The Maltese Initiatives Within the United Nations -- A Blue Planet Blueprint For Trans-national Space

J. Henry Glazer*

Space is a place, and can include the bottom of the sea or the center of the earth as well as the atmosphere and so-called empty outer space.¹

Flying briskly from the fantail, the national tricolor remained a visible nexus between the research ship Calypso and the French Republic. But apart from Captain Jacques-Yves Cousteau and his crew of researchers, no one observed the tangible emblem of state. The month was February of 1973, and Calypso had arrived at the distant reaches of Antarctica where her crew was to collaborate with the National Aeronautics and Space Administration in exploring the uses of advanced satellite technology as an aid to marine science research in the polar region.²

Since the vessel's operating schedule involved navigation of the Chilean channel,³ Calypso may have passed within line-of-sight of

* Member of the District of Columbia and California Bars. This article was written by the author while a J.S.D. candidate at the School of Law (Boalt Hall), University of California at Berkeley, and constitutes the first in a series of legal essays collectively entitled "The Planet of the Fatherlands in Trans-national Space."


2. Calypso was in communication with four types of satellites: NASA's ATS-3, NIMBUS II which reported ice formation, ESSA-8 which photographed cloud formations, and NOAA-II which reported the infrared situation. With the assistance of these satellites, the investigators measured biological productivity through examination of ocean color, temperature, and breeding places for phytoplankton, which are found in abundance off Antarctic shores and which comprise the bottom of the food chain for all ocean fish. Through the satellite telecommunication network, data and information were transmitted directly and instantaneously by Calypso to NASA Research Centers in the United States. See Press Conference with Jacques-Yves Cousteau, NASA News, Mar. 1, 1973, at 18, conducted via satellite with Cousteau in Antarctica.

3. Chilean Decree No. 1747 of Nov. 6, 1940, published in the Boletín Oficial, claimed a sector of the Antarctic continent between 53°W and 90°W. Chile traces her sovereignty to the 1493 Bull of Pope Alexander VI which, together with the Treaty of Tordesillas in 1494, divided all the world's newly discovered and yet to be discovered lands between Spain and Portugal. See Note, Natural Resource Jurisdiction on the Antarctic Continental Margin, 11 VA. J. INT'L LAW 374, 377 n.15 (1971). See also Hayton, The Antarctic Settlement of 1959, 54 AM. J. INT'L LAW 349 (1960) [hereinafter cited as Hayton].
Marie Byrd Land, a mariner's landfall which is a bit of a political anomaly on planet Earth. Land's end of this enormous pie-shaped territorial wedge of Antarctica marks the unique confluence of several descriptive segments of Trans-national Space. At this particular area of the South Polar Region, landmass, abutting waters, shelfland, seabed, and their overlying air column, together with all places above and beneath them, remain for the time being excepted from national appropriation as the result of unusual combinations of national forebearance, tacit understanding, and treaty-making.

From the vantage points of those distant satellites which aided Calypso, the national frontiers which distinguish the Planet of the Fatherlands in Trans-national Space were quite invisible just as they were in the segments of hydrospace traversed by the research vessel

4. Situated between the Chilean and New Zealand sectors, the sector comprising Marie Byrd Land, from 90°W to 150°W, remains unclaimed, as does another wedge of Antarctica deep behind the Norwegian sector. In the writer's paradigm, these unclaimed areas constitute the Antarctic segment of Trans-national Space. See note 5 infra. New claims were forbidden after the Antarctic Treaty entered into force on June 23, 1961. Multilateral Antarctic Treaty, Dec. 1, 1959, [1961] 1 U.S.T. 794, T.I.A.S. No. 4780, 402 U.N.T.S. 71. While the status quo remains frozen, the treaty impairs no national claims. In fact, article XII contains a procedure for terminating the agreement if, at any time after 30 years, a majority, especially of the original and active group of signatories, become disenchanted. See Hayton, supra note 3, at 365.

5. As used in this Article, "Trans-national Space" means "any place or area on, within, or beyond planet Earth withdrawn or excepted from national appropriation by custom, practice, policy, consensus, or agreement." In its most liberal context the term comprehends, for example, land within the headquarters district of the United Nations as well as celestial bodies positioned at the edge of the known universe some 10 billion light-years from Earth. Identification in this Article of descriptive segments of Trans-national Space is intended not to ascertain their metes and bounds but rather to achieve a flexible definition applicable to any era in which concerted acts or forebearances by states have resulted in the enlargement or diminution of Trans-national Space, more a variable political concept than one of "place."


7. See note 4 supra. With all its imperfections, the 1959 Antarctic Treaty did eliminate dangerous national rivalries and resulted in a unique settlement for the South Polar Region which, inter alia, prohibited military bases, maneuvers, weapons testing, and nuclear explosions (arts. I and V), provided for unimpeded freedom of scientific investigation, compulsory exchange of information, as well as the encouragement of working relations with agencies in the U.N. system (arts. II and III), and established a viable inspection formula with freedom of access to all areas (art. VII).

8. See note 5 supra. The concept, borrowed from the Gaullist notion of a "Europe of the Fatherlands," is intended to be neither cynical nor reactionary but rather to express the pluralistic quality of the international community with its almost universal consensus—wholeheartedly endorsed by the writer—against a monolithic world federation. But with the progressive exploration, exploitation, and eventual colonization of Trans-national Space, the legal norms evolving for these areas may not be entirely reconcilable with sovereign prerogatives presently enjoyed there. Cf. note 90 infra.

9. As used in this Article the term "hydrospace" means "that part of planet
on her voyage to the Antarctic continent. Both the whole of outer space accommodating the satellites orbiting above Calypso and the Antarctic landmass and airspace which lay before her had in the past been subjects of successful international accords. Concluded with astonishing speed, the resulting treaties were models of brevity, destined to reshape attitudes concerning a patchwork of uncoordinated rules and practices dominating the hydrospace segment of Trans-national Space.

It is this hydrospace segment which was, and remains, the focus of a number of proposals introduced into the United Nations by the Government of Malta within the past several years. Three of these proposals are the subject of this Article. The first concerns the international acceptance of selected marine areas and resources beyond national jurisdiction as res communes for the benefit of all mankind; the second is a plan for an entirely new legal order in and for hydrospace; the third is a plan for allocating through existing public international organizations new participatory roles for promising young scholars from both developed and developing countries in undertaking as "envoys of mankind" directed research, environmental protection, and technical Earth which extends vertically downward from the air/sea interface to include the seabed and subsoil of the seas and horizontally from land outwards to include the deep oceans." This definition is found in Brown, The Demilitarisation and Denuclearisation of Hydrospace, 4 Annals of Int'l Studies 71, n.1 (1973).

10. Containing prohibitions similar to those of the Antarctic Treaty which preceded it, the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space Including the Moon and Other Celestial Bodies, opened for signature Jan. 27, 1967, [1967] 3 U.S.T. 2410, T.I.A.S. No. 6347, 610 U.N.T.S. 205, bans the orbiting of nuclear and other weapons of mass destruction and forbids their installation on celestial bodies (art. IV), assures freedom of scientific investigation and freedom of access to all areas of celestial bodies but prohibits, at these places, any weapons testing or military bases (arts. I and IV), provides for reciprocal open inspection (art. XII), and comprehends the undertaking of activities by agencies in the U.N. system in connection with the exploration and use of outer space and celestial bodies (art. XIII). Whereas the Antarctic Treaty maintains the status quo regarding national claims, the Outer Space Treaty places the whole of outer space including the moon and other celestial bodies beyond the ambit of national appropriation; therefore, all are comprehended within the definition of Trans-national Space. See note 5 supra. For a useful discussion of the Outer Space Treaty, see Bleicher, An Overview of International Environmental Regulation, 2 Ecology L. Q. 1, 71-73 (1972).

11. See notes 4, 5, 9, and 10 supra.

12. Article V of the Outer Space Treaty identifies astronauts as "envoys of mankind" and grants them international protections. The same effect is achieved by the Agreement on the Rescue of Astronauts, the Return of Astronauts, and the Return of Objects Launched into Outer Space, Apr. 22, 1968, [1968] 6 U.S.T. 7570 T.I.A.S. No. 6599, 672 U.N.T.S. 119 [hereinafter cited as Outer Space Treaty]. One of the Maltese proposals under discussion in this Article would effectively extend that concept to classes of researchers and mariners who undertake activities in the hydrospace segment for and on behalf of agencies within the United Nations system. See notes 126 and 151 infra. Identification and protection of researchers as a class would be particularly appropriate since the Maltese proposal anticipates that some of their number would opt to become
training, first in the hydrospace segment, then ultimately in the whole of Trans-national Space.¹³

I

THE SEABED PROPOSAL

For centuries the sea was the primary arena for tangible international cooperation, oriented, however, toward the protection of property rights and the stimulation of maritime trade among states having the technological capacity to exploit the ocean easement. Increasingly, however, with expanded opportunities for the use of the sea and the exploitation of marine resources, the legal regime applicable to hydrospace¹⁴ became progressively fragmented. The advanced technology spawned by World War II accelerated this fragmentation, which has been reflected in the piecemeal creation of diverse international entities.¹⁵

The Truman Proclamations of 1945, establishing federal control over certain resources of the continental shelf and prescribing fisheries conservation zones, intensified the trend toward a fragmented order from which there was no return.¹⁶ Certain Latin American countries asserted unilateral claims to zones of hydrospace extending as far as 200 miles from shore. While the rationale and extent of the jurisdictional claims varied from country to country,¹⁷ in the dash to assert these claims, distinctions between controls over the seabed, subsoil, fishing rights, and freedom of navigation became blurred and elusive.

¹³. In projecting potential activities by institutions and individuals as actors in Trans-national Space, the term becomes an analogue of "transnational law" conceived as including "all law which regulates actions or events that transcend national frontiers." See P. JESSUP, TRANSNATIONAL LAW 2 (1956). But cf. discussion by Nye & Keohane, Transnational Relations and World Politics, 25 INT'L ORGANIZATION 329, 332 (1971).

¹⁴. The word "regime" includes both a set of rules and procedures and institutions for enforcing them; it implies nothing about the substance of the rules or the nature of the procedures and institutions. "For instance the present 'regime of the high seas' consists of a body of permissive rules which are largely enforced by national courts or diplomacy; occasionally international litigation is involved." Carter, The Seabed Beyond the Limits of National Jurisdiction, 4 STAN. J. INT'L STUDIES 1, n.2 (1969).


