of the world community. This new function of international law rests on the vital need to insure that the environment of this planet remains hospitable to human life and to man's activities.

In presenting its proposals to the General Assembly, the underlying and essential aim of my government was to make a contribution towards the realization of this latter fundamental objective. More specifically, my government had in mind the establishment by international agreement of a regime for the seabed which would give credible assurance of effectively realizing the following goals:

(1) to provide for prevention of conflict and for peaceful settlement of disputes;

24. Statement of A. Pardo before the United Nations Committee on the Peaceful Uses of the Sea-Bed and the Ocean Floor beyond the Limits of National Jurisdiction, March 20, 1969, U.N. Doc. A/AC.138/SR. 1-11 at 6 (1969).

(2) to provide norms for the management and control of ocean space for human benefit;

(3) to provide norms for the accommodation both of different uses of the seabed and between uses of the seabed and uses of the superjacent waters;

(4) to encourage scientific and technological research and the wide dissemination of its results;

(5) to insure the economically efficient use of the vast, but not unlimited, resources of the seabed beyond national jurisdiction; and

(6) to enable all countries, including less advanced countries, effectively to participate in the economic benefits to be derived from the exploitation of the seabed beyond national jurisdiction.

My government's proposals at the 1967 session of the United Nations General Assembly were hotly debated. On the one hand, a considerable number of countries, mainly technologically less advanced, were eager to adopt immediately a resolution proclaiming the seabed beyond national jurisdiction to be the common heritage of mankind, freezing claims to further extensions of national jurisdiction, adopting the principles suggested by my government for the use of the seabed, and establishing a permanent United Nations committee to negotiate an international agreement which would establish an international regime and provide for the creation of an agency to administer the seabed beyond national jurisdiction. Several technologically advanced countries, however, while not objecting to the establishment of a United Nations committee, felt that time was required to study all the facts and their implications before taking a definite position on the proposed declaration of principles. In this connection, Ambassador Goldberg of the United States proposed the establishment of a United Nations Committee on the Oceans to consider all marine questions, promote international cooperation in marine science, and consider questions of law relating to marine problems. Finally the Soviet Union and a few other states, while acknowledging the considerable interest of the topic raised by my government, suggested that the General Assembly refer the subject back to governments for comment before taking any action. At the

suggestion of Malta, an informal group was appointed to draft proposals that might receive general support by the United Nations General Assembly. On the recommendation of this group, a cautious resolution was unanimously adopted by the General Assembly.[25] The resolution established a 35 member *ad hoc* committee to: (a) make a survey of existing international agreements and past and present activities of the United Nations system with regard to the seabed; and (b) provide an account of the scientific, technical, economic, legal, and other aspects of the problem together with "an indication of practical means to promote international cooperation in the exploration, conservation and use of the seabed and of their resources . . . taking into account the views expressed and the suggestions put forward by Member States. . . ."[26]

The *ad hoc* committee held three meetings in 1968. Two working groups were established: one to deal with legal matters, and the other with economic and technical matters. Preliminary views of governments were sought and comprehensive documentation prepared by the United Nations Secretariat was studied.

Probably no one would be interested in a blow-by-blow account of the debates in the *ad hoc* committee, but much of its work, particularly the studies prepared by the United Nations Secretariat on the resources of the seabed, on the state of the technology for their exploitation, and on the legal aspects of the question of the reservation of the seabed beyond national jurisdiction for peaceful purposes and for the benefit of mankind, are of great interest and have an important educational function.

Nevertheless, progress on the substance of the matter was limited. There emerged an informal agreement that an area of the seabed beyond national jurisdiction did exist; there was a general feeling that the seabed should be reserved exclusively for peaceful purposes (but there was disagreement on whether this term excluded *all* military uses of the seabed); a United States initiative to launch an international decade of ocean

25. G.A. Res. 2340(XXII), U.N. Doc. A/RES/2340 (1967).

26. *Id.*; the *Report of the Ad Hoc Committee to Study the Peaceful Uses of the Sea-Bed and the Ocean Floor Beyond the Limits of National Jurisdiction*, U.N. Doc. A/7230, was adopted by the Committee on August 30, 1968, and was subsequently delivered to the 23d Session of the General Assembly.

exploration was welcomed and met with general support; and finally, there was overwhelming support for the establishment of a standing committee.

At the last meeting of the *ad hoc* committee in August, 1968, two tentative sets of principles were submitted: one—a draft declaration of general principles—was supported mainly by technologically less advanced countries; the other—a draft declaration of agreed principles—was favored by technologically advanced countries.