¹⁶. Proclamation No. 2667, Policy of the United States With Respect to the Natural Resources of the Subsoil and Seabed of the Continental Shelf, 10 Fed. Reg. 12303 (1945); Proclamation No. 2668, Policy of the United States With Respect to Coastal Fisheries In Certain Areas of the High Seas, 10 Fed. Reg. 12304 (1945).

The Truman Proclamation concerning the continental shelf was effectively superseded by the ratification of the 1958 Geneva Convention on the Continental Shelf,\(^{18}\) one of four multilateral treaties formulated and reconsidered at United Nations Law of the Sea Conferences held during 1958 and 1960.\(^{19}\) Riven with ambiguities and omissions, these first attempts at codifying the Law of the Sea deferred, if not defied, solution.\(^ {20}\) Commenting upon the 1958 Geneva Continental Shelf Convention, Professor Edward Wenk observed, for example, that it had the effect of postponing the decision as to exclusive rights [by littoral states] for exploitation [of shelf resources]. It was almost as though a time bomb had been ignited, with a fuse about eight or ten years long.\(^ {21}\)

On August 17, 1967, Arvid Pardo, the Maltese Ambassador to the United Nations,\(^ {22}\) detonated the time bomb.

The explosion resonating in chancelleries around the world issued from a *Note Verbale* prepared by Pardo on behalf of his government which contained a request for inclusion on the agenda of the 22nd session of the United Nations General Assembly of a supplementary item entitled:

Declaration and treaty concerning the reservation exclusively for peaceful purposes of the sea-bed and of the ocean floor, underlying the seas beyond the limits of present national jurisdiction and the use of their resources in the interest of mankind.\(^ {23}\)

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20. Article I of the Continental Shelf Convention, *supra* note 18, established, for example, a flexible limit of national rights to appropriation contingent upon the state of the art of relevant technology. This moved U.S. State Department Geographer G. E. Pearcy to interpret the treaty as suggesting that when the depth of exploitation is not limited by technology, the ocean floor everywhere may be sliced up and defined as appertaining to one or another coastal state. See Wenk, *supra* note 15, at 256.

21. *Id.* at 257.

22. A respected scholar of international law and former international civil servant, Pardo was appointed by his government to the United Nations as the world's first Minister Plenipotentiary for Ocean Affairs. A feature article about him appears in *Saturday Rev. World*, Nov. 6, 1973, at 14.

23. 22 U.N. GAOR, U.N. Doc. A/6695 (1967). The U.N. General Assembly reworded the item as follows: "Examination of the question of the reservation exclusively for peaceful purposes of the sea-bed and the ocean floor, and the subsoil thereof, underlying the high seas beyond the limits of present national jurisdiction, and the use
A memorandum annexed to the Note Verbale adverted in the introductory paragraph to the vastness of the seabed and ocean floor. It pointed out that areas which still lie beyond territorial waters and continental shelves are the “only areas of our planet” which have not yet been appropriated for national use because of their relative inaccessibility and their uneconomical exploitation under present states of technological art.24

Focusing upon the rapid strides made by technologically advanced countries, paragraph two of the memorandum suggested that future progress in the \textit{laissez faire} atmosphere which prevailed would inevitably expose the seabed and ocean floor to exclusive appropriation by states possessing the requisite technology. In the end this would result in the militarization of the accessible ocean floor and the establishment there of fixed military installations.

The heart of the Pardo memorandum was the next paragraph. Incorporating words which classicists tended to dismiss as neologisms but which developing countries embraced as bedrock law for any future international accord in the hydrospace segment, paragraph three concluded that “the time has come to declare the sea-bed and ocean floor \textit{a common heritage of mankind}\textsuperscript{25} and that immediate steps should be taken to draft a treaty embodying, \textit{inter alia}, the following principles:

(a) The sea-bed and the ocean floor, underlying the seas beyond the limits of present national jurisdiction, are not subject to national appropriation in any manner whatsoever;

(b) The exploration of the sea-bed and of the ocean floor, underlying the seas beyond the limits of present national jurisdiction, shall be undertaken in a manner consistent with the Principles and Purposes of the Charter of the United Nations;

(c) The use of the sea-bed and of the ocean floor, underlying the seas beyond the limits of present national jurisdiction, and their economic exploitation, shall be undertaken with the aim of safeguarding the interests of mankind. \textit{The net financial benefits derived from the use and exploitation of the sea-bed} and the ocean floor shall be used primarily to promote the development of poor countries;

(d) The sea-bed and the ocean floor, underlying the seas beyond

\textsuperscript{24} But see discussion of the unclaimed areas of Antarctica, \textit{supra} note 4.

the limits of present national jurisdiction, shall be reserved exclu-
sively for peaceful purposes in perpetuity.\textsuperscript{26}

The final paragraph suggested that any proposed treaty embody-
ing the principles articulated in the preceding paragraphs should en-
visage the creation of an international agency (a) to assume jurisdic-
tion, \textit{as trustee for all countries}, over the seabed beyond the limits
of present national jurisdiction; (b) to regulate, supervise, and control
\textit{all activities thereon}; and (c) to ensure that the activities undertaken
conform to the principles and provisions of the proposed treaty.\textsuperscript{27} In
the event that possibilities for a new treaty were not forthcoming,
Pardo sought to internationalize the seabed and ocean floor beyond a
narrow limit of national jurisdiction by the device of assigning studied
interpretations to the 1958 Geneva Continental Shelf Convention,\textsuperscript{28}
suggesting further that a new United Nations body be established to
administer the area and to distribute proceeds derived from its exploi-
tation to developing countries.\textsuperscript{29}

While the initiative taken by Malta and the ensuing scholarly pres-
etations by its Ambassador electrified the United Nations General
Assembly, the United States government greeted Pardo’s proposed
blueprint somewhat negatively.\textsuperscript{30} A notable exception was Senator
Claiborne Pell of Rhode Island, who introduced Senate Resolution No.
186 in the 90th Congress on November 17, 1967. In a reversal of
normal constitutional procedure, the resolution included the draft of
a proposed multilateral treaty for regulating the exploration and ex-
ploration of ocean space, banning military weaponry on the ocean
floor, creating an international licensing body to oversee commercial
exploitation, and establishing as a permanent force of the United Na-


\textsuperscript{27} Seabed Proposal, \textit{supra} note 23 (emphasis supplied).

\textsuperscript{28} Pardo’s interpretations would have reversed the legal alchemy for the same
instrument by which U.S. State Department geographer Pearcy conceived of the Con-
vention as furnishing a technological license for unlimited national appropriation
of seabed and ocean floor. \textit{See} note 20 \textit{supra}.

\textsuperscript{29} \textit{See} \textit{Wenk}, \textit{supra} note 15, at 260. \textit{See also} Pardo’s statements in 22 U.N.
P/V.1516 (1967).

\textsuperscript{30} Expressing the view that the Maltese proposal was headed in the wrong di-
rection, Deputy Undersecretary of State Foy D. Kohler reported “our hand has now
been forced by the Malta initiative.” \textit{See} \textit{Wenk}, \textit{supra} note 15, at 223. At the U.N.,
Pardo adverted to the remarks made by a member of the U.S. House of Representa-
tives who demanded to know why the Maltese Ambassador had made his proposal, who put
him up to it, whether Malta was the sounding board for the British, and why the rush?
tions a "Sea Guard" to ensure the observance of treaty terms and to oversee the weapons ban.\textsuperscript{31}

Despite predictable opposition by the United States and other technologically advanced countries, the Maltese foray, backed by the third-world bloc, assumed the proportions of a blitzkrieg at the United Nations. Within four months after the Note Verbale had been tendered, the General Assembly adopted a resolution creating a 35-member "Ad Hoc Committee to Study the Peaceful Uses of the Seabed and the Ocean Floor Beyond the Limits of National Jurisdiction."\textsuperscript{32} More tangible results were to follow. As a direct outgrowth of the Maltese seabed initiative, the United States and the Soviet Union transmitted to the ad hoc committee various draft resolutions on seabed demilitarization. Eventually these drafts were transformed into the limited "Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Seabed and the Ocean Floor and in the Subsoil Thereof."\textsuperscript{33} The first steps, however halting, had been taken in extending to areas within the hydrospace segment selective bans on military weaponry heretofore associated only with the outer space and Antarctic segments of Trans-national Space.\textsuperscript{34}

Contemporaneously, the U.N. General Assembly during December 1970 adopted Resolution 2749.\textsuperscript{35} This resolution not only memorialized the principles contained in the 1967 Pardo memorandum but enlarged them. The resolution enunciated the interests of landlocked, as well as coastal, states in receiving a fair share of seabed resources, detailed ways and means for promoting peaceful scientific research, and attempted to fill in some of the blanks for a projected legal regime for the area and its resources which would include, \textit{inter alia}, liability for dam-

\begin{footnotesize}
\textsuperscript{31} The proposed treaty is reproduced together with revisions and companion resolutions in \textit{Senate Comm. on foreign relations, 92d Cong., 1st sess., the United Nations: The world as a developing country} 31 (Comm. Print 1971). Under Senator Pell's scheme the essential purpose of the U.N. Sea Guard would center upon enforcement and policing functions with the Sea Guard itself placed under the control of the U.N. Security Council. A Coast Guardsman himself, Senator Pell has advocated this idea in various forms since 1940. \textit{See C. Pell, Challenge of the seven seas} 238 (1966). See also notes 112-14 infra.


\textsuperscript{33} \textit{Done} Feb. 11, 1971, [1972] 1 U.S.T. 701, T.I.A.S. No. 7337, — U.N.T.S. —. For analysis and criticism of the treaty which was "the most direct, if somewhat limited, result of the Pardo initiative of 1967" see Brown, \textit{supra} note 9, at 81.

\textsuperscript{34} The ban in the hydrospace segment is limited to the seabed. The use, for example, of armed porpoises to kill people would not be within the ban. In this connection see Wallace, \textit{Conscription at Sea}, \textit{Saturday Rev. of the Sciences}, (Mar. 1973). See also notes 7 and 10 supra.

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ages by states as well as by international organizations. The “common heritage concept,” the idea of specialized needs for developing countries, and the plan to include appropriate international machinery as a necessary concomitant of the legal regime were incorporated in the General Assembly resolution and in an avalanche of documents and draft treaties which were to follow.