At its 1968 session the General Assembly endorsed the concept of an International Decade of Ocean Exploration,[27] and after considerable discussion adopted three other portions of a resolution which marked a further slight advance in its consideration of the question of the seabed. Resolution 2467A (XXIII) established a 42 member Committee on the Peaceful Uses of the Seabed and Ocean Floor beyond the limits of national jurisdiction and instructed it to: (a) study the elaboration of legal principles and norms which would promote international cooperation in the exploration and use of the seabed and ocean floor beyond the limits of national jurisdiction and to ensure the exploitation of their resources for the benefit of mankind; (b) study the ways of promoting the exploitation and use of the resources of this area . . . taking into account the foreseeable development of technology; (c) review studies carried out in the field of exploration and research in this area . . . ; and (d) examine proposed measures of cooperation to be adopted by the international community . . . to prevent the marine pollution which may result from the exploration and exploitation of the resources of the area.[28] The General Assembly also called on the committee to study further the exclusive reservation for peaceful purposes of the seabed and ocean floor without prejudice to the limits which may be agreed upon in this respect.

By resolution 2467B (XXIII) the General Assembly requested the Secretary-General to undertake a study of all aspects of the protection of the living and other resources of the seabed against the consequences of pollution and other harmful effects arising from exploration and exploitation.[29]

27. G.A. Res. 2467D(XXIII), U.N. Doc. A/7477 (1968).
28. G.A. Res. 2467A(XXIII), U.N. Doc. A/7477 (1968).
29. G.A. Res. 2467B(XXIII), U.N. Doc. A/7477 (1968).

Finally, by resolution 2467C(XXIII) the Secretary-General was requested to undertake a study on the question of establishing in due time appropriate international machinery for the promotion of the exploration and exploitation of the resources of the area. The Soviet Union and eight other eastern European countries voted against this resolution and some twenty-five countries abstained, including: some technologically advanced countries such as Canada, Australia, the United States, France, and the United Kingdom; some countries friendly to the Soviet Union, such as the United Arab Republic, Cuba, Syria, Congo (Brazzaville), Portugal, and the Union of South Africa; and a few developing countries such as Madagascar, Malawi, and Upper Volta.[30]

As the *ad hoc* committee had done the previous year, the United Nations Seabed Committee held three sessions.[31] In the legal sub-committee, work was concentrated in an attempt to draft legal principles, generally acceptable to all members, with regard to the legal status of the seabed beyond national jurisdiction which would be calculated to promote international cooperation in the exploration and use of this area. The different elements which could be included in a declaration of principles were examined in depth, but despite long discussions and informal negotiations between delegations it was found impossible to arrive at an agreement on the contents of a declaration of principles. In the end the rapporteur of the Committee decided to add a short chapter to the Committee's report (U.N. document A/7622) outlining areas of agreement. These were somewhat broader than in the preceding year and may be summarized as follows:

1) There is an area of the seabed which is beyond the limits of national jurisdiction;

2) This area shall not be subject to national appropriation by any means, and no state shall claim sovereignty or sovereign rights over any part of it;

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30. G.A. Res. 2467C(XXIII), U.N. Doc. A/7477 (1968). On the adoption of these four resolutions, *see* Haight, *The Seabed and the Ocean Floor*, 3 THE INT'L LAWYER 642 (1969).

31. On the work of the Permanent Seabed Committee, *see U.N. Seabed Committee Concludes Spring Session*, 60 DEP'T OF STATE BULL. 342 (1969) and *August Session of U.N. Seabed Committee held at New York*, 61 DEP'T OF STATE BULL. 285 (1969).

3) There are principles and norms of international law which apply to the seabed beyond national jurisdiction;

4) The widest possible area of the seabed should be reserved exclusively for peaceful purposes;

5) There is need to establish a regime for the seabed beyond national jurisdiction; its resources should be used in the interests of mankind, irrespective of the geographical location of states and taking into account the special needs and interests of the developing countries;

6) The idea that freedom of scientific research in the seabed beyond national jurisdiction should be assured without discrimination and that states should promote international cooperation in the conduct of scientific research carried out with the intention of open publication, commanded general support; and

7) The adoption of appropriate safeguards to protect the living resources of the marine environment and of appropriate safety measures concerning activities on the seabed beyond national jurisdiction were also generally supported.

Agreement on these points, however, was not sufficient to conceal the widely divergent approaches of states. Thus, there was no agreement on the need to establish a precise boundary for the area of the seabed beyond national jurisdiction; there was no agreement on the extent to which present rules of international law would be applicable to the area beyond national jurisdiction; there was no agreement on the scope of the prohibition of military activities as well as on many other important points, including whether the future regime should apply to the area, or only to its resources, and whether the regime should be characterized as legal, international, or agreed.