In the meantime, the ad hoc committee had been reconstituted and made permanent under a U.N. General Assembly resolution of December 21, 1968, as the “Committee on the Peaceful Uses of the Seabed and Ocean Floor beyond the Limits of National Jurisdiction.”

In 1971 the work of the permanent committee was allocated among three subcommittees invested respectively with the following functions:

**Sub-Committee I** — To prepare draft treaty articles embodying the international regime—including an international machinery—for the area and the resources of the sea-bed and the ocean floor, and the subsoil thereof, beyond the limits of national jurisdiction, taking into account the equitable sharing by all States in the benefits to be derived therefrom, bearing in mind the special interests and needs of developing countries, whether coastal or land-locked, on the basis of the Declaration of Principles Governing the Sea-Bed and the Ocean Floor, and the Subsoil Thereof, beyond the limits of National Jurisdiction, economic implications resulting from the exploitation of the resources of the area as well as the particular needs and problems of land-locked countries.

**Sub-Committee II** — To prepare a comprehensive list of subjects and issues relating to the law of the sea, including those concerning the regimes of the high seas, the continental shelf, and territorial sea (including the question of its breadth and the question of international straits) and contiguous zone, fishing and conservation of the living resources of the high seas (including the question of the preferential rights of coastal States) and to prepare draft treaty articles thereon.

**Sub-Committee III** — To deal with the preservation of the marine environment (including, *inter alia*, the prevention of pollution) and scientific research, and to prepare draft treaty articles thereon.

Significantly, the terms of reference for each of the subcommittees mirrored operative parts A, B, and C of a landmark U.N. Resolution, No. 2750, adopted by the General Assembly on December 17, 1974.


1970. Among other features, the Resolution memorialized the decision to convene in 1973 a United Nations Conference on the Law of the Sea. As of this writing the terms of reference for the conference represent the current state of progress in the transformation of the 1967 Maltese initiative into broad multilateral action. Suitable treaties await formulation.

Though conflicting in their approaches, the draft treaties and articles placed before the U.N. Seabed Committee have all been forced to come to grips with entirely new concepts affecting the Law of the Sea. As a minimum the 1967 Maltese initiative compelled a re-examination of hydrospace as a whole and generated a grudging acceptance that a dedicated area of seabed, ocean floor, and subsoil must fall within the ambit of a settled international regime with some type of international machinery to maintain that regime, if an equitable distribution of the area's resources is to be assured.

Before the Maltese initiative, each issue now reflected in the existing terms of reference for the United Nations Conference on the Law of the Sea had been compartmentalized and considered in a

38. Reservation Exclusively for Peaceful Purposes of the Seabed . . . and Convening of a Conference on the Law of the Sea, G.A. Res. 2750, 25 U.N. GAOR Agenda item 25, U.N. Doc. A/RES/2750 (1971). Chile was to host the conference in 1973 but the recent military coup d'etat changed not only the conference site but the year as well. As of this writing the conference is scheduled to be held at Caracas, Venezuela, in 1974 and a second session may be held in Vienna in 1975. For purposes of this article the 1974 Conference will be referred to hereinafter as the "Caracas Conference" or alternatively as "UNCLOS III."

Paragraph 2 of Part C of the U.N. Resolution indicates that UNCLOS III would "deal with the establishment of an equitable international regime—including an international machinery—for the area and the resources of the sea-bed and the ocean floor, and the subsoil thereof, beyond the limits of national jurisdiction, a precise definition of the area, and a broad range of related issues including those concerning the regimes of the high seas, the continental shelf, the territorial sea (including the question of its breadth and the question of international straits) and contiguous zone, fisheries and conservation of the living resources of the high seas (including the question of the preferential rights of coastal states), the preservation of the marine environment (including, inter alia, the prevention of pollution) and scientific research.” See notes 6, 18, and 19 supra; see also note 39 infra.

39. Brian Johnson, one of the more vocal critics of UNCLOS III and the preparatory work of the U.N. Seabed Committee, cautions:

Note the priority accorded to environmental protection. . . . This lowly consideration for the environment was quickly institutionalized at the first meeting of the enlarged Seabed Committee, which established three subcommittees . . . . Already, in several instances, the scientists who sit on this third subcommittee have given advice that is directly at variance with the actions advocated in the two ‘senior’ subcommittees whose recommendations can preempt the scientists' concerns. Already the environmental watchdogs for the oceans have been made underdogs.

Johnson, Will the Law Be For—or Against—the Sea? 8 VISTA 16, 19 (June 1973) [hereinafter cited as Johnson]. See also Pardo's comments in SATURDAY REV. WORLD, supra note 22.

40. See note 38 supra.
separate forum. Scientific questions had been the province of the U.S.-sponsored International Decade of Ocean Exploration. The seabed regime had been treated as a legal and political question; pollution, as a social and economic question; and arms control, as a military question. In only four years after the submission of the Note Verbale the scientific, economic, social, legal, military, and political questions permeating the whole of hydrospace were fused, and exposed in the process to the scrutiny of every possible forum in every possible way.

II

THE DRAFT OCEAN SPACE TREATY

The epoch-making feature of the Maltese Seabed Proposal lay in the ultimate acceptance by the international community of its revolutionary postulate that a part of the earth's surface together with the resources therein shall be deemed and considered res communes dedicated in perpetuity to the common heritage of mankind. In the wake of its impact, the Center for the Study of Democratic Institutions, a private non-profit research organization based in Santa Barbara, California, inaugurated the first of many studies clarifying the complex and baffling issues implicit in the drafting of a multilateral treaty reflecting the concepts of the Maltese Seabed Proposal.

At the invitation of the Government of Malta, the Center instituted in 1970 the first Pacem in Maribus Conference. Attended by diplomats, jurists, and scientists from some sixty countries, the Conference at Malta focused upon the "common heritage" theme of the Seabed Proposal and its analogue concerning the specialized needs of developing countries. When Pacem in Maribus I drew to a close, the adoption of U.N. General Assembly Resolution 2749, the agreement on a date for a general United Nations Conference on the Law of the Sea, and the adoption of a Treaty on the Prohibition and Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Seabed and the Ocean Floor and in the Subsoil Thereof were well on the way to formal accord. All of these tangible offshoots of the Maltese Seabed Proposal were, however, moored to the seabed and ocean floor as indeed was the orientation of Pacem in Maribus I.

At the second Pacem in Maribus Conference (PIM II), held in Malta during 1971, the concept of a legal regime limited to the seabed alone was discarded and replaced with the concept of a regime ex-

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41. See note 23 supra.
42. See note 35 supra.
43. See note 38 supra.
44. See note 33 supra.
tending to hydrospace in its entirety. This dramatic shift in thinking was compelled by the growing realization that new imaginative technology threatened to overwhelm the concept of the high seas. By the time the PIM II conference had assembled in Malta, preliminary drafts of proposed multilateral treaties and working papers had been formally introduced into the United Nations by the United States, France, the United Kingdom, and Tanzania. Drafts of treaties and papers from some seventy additional countries lay waiting in the wings for formal introduction.

Differing considerably in their respective interpretations of the reach of the “common heritage concept,” all were united in maintain-

45. This enlarged concept was signalled by the following statement disseminated to Conference participants:

Already the seabed is being used for the storage of hydrocarbons. We are acquiring the ability to live and work under the seas. Undersea hotels are being designed. Permanent undersea habitats and villages for scientific and recreational purposes or to house technicians will probably become a reality before the end of this decade. Power stations on the seabed and oceanic harbors floating on the surface but anchored to the floor are foreseeable. As man returns to the sea, perhaps the plot to breed human babies with functioning gills imaginatively detailed in Kobo Abe’s novel Inter Ice Age 4, is not quite as fantastic a fiction as it seems to the casual reader.

Present trends, if unchecked, clearly point to a gradual disappearance of the High Seas and toward an ultimate division of ocean space with long term disastrous results for all. It is apparent to many people that a new international order must be established to prevent this disaster and that this new institution must be equitably balanced and must include judicial mechanisms so that all countries can find expanding opportunities in their use of the marine environment.

Zerwick, Pacem in Maribus 2—A History, Pacem in Maribus 2, at 3 (a pamphlet prepared as the program for that Conference; emphasis supplied).


50. In addition to submissions by the United States, France, the United Kingdom, and Tanzania the following states, alone or in association, submitted draft conventions, treaty articles, working papers, and draft lists of subjects to the U.N. Seabed Committee during 1971 alone: Belgium, the Soviet Union, Poland, Turkey, Chile, Colombia, Ecuador, El Salvador, Guatemala, Guyana, Jamaica, Mexico, Panama, Peru, Trinidad and Tobago, Uruguay, Venezuela, Iceland, Canada, Norway, Malta, Greece, Afghanistan, Austria, Hungary, Nepal, Netherlands, Singapore, Argentina, Brazil, Algeria, Cameroon, Ceylon, Democratic Republic of the Congo, Ethiopia, Gabon, Ghana, India, Indonesia, Iran, Iraq, Ivory Coast, Kenya, Kuwait, Liberia, Libya, Madagascar, Malaysia, Mauritania, Mauritius, Morocco, Nigeria, Philippines, Somalia, Sudan, Tunisia, United Arab Republic, Yemen, and Yugoslavia. See REPORT, note 37 supra, at iv-v.
ing sectoral approaches and rigid distinctions between ocean floor, continental shelf, territorial waters, contiguous zones, and high seas. The basic divide was, as it remains, in the positions of developing countries as opposed to those of the technologically advanced ones. The former tend to advocate a broad belt of national coastal jurisdiction in the littoral state coupled with strong operational international machinery for areas beyond national jurisdiction (maximalist approach), while the latter are committed to a narrow belt of coastal jurisdiction and nonoperational or even non-existent machinery as a feature of whatever international regime is to become applicable to areas beyond national coastal jurisdiction (minimalist approach).

Apart from the United States, French, United Kingdom, and Tanzanian documents, a draft treaty prepared by Arvid Pardo was circulated to participants at PIM II and became the focus of intensive discussion at the conference prior to its formal introduction into the United Nations. Reflecting the dramatic change in theme between PIM I and PIM II, the Maltese draft differed in kind, rather than degree, from all others. To place the document within the context of the entire spectrum of competing national entries submitted to the U.N. Seabed Committee, the Maltese draft treaty and the United Kingdom Working Paper represented conceptual extremes, with the former reaching out toward the world of the twenty-first century and the latter reaching backwards into the nineteenth.

The United Kingdom document enthrones freedom of the seas and takes particular care to ensure that the legal status of superjacent waters remains severed entirely from whatever regime is discernible for the seabed beyond national jurisdiction. As to seabed beyond national jurisdiction, the exploitation of resources is to be governed by an ill-defined "minimalist" international regime with virtually non-existent machinery described, with nothing more, as forming "a part

51. See note 88 infra.

52. Tanzania leads the brigade of developing countries committed to the "maximalist approach." For the most part the "maximalists" do not possess significant technological capacity for undersea exploration or exploitation. See Johnson, supra note 39, at 20. Another distinct political bloc are the land-and shelf-locked states. See Ibler, The Land- and Shelf-Locked States and the Development of the Law of the Sea, 4 Annals of Int'l Studies 55 (1973).

53. States that have put forward "minimalist" proposals that would limit the international regime to nonoperational activities are the United States, the Soviet Union, Britain, France, Canada, and Poland. The U.S. proposal, however, does give an International Seabed Resource Authority power to grant licenses for all exploration and exploitation of mineral deposits on the seabed beyond a trusteeship zone to be administered by the coastal state. See Chapters II and III of the U.S. proposal, supra note 46.

54. See Proceedings, Pacem in Maribus-2, June 29-July 5, 1971, at 419-68, 524-25. The draft treaty itself was later cast as a U.N. Document, see note 60 infra.

55. See note 48 supra.
of the United Nations family.\textsuperscript{56} The area covered by the international regime is nowhere defined nor does any dispute-resolving mechanism appear. At the hands of the United Kingdom the epoch-making United Nations pronouncement on the "common heritage of mankind" merely provides reinforcement for the proposition that each state on the planet is to be allocated its very own block of seabed. This burlesque of the 1967 Pardo initiative is to be achieved through a physical division of the entire seabed on a global basis with a parceling out of discrete blocks of wet acreage among states signatory to a type of bizarre treaty which should properly be drafted by private real estate developers.\textsuperscript{57}

At the opposite end of the spectrum, the Maltese proposal is not even characterized as a "Seabed Treaty" but rather as an "Ocean Space Treaty,"\textsuperscript{58} prompting the Soviet Union to protest that its very consideration by a sub-component of the U.N. Seabed Committee was tantamount to the commission of an \textit{ultra vires} act.\textsuperscript{59} The Maltese concept of the "common heritage of mankind," \textit{qua res communes}, compels the adoption of a completely new and equitable international legal order of a broad institutional character for the whole of hydro-space rather than just a regime and machinery applicable to the seabed beyond national jurisdiction.\textsuperscript{60} In its complete rejection of sepa-

\textsuperscript{56} See Section 6 of the U.K. draft, \textit{supra} note 48.

\textsuperscript{57} See \textit{id.}, at Section 8.

Thus one is asked seriously to contemplate Tanzania, or a land-locked State like Afghanistan, providing a control and enforcement system, not for one bloc only but for up to say, 300 blocs scattered all over the world's oceans: the sort of task that the British Empire at its zenith was scarcely able to accomplish within its land territory.

Johnson, \textit{supra} note 39, at 21.

\textsuperscript{58} As stated by Elisabeth Mann Borgese at PIM II, the concept of the 'sixties' separated ocean activities and proposed to deal with only one—the recovery of fossil fuels and minerals, and only in one geographic area—the seabed beyond the limits of national jurisdiction. The concept of the 'seventies' recognizes the interaction and interdependence of all sectors of ocean activities, but still tries to cover them with different 'regimes.' The broad view of 2,000, reflected in the ocean-space treaties, covers all ocean activities.

Proceedings, Pacem in Maribus-2, June 29-July 5, 1971, at 13. In addition to the Maltese draft prepared by Arvid Pardo, an extensive draft ocean space treaty was formulated by Elisabeth Borgese and was the subject of considerable discussion at PIM II. Like the Maltese draft it treats all of hydrospace as an ecological unity. The international machinery would have wide powers of management and policing and would include a four-tiered Maritime Assembly to share with states the government of ocean space. \textit{See id.} at 419.

\textsuperscript{59} See statement of the USSR on the draft ocean space treaty prepared by Malta, 28 U.N. GAOR Supp. 21, at II, 48 U.N. Doc. A/9021 (1973). At PIM II Anatoly Kolodkin of the USSR discerned some useful and positive provisions in the ocean space treaty drafts of Pardo and Borgese (see note 58 \textit{supra}) pointing out, however, as to the Pardo draft as it then existed, certain conflicts between it and the U.N. Charter on that aspect of the draft legitimating the use of force by the international machinery proposed. \textit{See Proceedings Pacem in Maribus-2, June 29-July 5, 1971, at 461.}
rate regimes for different geographical and functional sectors of hydro-
space, the Maltese position comes closest to the positions and admoni-
tions of scientists and marine environmentalists who continue to plead
their case that no matter what is decided in 1974 at Caracas, the en-
tire ecology of the planet will still not arrange itself into neat na-
tional compartments.

This new legal order together with the institutions envisaged
by the Maltese is revealed in some 100 pages of documents encom-
passing the 205 articles of the original 1971 Maltese Draft Ocean
Space Treaty plus the 105 articles in its 1973 revision. A section-
by-section analysis of these documents would assuredly add to the
welter of draft treaty publications, working papers, and articles intro-
duced into the United Nations by more than seventy governments
separately or in association. But a discursive examination of the
Maltese drafts in an isolated context without evaluation of other
national entries—particularly the United States draft of 88 articles
in some 71 pages—would be of little probative value in coming

60. See comments on the Maltese Draft Ocean Space Treaty, 26 U.N. GAOR,
GAOR, Supp. 21, at II, 48, U.N. Doc. A/9021 (1973); Notes on revisions to the Mal-
A/9021 (1973). See also Maltese draft articles for the preservation of the marine
environment (including, inter alia, the prevention of pollution), U.N. Doc. A/AC.

61. See note 38 supra.

(1971) [hereinafter cited as Draft Ocean Space Treaty]; Malta: Preliminary Draft
Articles on the Delimitation of Coastal State Jurisdiction in Ocean Space and on the
Rights and Obligations of Coastal States in the Area under their Jurisdiction, U.N.
Doc. A/9021 (1973) [hereinafter cited as 1973 Revision]. See also notes 59 and 60
supra.

63. See note 50 supra which contains the listing of states for 1971 only. In
1972 and 1973 additional submissions were made to the U.N. Seabed Committee. See

64. See notes 46 and 53 supra. According to one commentator:
The United States draft . . . is the only one that represents a genuine diplo-
matic initiative, in that it tries to "square the circle" of interests in a way po-
tentially acceptable to all. The United States plumps for the 200 metre limit.
But between this limit to pure sovereignty and the international territory, the
U.S. Government suggests that each coastal state should hold the rest of its
margin (from 200 metres right down to the "abyssal depths") in trusteeship
for all mankind . . . . All mankind would . . . get a substantial share . . .
of production royalties . . . . "Margin" exploitation rights would be licensed
by the coastal state, and then paid over to an International Seabed Authority,
which would pass on the resources (minus its administrative costs) to the
U.N. Secretary-General for distribution to the less developed countries.
Johnson supra note 39, at 20. But see subsequent modifications to U.S. position in
Draft article for a chapter on the rights and duties of states in the coastal seabed eco-
to grips with the broad range of selection which will confront the delegates at the 1974 United Nations Conference on the Law of the Sea. Since commentators far better equipped than the writer have already labored with these detailed comparisons, that prodigious enterprise is refreshingly beyond the scope of this article. Discussion will be limited, therefore, to selected provisions among the many treaty articles featured in the original 1971 Maltese draft and its 1973 revision. Unless otherwise noted, treaty articles referred to in the body of the text or footnotes which follow pertain to the 1971 draft.

The international machinery is formidable and is central to the Maltese scheme. Part V of the original draft treaty arrogates to international machinery—described by the name and style of "International Ocean Space Institutions"—plenary power to manage and administer "International Ocean Space" for the "common heritage of mankind." Invested with separate juridical personality, the Ocean Space Institutions may, in addition to exercising a number of other functions, operate their own international oceangoing flag vessels for a variety of purposes including marine research, the exercise of police powers, and the administration of certain reefs, sandbanks, and islands having less than 10,000 permanent inhabitants.

The primary objects and purposes of the international machinery include the maintenance of law and order in ocean space with emphasis upon suppression of slavery, piracy, and illicit drug traffic; the safeguarding of the quality of the marine environment; the encouragement...
of scientific research and dissemination of knowledge about the oceans; the development and rational management within international ocean space of both living and non-living resources with the object of ensuring equitable distribution among all states of the benefits derived, taking into particular consideration the interests and needs of poor countries landlocked and coastal; and the undertaking of any other activity for and on behalf of the international community consistent with the objects and purposes of remaining provisions in the proposed treaty.\textsuperscript{70}

The principal and subsidiary organs of the machinery are an Assembly, a Council, an International Maritime Court, a Secretariat, an Ocean Management and Development Commission, a Scientific and Technological Commission, and a Legal Commission.\textsuperscript{71} Standards for selection of states participating as members of key organs are predicated upon several factors, including the population of the state, the length of its coastline, the surface of its continental shelf, its fish and seabed mineral production, ownership of marine pipelines and cables, the size of its merchant marine, and its contributions toward marine sciences research,\textsuperscript{72} with due provision for balanced representation by developing and landlocked countries which do not meet these criteria for selection.\textsuperscript{73} In addition, so-called "micro-states" would be admitted to associate membership in the Ocean Space Institutions.\textsuperscript{74}

The Maltese approach is "maximalist" also in its advocacy of a 200-nautical-mile breadth of coastal state jurisdiction but with a number of safeguards and qualifications. The coastal state which exercises jurisdiction over such a patrimonial sea would be obliged to transfer to the international machinery a share of revenues which it obtains from the exploitation of natural resources in its own national ocean space.\textsuperscript{75} Moreover, the international regime would affect and impinge directly upon activities in national ocean space. For example, certain types of disputes between the coastal state and the international machinery would be subject to binding arbitration before the International Maritime Court.\textsuperscript{76} It appears, however, that even with these far-reaching qualifications the major objection to the 200-nautical-mile breadth of national ocean space is not cured since the coastal state could exclude a number of other states, rich and poor alike, from active participation in exploiting the most promising areas of the sea. Developing countries with limited technology would bear the brunt of

\textsuperscript{70} Id., Art. 91 (emphasis added).
\textsuperscript{71} Id., Art. 94.
\textsuperscript{72} Id., Art's. 122, 111.
\textsuperscript{73} Id., Art's. 112, 113.
\textsuperscript{74} Id., Art. 116.
\textsuperscript{75} 1973 Revision, Art. 11 note 62 supra.
\textsuperscript{76} Id., Art. 80.
\textsuperscript{77} Id., Art. 33.
this exclusion with landlocked ones outside the pale of potential participation.