Generally speaking, technologically advanced countries appeared to favor early and precise delimitation of that area of the seabed which should be considered within national jurisdiction and a short and simple declaration of principles. However, the views of the Soviet Union and of technologically advanced western countries differed substantially on other points.

The Soviet Union and other socialist countries (except Yugoslavia) were silent or vague with regard to the regime that should be established for the seabed beyond national jurisdiction. They appeared to favor a treaty that would give them unrestricted access to this area and free use and exploitation of its resources. The socialist countries also favored total prohibition of any military use of the ocean floor beyond a twelve mile coastal zone. They were opposed to applying the concept of common heritage of mankind to the seabed beyond national jurisdiction and even more strongly opposed to the creation of any international mechanism to implement any provisions of a seabed treaty. Finally, the Soviet Union was not prepared to discuss the question of state responsibility for damages caused by activities on the seabed.

Technologically advanced Western countries conceded the need to establish an international regime for the seabed beyond national jurisdiction and several were willing to accept a proposal to refrain from granting exclusive rights to their nationals over any part of this area except as provided by the regime. Some Western countries were also prepared to accept a reference to the concept of common heritage in the preamble of any declaration of principles, and they generally agreed to the creation of a mechanism, such as an international registry office, with the function of allocating exclusive rights to the exploitation of resources in the seabed beyond national jurisdiction. In a significant statement, the United States representative declared that his country would support the concept of levying moderate royalties on the benefits derived from exploitation of the area beyond national jurisdiction and allocating a portion of such royalties to international community purposes. Western countries were cautious on the question of state liability for damages. Finally, with regard to the question of peaceful uses of the seabed, Western countries generally supported the view that complete demilitarization was unrealistic in the present state of world tension and that, therefore, it was practical to negotiate only limited arms control measures banning the emplacement of nuclear weapons or weapons of mass destruction on the seabed.

A fairly wide range of views was also expressed by developing countries. Generally speaking, however, the great majority of these countries supported an elaborate declaration of prin-

ciples that would close most of the options that technologically advanced countries sought to keep open. Developing countries generally favored demilitarization of the widest possible area of the ocean floor; inclusion of the concept of common heritage of mankind in the operative part of any declaration of principles regarding the seabed; the conclusion of a comprehensive and detailed treaty establishing an international regime with provision for the establishment of elaborate machinery to regulate, coordinate, supervise, and control all activities on the seabed beyond national jurisdiction; and a few developing countries even expressed the opinion that the international machinery to be established should itself exploit the resources of the seabed and that the financial benefits derived from exploitation should be divided directly among the developing countries on some sort of *pro rata* basis rather than applied to economic development through international agencies such as the World Bank or the United Nations Development Programme. Strong links were desired by most developing countries between the machinery or agency to be established and the United Nations, and it was contended that the agency should be controlled by states on the one state-one vote principle. With regard to the question of delimitation of limits, many developing countries took a rather ambiguous position. At one extreme, a relatively small group of countries believed that the question of delimitation was not within the competence of the United Nations Seabed Committee and, in any case, was irrelevant to the discussion of a legal regime, referring in this connection to the fact that it had been possible to conclude a treaty with regard to outer space although its precise boundaries had not yet been defined. Other developing countries, while agreeing that the question of boundaries was relevant to the establishment of a regime for the area, believed that this should not inhibit progress in the elaboration of legal principles to guide the activities of states in the exploration and use of the seabed beyond national jurisdiction. Finally, still others called for the convening of a conference either to review the 1958 Convention on the Continental Shelf or to review both this convention and the other conventions on the law of the sea.

While the work of the legal subcommittee was marked by wide divergence of views, sometimes heated discussion, and only limited agreement, the economic and technical subcommittee

examined the matters within its competence in a more harmonious manner. Agreement was reached on a large number of points regarding methods to be employed in the exploration and exploitation of seabed resources, and regarding procedures for the acquisition of exclusive rights. Various formulae were examined for the granting of exploitation titles, and measures to minimize ocean pollution and increase safety in the exploitation of the seabed were studied. Finally, the draft outline of the studies to be undertaken under the International Decade of Ocean Exploration, which had been prepared by the Intergovernmental Oceanographic Commission, was examined and several recommendations were made thereon.