As to the dedication of revenues administered by the international machinery and its analogue concerning the special needs of developing countries, the Maltese and United States approaches are similar to a limited extent in that both describe within the four corners of their respective draft treaties specific ends to be achieved in revenue distribution. The dedication of revenues for specific ends with the accent upon the needs of developing countries is set forth in the budgetary features of the Maltese draft. However, as an "ocean space" rather than "seabed" proposal the Maltese approach would place in the hands of the international machinery amounts of revenue considerably greater than amounts envisioned in the United States proposal. This is because revenues under the Maltese proposal would be derived from the exploitation of both living and non-living resources within international as well as national ocean space and not limited to those derived solely from the extraction of minerals from the seabed, ocean floor, and subsoil beyond national jurisdiction. Also, while there was a broad consensus in many national proposals that the international machinery would be authorized to approve its own budget and defray administrative costs from a portion of the revenues in its hands, the Maltese proposal would empower an organ of the machinery to apportion contributions among member states when marine-derived revenues are insufficient to cover the administrative expenses of the machinery.

Lacking sufficient background in the politics of ocean space, the writer cannot gauge whether any of the far-reaching concepts of the Maltese draft Ocean Space Treaty, briefly touched upon, might be adopted at the 1974 United Nations Conference on the Law of the Sea. Concerning the draft treaty instrument as a whole, its extraordinary length, apart from its revolutionary features, would appear to militate against acceptance, while the United States entry of some 71 pages appears to be a "frontrunner" among certain commentators. The significance of the Maltese draft, however, should not be measured in terms of its chances for winning the day at Caracas. That is not the point. The value of the contribution is in its portrayal of a treaty instrument for the hydrospace segment of Trans-national

78. See note 137 infra with respect to the revenue distribution features of the U.S. draft.
80. Id., Art. 103.
81. See Johnson, supra note 64 and Danzig supra note 65. Their comments were made prior to the participation of Energy Czar Simon in the policy-making process. See note 64 supra.
Space, one which may become a future rallying point if, as anticipated by some, the vertical and horizontal Balkanization of the oceans must inevitably fail the Balkanizers themselves.

Then too, if any type of international machinery is produced at Caracas, that revolutionary break-through in international organization will not end on the seabed or even at the water's edge. Ahead are the Antarctic and outer space segments of Trans-national Space. As progenitors themselves of the Maltese initiatives, those treaties remain models of brevity since at the time of their negotiation there was not, as there is not at present, any requirement for assigning to an international machinery a role in administering for the "common heritage of mankind" a few scientific curios brought back from moon trips or Antarctic expeditions. But that is changing rapidly. Though national claims to Antarctica remain to be reckoned with, it is not inconceivable that at least the unclaimed portions will fall under the sway of an international administration, particularly when the present state of the art not only makes feasible the exploitation of certain Antarctic resources, but even now sustains commercial tourism to the continent. As to the outer space segment, while its exploitable resources are limited, at present, to the selection of precise earth orbits for optimum emplacement of telecommunication and other types of satellites, the Skylab experiments by NASA are beginning to demonstrate the potentials for new commercial ventures in "space manufacturing." Moreover, from the engineering—not to mention the environmental—point of view, the functional political divisions between outer space, atmosphere, and ocean space have always been arbitrary and elusive; it is difficult to determine where the tasks of outer space hardware (the satellites) end and where those of ocean space hardware (the research vessels) begin in any system engineered to integrate the two in the pursuit of scientific knowledge.

82. See Antarctic and Outer Space Treaties, notes 4 and 10 supra.
83. See note 4 supra.
84. See Tourism Comes to Antarctica, OCEANS MAGAZINE, Jan.-Feb., 1974, at 12.
85. See note 2 supra and note 88 infra. The CINECA Project (Cooperative Investigation of the Northern Part of the Eastern Central Atlantic) organized by the International Council for the Exploration of the Sea (ICES) in cooperation with the Food and Agriculture Organization of the United Nations (FAO), the World Meteorological Organization (WMO), and UNESCO's Intergovernmental Oceanographic Commission (IOC) is intended to facilitate theoretical and experimental investigation by linking in an integrated hardware system, ATS-type satellites together with transceivers for them on land and aboard ship, African-based research aircraft performing daily overflights of the ocean area, and oceanographic research vessels from several countries. Through satellite communications, instantaneous hard-copy data transfer among the surface components of the oceanographic expedition will be achieved with an efficiency never before possible, according to information received by the author from NASA officials.
To the extent, therefore, that both the Outer Space and Antarctic Treaties even now comprehend the undertaking of activities by, and the encouragement of working relations with, agencies within the U.N. system, the ultimate extension of international machinery to those segments of Trans-national Space will hardly be deemed revolutionary in the wake of any accomplishment toward that end achieved for the hydrospace segment by the 1974 United Nations Conference on the Law of the Sea. This point-counterpoint relationship among the various political segments of Trans-national Space was eloquently stated by Professor Louis B. Sohn of Harvard University on the occasion of Pacem in Maribus II:

With respect to the seabed, we have started with a declaration of principles, which will also form a basis for a more elaborate instrument. But that new instrument will go beyond the outer space treaty, as it will establish a comprehensive regime for the seabed, including an effective machinery for its implementation. The recent Soviet proposal for a moon treaty is clearly limited in scope. I can, however, imagine that it might lead some scholars to suggest that arrangements now being developed for the seabed should, in turn, form the basis for a new regime and machinery for the orderly development and rational management of the resources of the moon, and later of other celestial bodies as well. Thus, in less than ten years the new concepts have reached the moon, have dipped into the oceans, and transformed by Neptune's old magic are returning with new vigor to Diana's realm.

Despite dramatic demonstrations that all segments of Trans-national Space are now engrafted to each other by the "connective tissue of engineering and advanced technology," the interactions anticipated by Sohn and others will doubtless be deemed beyond the pale of the formal conference agenda at Caracas. Other engaging issues are also destined to escape formal notice as, for example, the extent to which the Fatherlands may prove willing to apply in Trans-national Space, beginning with the hydrospace segment, United Nations

86. See notes 7 and 10 supra.
88. See notes 2 and 85 supra. While the conferees at Caracas may remain hypnotized and transfixed in the task of formulating apt mechanical definitions for staking out vertical and horizontal political boundaries in hydrospace, Calypso, with her space artifacts positioned throughout Trans-national Space, hammered home, in the words of Wenk, "the neglected role of engineering as the connective tissue between scientific understanding of the sea and its practical use." Wenk, supra note 15, at 257. If a broad boundary alternative for national ocean space is adopted with inadequate international machinery functioning in the segment beyond, the role of engineering will hardly be neglected in the depletion of ocean resources by states with the requisite technological capacity. In the long-run all countries will lose, particularly the poorer ones now clamoring for broad territorial seas beyond their effective control.
89. See notes 5 and 8 supra.
Human Rights Conventions and Covenants as positive directory law applicable to all actors irrespective of the local discriminatory notions of their governments back home. The realization of such a goal is neither fanciful nor necessarily far off even within the present state-centric system of international relations. Moved more by the simple dictates of national greed than by tons of printed U.N. rhetoric on the "rights of man," even the most oppressive regimes on the planet, with an eye on their national budgets, may not seriously assail formal moves by the international community to convert Trans-national Space into a de facto catalyst in the planetary expression of fundamental human rights.90

While issues concerning the preservation of the marine environment and scientific research fall squarely within the terms of reference for the Caracas Conference, indications are that the scientists and environmentalists will head the list of disappointed proponents whose views will be relegated to secondary importance in diplomatic exchanges concerning the proper breadth of territorial waters and the metes and bounds of authority in the international regime beyond. By its terms the Maltese draft Ocean Space Treaty accords top priority to the interests of the scientific community and the aspirations of environmentalists, but even the staunchest advocates of that instrument describe it as ahead of its time.

Wedded also to the interests of science and the preservation of the marine environment, the third Maltese proposal, which is the subject of this article, is not ahead of its time, but appears to have been formulated with the calculated object of catering to sovereign prerogative as it now exists within the present state-centric system. The proposal concerns the organization and establishment of an International Sea Service. If realized, it would not only enthrone science and research for the benefit of mankind, but in the process would harness a spectrum of young academic talent from both developed and developing countries as direct actors in a joint venture played out, in its ultimate conceptualization, in the whole of Trans-national Space.

90. Rather than attempting to force-feed the panoply of Human Rights Treaties and Covenants to unreceptive national parliaments, more immediate results might be achieved by striving for a consensus by the international community that the concepts contained in these Treaties and Covenants attach as positive obligations in Trans-national Space. Since the added technological costs entailed in attempting to enforce Apartheid or some other home-grown abomination within the oceans, in space, on the moon, or in Antarctica might even bankrupt the treasury of a super power, factors such as these may, and should, ultimately convert Trans-national Space with its human actors—many indistinguishable one from the other in their pressure suits—into the primary proving ground for the practice and exercise of the entire spectrum of international human rights.
III

THE INTERNATIONAL SEA SERVICE

In 1958 a rudimentary proposal to provide a few United Nations Specialized Agencies with a modicum of research operating capability at sea was discussed among exponents of the World Peace Through Law movement. The following year a draft plan for an international-type sea service was transmitted to Senator Hubert H. Humphrey as a counter-approach to the "Great White Fleet" plan featured in Life Magazine and fielded before the United States Congress with the apparent imprimatur of the U.S. Navy. Both approaches would have utilized "mothballed" U.S. Naval vessels, but there the similarity ended. In the draft plan submitted to Senator Humphrey, the "mothballed" ships, stripped of military armament and refitted as modest research vessels, would have passed to the control of the United Nations Organization. In a dramatic signature and finale to their former roles as ships-of-war, the refitted vessels would have been operated by the United Nations for and on behalf of selected U.N. specialized agencies invested by their treaty charters with varying scientific, technical, and training missions in hydrospace.