While the United Nations Seabed Committee was debating in New York, the Committee on Disarmament in Geneva was examining two draft treaties on the peaceful uses of the seabed submitted respectively by the United States and by the Soviet Union. After considerable negotiation between the two Powers, the drafts were consolidated into one draft treaty on the prohibition of the emplacement of nuclear weapons and other weapons of mass destruction on the seabed and ocean floor and in the subsoil thereof. By this draft the United States accepted the Soviet view that measures to control the military uses of the seabed should apply to the area beyond twelve miles from the coast. In turn, the Soviet Union departed temporarily from its claim of complete demilitarization of the seabed.

The XXIVth session of the General Assembly last winter marked a confrontation between most of the developing countries which enjoy a majority in the United Nations and the technologically more advanced countries of both East and West which have in their hands the preponderance of world power. In view of the fundamental disagreements which had emerged during the preceding year, it was found impossible to draft a declaration of principles which would obtain a meaningful majority. Despite this at least a dozen draft resolutions were submitted of which four were eventually pressed to a vote and adopted as resolution 2574A to D.

Resolution 2574A, as sponsored by Malta, requested, "The Secretary General to ascertain the views of Member States on the desirability of convening at an early date a conference particularly in order to arrive at a clear, precise and inter-

nationally accepted definition of the area of the seabed . . . which lies beyond the limits of national jurisdiction. . . ." The draft resolution was strongly objected to by those States which had maintained in committee the irrelevance of considering the question of limits for the purpose of establishing a regime.

After efforts to convince the Maltese delegation to withdraw its draft resolution failed, and since it appeared that the resolution would be adopted by a considerable majority, the states opposed to consideration of the question of delimitation of the legal continental shelf, decided to link this question to that of a review of the three other Geneva Conventions (Convention on the Territorial Sea, Convention on the High Seas, and Convention on Fishing and the Conservation of the Living Resources of the High Seas), possibly in the hope of delaying considerably a decision by the international community on the question of the precise limits of the legal continental shelf. The amendment submitted in this connection was adopted. Thus it is probable that in three or four years time we may have a new conference on the law of the sea, but it is an open question whether such a conference will be more successful than the conference held ten years ago.

Resolution 2574B, which requests the Seabed Committee to expedite its work of preparing a comprehensive and balanced statement of principles, was adopted virtually unanimously, while only the Socialist countries opposed resolution 2574C requesting the Secretary-General to prepare a study "covering in depth the status, structure, functions and powers of an international machinery having jurisdiction over the peaceful uses of the seabed . . . including the power to regulate, coordinate, supervise and control all activities relating to the exploration and exploitation of their resources . . ." Resolution 2574D, however, which declared that, "pending the establishment of an international regime, States . . . are bound to refrain from all activities of exploitation of the resources . . . of the seabed . . . beyond national jurisdiction" gave rise to an acrimonious debate. Nearly all technologically advanced countries strongly opposed the draft resolution contending that it was vague, since the seabed beyond national jurisdiction was not defined, and that its adoption would discourage the necessary development of seabed resources, or, alternatively, that adoption of the resolution would encourage States to further extend their national jurisdiction.

Nevertheless, the resolution was adopted by a substantial majority. Only time will tell whether it will have significant practical effects.

The debate on the draft treaty on the emplacement of nuclear weapons on the seabed marked a further loss of influence of the major powers with the General Assembly majority. The criticisms of the draft treaty that were most widely supported were probably: (a) lack of an article to the effect that further negotiations would be conducted in good faith to widen the scope of the prohibition of military activities; (b) reference to article 24(2) of the Convention on the Territorial Sea and Contiguous Zone as indicating the extent of the area of application of the draft treaty; (c) lack of clear provisions permitting the participation of coastal states in the verification of suspected violations of the draft treaty. A number of other criticisms and suggestions were also made with the result that the draft treaty was withdrawn for further consideration by the Committee on Disarmament.

In March 1970, the United Nations Seabed Committee met for its first session this year. A determined attempt was made to comply with the terms of resolution 2574B, but again little progress was made. In the legal subcommittee, the leading developing countries presented a draft resolution on principles which, while marking a technical and stylistic improvement on previous drafts, contained a number of points totally unacceptable to the United States and to Soviet Union. An attempt by the rapporteur of the legal subcommittee to include in one paper major alternative formulations of different principles resulted in a formidable document the contents of which are almost entirely included within simple, double, or even treble brackets! The net results of a four-week session have unfortunately appeared to be increased rigidity in the positions of many delegations and an increasing tendency to consider the establishment of an international regime for the seabed from the point of view of group affinities.