Nothing materialized from either plan. In the interim the "mothballed" vessels deteriorated at their moorings. Throughout the 1960's the idea of placing a modicum of seaborne operating capability in agencies within the United Nations system was revived in various forms and by organizations as divergent in their functions as the United Nations Educational Scientific and Cultural Organization (UNESCO) and the United Nations Intergovernmental Oceanographic Commission (IOC).
International Telecommunication Union (ITU). Documents prepared within these agencies tended, however, to reflect parochial interests, and the concept of an international-type sea service, as operating agent for all, received scant attention.

A resurgence of the concept occurred in 1970 when scientists within and without the U.N. system began to evaluate the plan as a vehicle for enhancing the scientific, technical, and maritime training opportunities for promising young scholars, particularly those from developing countries. While retaining the original conceptualization of an international sea service as the operating seaborne agent for organizations in the U.N. system, the revised plan gave equal billing to the scientific, technical, and maritime training features of the scheme. In this form the plan engaged the attention of Arvid Pardo. Through his efforts it was introduced into the General Assembly of the United Nations by the Government of Malta on November 16, 1971 and circulated the next day as an official document of the United Nations.

This background history of the Sea Service proposal and its evolution is essential to an understanding of several tantalizing distinctions.
between that concept and the whole revolutionary direction of the Maltese Seabed and Draft Ocean Space Treaty proposals. First, there is nothing revolutionary in the proposal for an International Sea Service (ISS). At least four public international organizations within the U.N. system operate research laboratories, research vessels, or both. Although the vessels involved sail, for the most part, under some national "flag of convenience," most are owned outright by different agencies in the U.N. system. Second, the administrative mechanism described in the pages of the Maltese proposal for an International Sea Service would have to be characterized as "ultra-minimalist." No operating missions under the plan could be undertaken directly by the Sea Service. All would be derivative, and entirely dependent upon the use of ISS ships, facilities, and personnel by agencies within the U.N. system already allocated responsibilities in hydrospace under the terms of their respective treaty charters or by necessary implication of their powers.

As a central feature of the plan, this relationship of principal and agent between the agencies in the U.N. system on the one hand and the proposed Sea Service on the other is set forth in a draft resolution introduced by Malta into the U.N. General Assembly on November 23, 1971 and containing in section 1 thereof the following statement of objectives for the ISS:

(a) To make available and to operate vessels and facilities for the use by the United Nations, the specialized agencies and organizations within the United Nations system for the purpose of provid-


99. In indicating that there are strong proponents on both sides of the controversy over whether a public international vessel may fly the U.N. flag alone, or may not fly that flag without also flying a flag of convenience, Holt conveys the incidental intelligence that on one or two occasions flying the U.N. flag alone have been "arrested." See Proceedings, Pacem in Maribus III, June 27-July 3, 1973, at 197. See also Szasz, The Convention on the Liability of Operators of Nuclear Ships, 2 Maritime L. and Commerce 541, 564 (1970-71). "Neither the high seas nor, strictly speaking, the ship are part of the flag State's territory. It could nevertheless be argued that a merchant ship can sail on the high seas because its flag State allows it to do so." Caflisch, Some Aspects of Oil Pollution from Merchant Ships, 4 Annals of Int'l Studies 213, at 219 (1973).
ing the latter with the capacity to undertake training and/or scientific programmes or projects, within their respective competence related to ocean space;

(b) To train, under the auspices of the United Nations, the United Nations Development Programme, the specialized agencies and organizations within the United Nations system, persons, particularly from developing countries, in trades and in sciences related to the seas.\textsuperscript{100}

On their face these objectives describe operating international machinery but here again not in the same sense or context as the “international machinery” referred to in U.N. General Assembly Resolution 2750 C.\textsuperscript{101} That machinery, if established at all, is in futuro and appertains basically to “the area and resources of the sea-bed and the ocean floor, and the sub-soil thereof, beyond the limits of national jurisdiction.”\textsuperscript{102} The ISS, as conceived, would operate as a sub-structure under the entire array of “international machinery” within existing U.N. agencies together with any future “machinery” for the hydrospace segment within contemplation of U.N. General Assembly Resolution 2750 C.\textsuperscript{103} The components of a vessel furnish a useful analogy in illustrating the relationship. The entire array of international machinery as described may be likened to the main propulsion steam-driven turbines of the ship. The diesel auxiliary machinery used for operating the deck winches would correspond to the function of the ISS in the total vessel configuration. The point is that irrespective of whether a “minimalist,” “maximalist,” “moderate,” or even “non-approach” for an international machinery is engineered at the 1974 United Nations Conference on the Law of the Sea,\textsuperscript{104} the auxiliary machinery characterized in the ISS proposal could be geared and accommodated to whatever mode is adopted.

Because nothing in the basic plan or the statement of objectives for an International Sea Service concerns the breadth of territorial waters, the establishment of an international regime and machinery in some sector of hydrospace, or the exploration and exploitation of the seabed, the act of the U.N. General Assembly in transmitting the question on the creation of an ISS to the U.N. Sea-Bed Committee\textsuperscript{105} must relate to the Committee’s mandate pertaining to the conservation


\textsuperscript{101} See note 38 supra.

\textsuperscript{102} Id.

\textsuperscript{103} Id.

\textsuperscript{104} See notes 52 and 53 supra.

of the living resources of the high seas, the preservation of the marine environment, and scientific research. Consequently, if forecasts prove correct that science, conservation, and environmental protection will be relegated to secondary importance at Caracas, the Maltese proposal for an International Sea Service might afford at least half a loaf, and a chance for an encore for these very interests, if the international community can be persuaded, even after the Caracas Conference, to actuate the "auxiliary machinery."

While the Maltese Seabed and Draft Ocean Space Treaty proposals have been the subject of considerable comment in the legal literature, only a few documents pertain to the International Sea Service.106 By and large, the concept of its agency function is not completely refined within them. The following, therefore, is a section-by-section analysis of the Sea Service proposal together with an examination of its far-reaching implications, some of which extend even beyond the hydrospace segment of Trans-national Space.

The Maltese Proposal for an International Sea Service is cast in a relatively modest document of eight sections extending over 14 pages with eight additional pages containing 28 illustrative scenarios.107 The Introduction (Section I) indicates that the proposal has been formulated with "traditional patterns of international cooperation" in mind108 so that the approaches described in the plan would supplement, and not displace, other international schemes for protecting the marine environment. The environmental tone of the document is established in a prefatory note containing a statement by Jacques Cousteau.109

Section II identifies the institutional users of the proposed ISS. These are limited solely to intergovernmental organizations within the United Nations system. Most are identified within the Section,110 but


108. Id. at 1-2.

109. "In thirty years of diving I've seen slow death everywhere I've gone underwater. In the past twenty years life in our oceans has diminished forty percent. If it continues, I predict that man has only fifty more years to live on this planet." Id. at 1.

110. Id. at 2. They are: The United Nations (UN), the Intergovernmental Maritime Consultative Organization (IMCO), the Food and Agriculture Organization of the United Nations (FAO), the International Atomic Energy Agency (IAEA), the World Health Organization (WHO), the International Labor Organization (ILO), the International Civil Aviation Organization (ICAO), the United Nations Educational Sci-
the listing is not exclusive and was obviously formulated prior to the
organization of the newly-established U.N. Environmental Program
(UNEP). As to the United Nations Organization itself, it is included
within the definition of "intergovernmental organization;" conse-
quently UNEP and any future U.N. Seabed Authority would qualify
as principals and users of the Sea Service.

There is one caveat to U.N. participation. Unlike the United
Nations Sea Guard concept contained in the draft treaty prepared by
Senator Pell,\(^{111}\) or Cousteau's vision of the "Sheriffs of the Sea,"\(^{112}\)
or the ideal of a seaborne international police force articulated by the
late Wolfgang Friedmann\(^{113}\) and also expressed in various forms to the
U.N. Seabed Committee, there are no policing or enforcement func-
tions invested in the ISS as proposed, and there is absolutely no link
with the U.N. Security Council.\(^{114}\) In the cause of environmental pro-

cientific and Cultural Organization (UNESCO), the World Meteorological Organization
(WMO), the International Telecommunication Union (ITU), the International Bank for
Reconstruction and Development (BANK) and the International Finance Corporation
(IFC).

111. See note 31 supra. See also the message sent by Senator Pell to Pacem in
In a letter to the writer dated February 4, 1974, the Senator discerned no problem in
the difference in approach between the Maltese plan for an International Sea Service
and the United Nations Sea Guard which he had advocated for many years indicating
that "The eventual sea service or sea guard can be a synthesis of both." In comment-
ing also on the research efforts for an ISS now underway at the University of California
(Berkeley), he observed that "Research on the interdependency of the regimes of outer
and ocean space in the evolution of a unified trans-national regime, brought to mind
what an international sea service could do in assisting in the retrieval of astronauts and
space vehicles of countries without naval forces that girdle the globe as does the United
States Navy." While these concepts fall far afield of the modest Maltese proposal for
an ISS, certainly if the Sea Service were to acquit itself well in its formative years, en-
larged tasks would be assigned to it by the international community as confidence
mounted.

112. During a NASA press conference conducted via satellite with Cousteau in
Antarctica while he was aboard Calypso, the explorer, reflecting upon the wanton de-
struction of marine species, asserted "that some international control has to be made,
some police; and I am thinking of the laboratories as housing the 'sheriffs of the sea,'" Press Conference with Jacques Yves Cousteau, NASA News, March 1, 1973. Free
from national bias and partisan orientation, the public international laboratory would
appear admirably fitted for this role if the types of powers which Cousteau had in
mind were eventually delegated to such laboratories by the international community.
See note 98, supra. Within this context the ISS, qua seaborne agent for the laborato-
ries, could properly undertake policing functions. Quite apart from essential relation-
ships with public international laboratories, the ISS necessarily would have to rely, in
considerable measure, on the use of university and national research laboratories to
furnish backup analysis and expertise in connection with directed research projects
performed aboard ship.

113. See proceedings, Pacem in Maribus-2, June 29-July 5, 1971, at 270.
114. But cf. original concept of ISS in 1958 plan discussed in note 93 supra. While
not referring to the functions of the U.N. Security Council, Colonel Bjorn Egge of Nor-
way suggested that the "ISS could serve well as a forerunner of [an] International Sur-
tection and marine conservation, the weapons available to the Sea Service would lie both in the deterrent effect conveyed by the mere presence of distinctively marked public international research vessels and in the tasks which they perform while calling at ports throughout the world, implementing environmental and marine conservation-type projects assigned by the intergovernmental organizations. Scenario 8, as follows, illustrates this role:

8. The Food and Agriculture Organization requests that ISS Vessels, when calling at the ports of developing countries, furnish, at the request of the Governments concerned, on-the-spot instruction to fishermen concerning the conservation of fisheries and the economical use of by-products derived from fish indigenous to the area. For this purpose the FAO provides the Sea Service with literature, pictures, films, and other training aids illustrating the depredations to the ecology which occur from overfishing and indiscriminate fishing. FAO requests also that enginemen ratings from ISS Vessels undertake, while in such ports, the practical instruction of fishermen in the use of simple marine engines which may be adapted for their boats.

Note that in keeping with the theme of accommodating sovereign prerogative, the imprimatur of the local Government is affixed to the project. Note also that the FAO, authorized by its charter to undertake the activity, is the prime mover: not its agent, the International Sea Service. Thus, reinforced institutional identification and paramount responsibility for both on-board and shore scientific, technical, and training projects would devolve upon specific scientific and technical agencies within the U.N. system and not the ISS which under the Maltese plan would be empowered only to operate and crew ships for its institutional principals. Moreover, the plan specifically anticipates that experts employed by the institutional users of the ISS would not merely be embarked aboard during vessel operations, but would be assigned shares in the direct

115. At Pacem in Maribus III, the proponents of an ISS discussed instituting within the Mediterranean littoral an operational pilot project requiring two small vessels which would sail under distinctive markings and colors and with night illumination for the purpose of identifying pollutants and their sources and performing limited oceanographic and meteorological tasks. See Proceedings, Pacem in Maribus III, June 27-July 3, 1972, at 189-90. It was theorized that as the vessels became known, their mere presence might exert some salutary effect in deterring pollution. Though the pilot project remains, for the moment, moribund, a dialogue concerning it was established in 1973 between the Royal University of Malta's International Ocean Institute and representatives from several countries within the Mediterranean littoral, an amazing accomplishment in and of itself considering the tensions dominating that area. Correspondence in possession of the author from the International Ocean Institute of the Royal University of Malta.


117. See Scenarios 5, 10, 17 and 25 of the ISS Proposal, supra note 97, at 15, 17,
professional training of ship's company.\textsuperscript{118}

The Sea Service could supplement and improve upon present use of ships by U.N. agencies. The Food and Agriculture Organization, prominent among public international ship operators and owners,\textsuperscript{119} could, and perhaps does, directly undertake the type of activity described in Scenario 8. Even a casual reading of the Maltese plan discloses, however, that the size and capabilities of ISS vessels as envisioned and those currently controlled directly by scientific and technical agencies within the U.N. system would differ materially. Conferees at Pacem in Maribus III viewed the ISS proposal as supplementing, not supplanting, the highly specialized but limited operational tasks at sea currently conducted by the U.N. agencies.\textsuperscript{120} But strong incentives for the U.N. agencies to use ISS vessels, if they are ultimately permitted to sail, are also discernible from an examination of recurring problems which have plagued existing public international ship operators. These include\textsuperscript{121} the perennial "U.N. flag problem;"\textsuperscript{122} title disputes over vessels arising from tendencies of certain governments to consider ships purchased by public international organizations as national property after one or two years in which their national flags of convenience have flown aboard them; default by a few other govern-

\textsuperscript{118, 20 illustrating respectively the embarkation of FAO, IAEA, UNESCO and ITU researchers. To the extent also that the "home ports" for ISS vessels, wherever practicable, would be in coastal developing countries, these countries would become the immediate beneficiaries of the research and advanced academic competence represented by these special-purpose vessels, their crews, and the international experts embarked aboard. The few public international laboratories which now exist are understandably located in developed countries. Visible extensions of them, the ISS research vessels, would function as their tangible surrogates in a number of poorer countries which otherwise could not sustain such laboratories. \textit{See note 98 supra.}

118. With respect to scientific and technical training for postgraduate researchers embarked aboard, the following organizations are mentioned in the plan: FAO-Scenario 5; WHO-Scenario 9; IAEA-Scenario 10; UNESCO-Scenario 18. For seafarer and radioman training and certification, the following would be involved: ILO and IMCO-Scenario 15 and ITU-Scenario 24. \textit{See also Section V(A) of the plan which mentions additional intergovernmental users.} ISS Proposal, \textit{supra} note 97.

119. Large sums of money are devoted to FAO's operations involving the use of shipping facilities, first in the procurement of vessels and then in their proper maintenance. The number of vessels used is 128—UNDP has sixty-eight vessels (combination research/fishing; trawler/purse seiner). . . . The total cost of all Field Projects of the [FAO] Department of Fisheries—operational and approved—is U.S. $135 million. The UNDP contribution amounts to U.S. $60 million, and the Government contributions to U.S. $66 million, while UNICEF, FFHC (Freedom From Hunger Campaign) and some other organizations cover approximately U.S. $9 million. The \textit{Regular Programme} budget of the Department for 1972 is U.S. $6,500,000. The main objective of the \textit{Regular Programme} is to give logistic support to the Field Projects.

\textit{U.N. Joint Inspection Unit, supra} note 98, at 1.


121. As enumerated in \textit{U.N. Joint Inspection Unit, supra} note 98, at 5.

122. \textit{See note 99 supra.}
ments in the underwriting of a share of ship operating costs; under-trained officers and crew who perform at substandard pay with little incentive to go to sea;\textsuperscript{123} local administrative red tape in clearing vessels from port; insufficient research personnel and technicians embarked aboard; and spare parts problems and lack of equipment standardization.

By its approach the Maltese plan would relieve public international users from most of these problems. Organized as a separate public international organization within the U.N. system, the business of the International Sea Service would be the business of ships including their procurement, management, operation, maintenance, and repair. The plan assures that only highly experienced masters, mates, and subordinate officers would man the vessels. Most would be drawn from the ranks of retired mariners with considerable service at sea and each would be certified by competent public institutional users of the ISS.\textsuperscript{124} Salaries for such an experienced cadre of maritime talent would be relatively modest since the plan contemplates that any retirement pay drawn by them would operate as a deduction against public international salary payments.\textsuperscript{125} Presumably, their incentive to go to sea again would arise from the simple motive of gaining another command or billet after retirement and from their association as a component part of the seaborne "envoys of mankind" in the International Sea Service.\textsuperscript{126}

One of the recurring problems confronting present public international shipping operations concerns defaults in obligations by governments supporting the project. The Maltese plan is calculated to minimize such defaults since it is only by and through the discharge of obligations—whether in cash or in kind—that governments would be entitled to assign their respective nationals either to man ISS vessels or to receive professional training on them. There would be no grantors and grantees. The treaty charter envisaged in the Maltese plan

\footnotesize{\textsuperscript{123} It would appear that if pay, manning, and training standards aboard ships owned or operated by agencies within the U.N. system were not in accord with the minimum criteria set forth in the maritime segment of the International Labor Code promulgated by the ILO, the omission would amount to a violation of "international public policy." For discussion of this concept see Glazer, \textit{A Functional Approach to the International Finance Corporation}, 57 \textit{COLUM. L. REV.} 1089, 1103 n.78, 1107 (1957). In the Maltese plan the International Labor Code would apply to ISS vessels except that where deviations are required as a result of the public character of the ships, such deviations would be permitted with the approval of the International Labor Organization. See Scenario 13 of the ISS Proposal, \textit{supra} note 97.

\textsuperscript{124} Such as ILO, IMCO, and ITU (radiomen). See \textit{id.}, Scenarios 15 and 24.

\textsuperscript{125} See \textit{id.}, Section V Part B.

\textsuperscript{126} Also the present limited labor market for younger merchant marine officers coupled with their possible idealism and desire to provide a public service to the international community might attract some younger officers to the sea service. \textit{Id.} The concept of "envoys of mankind" is derived from the Outer Space Treaty, note 12 \textit{supra}.}
is in the nature of a joint venture between developed and developing countries, landlocked as well as coastal. Under the arrangement each must contribute to the Sea Service in some measure funds, property, services, or a combination thereof consistent with the ability to make a contribution.127

The "joint venture" approach is pre-eminent throughout the plan with no sovereign state stigmatized as a recipient of public largesse. Thus, the donation of a vessel by a maritime power capable of making such a contribution (Scenario 4),128 is offset and matched by the contribution of a developing country which makes its port facilities and local labor forces available to assist in minor overhaul or repainting of the vessel (Scenario 28),129 with the paint and materials conceivably supplied by a landlocked state. Moreover, intangible contributions are also taken into account to facilitate the joint venture such as acts by a coastal state in allowing Sea Service officers and crew to land for rest and recreation without restriction as to their nationality or the lack of one (Scenario 14; Section VI).130

Cash or in kind contributions by states would not constitute the only, or even primary, source of support for the ISS. The plan anticipates that the several public institutional users of the Sea Service would either transfer funds from, or receive augmentations to, their respective budgets to cover the value of services provided (Section VI).131 The added requirement for counterpart contributions from states is interrelated to the "quota system" also described in Section VI of the plan.132 The quota system would govern the selection of officers and crew with due regard for balanced representation between developed and developing countries, contingent, of course, upon meeting professional standards.

Significantly, these budgetary features of the Maltese proposal originated in the Sea Service draft plan of 1958133 during an era when the potential revenue-gathering aspects of some future international seabed authority were as remote as manned moon landings. Today, however, many proposals before the U.N. Seabed Committee advocate distribution in various forms by the international machinery of a share of seabed-derived revenues to public agencies after other priorities are satisfied. For example, in Paragraph 1, Article 5 of the U.S.-sponsored U.N. Convention on the International Seabed Area, the Inter-

127. See ISS Proposal, supra note 97, at 10-12.
128. Id., at 15.
129. Id., at 21.
130. Id., at 10-12, 18.
131. Id., at 10-12.
132. Id., at 11.
133. Correspondence in possession of the author. See also note 93 supra.
national Seabed Resource Authority mentioned therein would dedicate seabed revenues, in the first instance, "for the benefit of all mankind particularly to promote the economic advancement of developing States." In Paragraph 2, a portion of the total revenues is to be used, "through or in co-operation with other international or regional organizations," to promote a number of specific ends characterized in that Article.