The economic and technical subcommittee started its work in a more constructive spirit. The representative of the United States submitted two useful papers: one on the objectives to be served by an international regime governing the exploration and exploitation of seabed resources; the other containing a

suggested list of topics, mainly of a technical nature for detailed discussion. The United Kingdom presented interesting proposals on the nature and scope of an international regime as did the representative of El Salvador; and the Soviet Union in submitting some proposals for study appeared to be moving slightly from its previously rather negative position, but the acrimony of the debates in the legal subcommittee eventually influenced the course of the discussion in the economic and technical subcommittee with the result that at the end of the session, it was impossible even to agree on the priority of topics to be considered at the August session of the committee.

Clearly we have reached a crossroads in the consideration by the United Nations of the question raised by Malta with high hopes two and half years ago. There can be no doubt that as soon as technology for economic exploitation becomes available, the seabed will be exploited at ever increasing depths and at ever increasing distances from the coast. Indeed this process is taking place before our eyes and is inevitable. The only question is whether exploitation will take place without excessive conflict of uses, in a peaceful atmosphere offering expanding opportunities to all states, and with some consideration to the preservation of the ecology of the marine environment; or whether it will take place in an atmosphere of tension without regard to the long term interests of the international community.

Lack of agreement on three difficult problems of a fundamental nature, each of which resolves itself into a series of other problems, appears to be the main obstacle to progress. The first of these fundamental problems concerns the nature of the basic concept that should govern the exploration, use, and exploitation of the seabed beyond national jurisdiction. Will it be the traditional concept of freedom of the high seas or the new concept of common heritage?

The second fundamental difficulty is the nature of the regime which it is proposed to establish, and the scope of its competence. Should, for instance, the regime contain some norms concerning military uses of the seabed, or should these be negotiated separately? Should the proposed regime cover the area and all its uses, at least potentially, or should it deal only with the exploration and exploitation of the resources of the

area? Should a regime provide for the creation of an intergovernmental mechanism and if so, what should be the scope and nature of its competence? For instance, should the international mechanism be given the power to administer and manage the seabed for the international community or should its competence be limited to the registration of claims of exclusive rights to the exploitation of resources? In the event that it is found desirable to create an international mechanism with wide competence and strong powers, how can the conflicting interests of states be balanced in such a way as to insure both the viability of the regime and the impartiality of action of the international mechanism?

Finally, what are the limits of national jurisdiction over the seabed, or to put the matter in another way, what are the limits of the area beyond national jurisdiction to which the international regime which it is proposed to establish should apply? What criteria should be adopted for defining the limits of national jurisdiction—depth, distance from the coast, the concept of the continental block? Should the criteria adopted be equally applicable both to coastal states and to all islands indiscriminately?

The three complexes of problems which I have mentioned are closely interconnected and in many cases novel. They also involve issues of quite fundamental importance to many states. It is not surprising, therefore, that progress in reaching agreement at the United Nations has been painfully slow. It will be necessary, however, to advance more rapidly in the future, since deliberations are being overtaken by rapidly developing technology.

As Mr. Stevenson, legal adviser to the State Department, declared this year:

> "The community of nations has before it a set of fundamental decisions regarding well over half the earth. It must decide whether the clear rule of law rather than force of arms will govern international relations in the seas. It must decide whether international cooperation for the benefit of all mankind or mystic national pride will dominate the oceans. In a most fundamental sense it must decide

whether the order of the day is an accommodation of legitimate interests or a clash of positions."[32]

From the nature of the decisions which will be made we will know whether present international law based on the postulate of the absolute sovereignty of the national state can develop new concepts effectively to deal with the common interests of the world community. The precedents which the United Nations is establishing are critical elements, in the words of Eugene Skolnikoff, "not just to determine a regime for the oceans for the next few years but in laying the basis for the future organization of an increasingly inter-dependent world."

Malta has attempted to lead the way to a true internationalism in ocean space. We did this not only because of our ideals but also because it was clear to us that only in this way was it possible for us to assure our own interests in the sea through which we live and breathe. In the fierce clash of rhetoric and mundane interests at the United Nations we have consistently sought to dispel suspicions and to encourage forward looking, yet realistic, attitudes while remaining confident that a clear understanding of the issues, reason, and rational evaluation of their own long term national interest by all countries would enable us to reach the goals we set two years ago. These, we are convinced, will provide expanding opportunities to all states in their use of the marine environment.

We refuse to believe that states will either entrench themselves in an irrational rigidity for the attainment of unrealistic and perhaps undesirable objectives, or bury their heads in the sand and refuse to face the inevitable consequence of technological advance.

We still nourish the hope that the right decisions will be made in useful time and that the world community will give itself in ocean space the law and the institutions required by the progress of science, the impact of global technology and the pressing needs of man.

32. Stevenson, *International Law and the Oceans*, 62 DEPT. OF STATE BULL. 339 (1970).