A central issue concerning the application of Article 5 is which international and regional organizations are to be the beneficiaries. Wenk identifies scores of them involved in the specific ends described in the Article. Conceivably, the International Seabed Resource Authority could find itself engulfed in a bureaucratic anthill of competing international and regional organizations all vying for funds. The administrative costs which could be consumed in contending with such a constituency might be staggering.

On the other hand, the detailed ends to be sought under Paragraph 2, Article 5 of the U.S. draft constitute the raison d'etre in the Maltese submissions concerning the International Sea Service. Moreover, to the extent that the ISS could function as operating agent simultaneously for several cost-sharing institutional principals, wasteful duplication of effort between them might be avoided as demonstrated, for example, in the following Scenario contained in the Maltese plan:

10. The International Atomic Energy Agency (IAEA) in collaboration with the Food and Agriculture Organization and the World Health Organization requests the use of ISS vessels to conduct tests for determining the degree, and effect, of radioactivity in contaminated sea water in pre-selected areas and at various depths. Researchers from the IAEA laboratory at Monaco are embarked in ISS vessels for this purpose and utilize, while aboard, the technical services of 'science ratings' assigned to respective ships.

134. See note 46 supra.
135. Id., (Emphasis added).
136. See note 15 supra.
137. Viz.: to promote efficient, safe and economic exploitation of mineral resources of the seabed; to promote research on means to protect the marine environment; to advance other international efforts designed to promote safe and efficient use of the marine environment; to promote development of knowledge of the International Seabed Area; and to provide technical assistance to Contracting parties or their nationals for these purposes, without discrimination.

See note 46 supra. Moreover, as a qualified user of the ISS itself, the International Seabed Resource Authority would also have available to it Sea Service Vessels together with public international back-up laboratories in discharging any treaty missions requiring seaborne capability. See in this connection notes 98 and 112 supra.

138. ISS Proposal, supra note 97, at 17.
Furthermore, since the same vessel, at the same time, might conceivably be analyzing seawater or testing shipboard devices for IMCO (Scenarios 2 and 3), training young seafarers and radiomen from developing countries for the ILO and ITU (Scenarios 16 and 24), and furnishing continuing weather and meteorological reports under WMO and ICAO programs (Scenarios 22 and 23), each dollar of sustaining grant allocated to the "auxiliary machinery," qua the Sea Service by the "international machinery," qua the International Seabed Resource Authority, would go considerably further toward the end objectives specified in Part 2, Article 5 of the U.S. draft treaty than if parcelled out among competing bureaucracies. But even apart from these economies, the advanced scientific, technical and maritime training features of the plan suggest that an International Sea Service, if established along the lines of the Maltese proposal, should emerge as the preferred creditor among all public organizations in the matter of seabed revenue allocation.

The young would make up the crew complements manning ISS vessels under the direction of experienced mariners on the retired list as well as the experts from the intergovernmental organizations embarked aboard from time to time. Crewmen would be of two types, and are designated in the plan as Seafarer Crewmen and Science Crewmen. Selected essentially from developing countries, but based upon the quota system described, Seafarer Crewmen would man the ship and receive training on board from the cadre of experienced mariners attached to the vessel. Ultimate responsibility for the standards and quality of such training would be vested in the several intergovernmental organizations involved. Science Crewmen, on the other hand, would be furnished from both developing and developed countries and are described in the plan as

those who man the vessel and further their academic education in the physical and life sciences subsequent to having received formal university education in these disciplines at the undergraduate level.

140. See note 46 supra.
141. See note 117 supra.
142. ISS Proposal, supra note 97, at 6-10.
143. ILO, IMCO, and ITU; see note 124 supra. Section V(A)(i) of the ISS Proposal, note 97 supra, identifies "Seafarer Crewmen" as those who man the vessel and receive on-the-job training as seafarers or in trades allied thereto. These trades are identified as shiphandlers, enginemen, boiler-tenders, radarmen, electricians, carpenters, radiomen, metal workers, machinists, storekeepers, cooks.
144. ISS Proposal, supra note 97, at 7. "Although 'science crewmen' are aboard
Proportionate representation of Science Crewmen from developed and developing countries would be achieved through a quota system. The process of individual selection would appear to involve the acts of three independent institutional mechanisms—an accredited university which sponsors the Science Crewman candidate, the country of his nationality which allocates to him a billet from the personnel quota available to that country, and UNESCO which coordinates the paper work and pairs the candidate with a thesis advisor in his discipline. For example, a matriculated Indonesian science student at the University of California at Berkeley who possesses an undergraduate degree and wishes to earn an advanced degree in some marine orientation within his discipline would have to receive from the University of California institutional sponsorship for a long range ISS research program he wishes to pursue and from his home country a quota assignment. The identical procedure would occur had he been matriculated at the University of Moscow, instead of Berkeley, as illustrated in the following Scenario, which also describes UNESCO’s role:

20. Through UNESCO coordination, Academician X of the USSR Academy of Sciences consents to become the thesis advisor for Seaman Y, a national from a small country enlisted into the sea service as a scientific rating [and] possessing a degree in oceanography. A paper prepared by Seaman Y embodying a three year study of the Kuroshio Current in the Western Pacific is submitted to Academician X who reviews the paper favorably and submits his evaluation to UNESCO. Having previously arranged for the matriculation of Seaman Y . . . UNESCO then submits the information concerning the paper to the university involved which, in turn, awards a Master’s Degree after certain other prerequisites are satisfied by Seaman Y.  

Because the roles of a sponsoring university and UNESCO would be essential in the recruitment process, political considerations would be minimized in the selection of promising candidates from both developed and developing countries. Presumably, the administration of the quota system to guarantee proportionate representation would be centralized in the ISS.

The recurring problem of insufficient research personnel and technicians for existing vessels operated by U.N. agencies would ap-
pears to be resolved in the form of the ISS Science Crewman. Possessing a degree in one of the sciences, a Science Crewman, with a tangible stake in advancing his own postgraduate education, would be the researcher who performs under supervision the brunt of research and testing assigned to ISS vessels by the intergovernmental principals in the U.N. system. Moreover, in order to round out the educational experience, the plan contemplates that Science Crewmen might be seconded for tours of duty ashore at the various headquarters establishments and laboratories maintained by agencies within the U.N. system.

Finally, the Maltese plan for an International Sea Service conceives of the proposed organization itself as a grand planetary experiment in inter-cultural accommodation with overtones extending to manned spaceflight. Section II of the plan suggests that quite apart from facilitating ocean exploration, research, and development the operations of the Sea Service would also result in applying to possible future 'mixed-national crews' of manned spacecraft working together in the isolation of outer space some of the lessons learned from observing in a controlled environment, the conduct and behavior of ISS officers and crewmen from different countries and backgrounds working together in and perhaps within the isolation of 'ocean space.'

This feature of the Maltese plan may be instinct with beneficial implications for the Space Shuttle and other NASA manned-space programs, if some wider base of selection for future international complements of scientist-passengers is to be sought for orbiting laboratory and other space missions. Here the plan emerges as a credible blueprint for the future, enabling the proponents of manned-space research missions to look in the first instance to an International Sea Service for

(i) a ready-made cadre of top science graduate students and advanced researchers,
(ii) from a variety of developing and developed countries,
(iii) who have already qualified on the basis of physical and

148. Limits on the number of ISS vessels coupled with the nature of their research operations would of necessity confine the competition for service aboard them not only to graduate science students of demonstrated competence but to those who are physically and emotionally fit to contend with the rigors of the sea, perhaps producing in the process the young scientific cadre envisaged by the physicist Edward Teller who 'urged that an elite corps of graduate students be given fellowships in applied science or advanced engineering and screened scrupulously 'in a manner untouched by politics.' ' S.F. Chronicle, Sept. 1, 1973 at 2, col. 4.
149. ISS Proposal, supra note 97 at 21-22 (Scenario 28).
150. Id. at 5 (Emphasis in original).
emotional fitness for the rigors of shipboard scientific research conducted over prolonged periods, and
(iv) who have already demonstrated their scientific aptitude in the performance with their peers of directed research projects conducted under the auspices of one or more supervising academicians from various universities throughout the world.

Were an ISS to exist, it is not inconceivable that developing countries for the first time would contribute tangible shares to the cause of manned space research in the form of their own young scientists who opt to complete, in outer space, components of marine sciences projects first pursued by them in the confines of an ISS research vessel. Moreover, if space technology itself becomes a part of the hardware extension of ISS vessels, much of the awesomeness and remoteness of orbiting research satellites would be eliminated. Opportunities for Science Crewmen to "work the system" and gain in the process familiarity with advanced space technology would go far in achieving worldwide acceptance of the new art.

In addition to the implications for manned-spaceflight, benefits to other types of national space programs might be realized. The primary problems bound up in planetary applications for peaceful purposes of Earth Resources Technology Satellites (ERTS) are political and legal, not technological. Some of these problems might be eased and the use of this technology for peaceful purposes assigned greater credibility if accompanied by a companion program for the "ground-truthing" in ocean areas of ERTS by ISS research vessels containing complements of mixed Science Crewmen.

151. There is really no question in the minds of those conversant with the subject as to the importance of the shuttle and Dr. Jack Schmitt, the geologist aboard the Apollo Seventeen mission called it the beginning of an "era of imagination." He said he himself envisioned the shuttle as a stepping stone to an orbiting educational facility for students of all nationalities and disciplines. From the commentary of Charles A. King, broadcast over stations affiliated with the Mutual Broadcasting System and subsequently printed in 119 CONG. REC. 11,169 (daily ed. June 14, 1973).

152. See discussion of Calypso and CINECA Projects, notes 2 and 85 supra, neither of which involved the furnishing directly of space satellite technology to vessels operated by public international organizations. The precedent established by certain maritime countries in furnishing research ships directly to FAO and UNDP is certainly broad enough to extend to the furnishing of research satellites and the expertise that goes with them to the technical and scientific agencies within the U.N. system. Through participation in NASA's Earth Resources Technology Satellite (ERTS) and Skylab programs, FAO has already used ERTS or Skylab-derived imagery for projects in Bolivia, Botswana, Columbia, Ecuador, Ethiopia, Indonesia, Morocco, Philippines, and the Sudan. See Howard, Recent Applications of Remote Sensing to FAO Activities, at 5, FAO Doc. AGD (RS) 1/73, (Sept. 1973).

153. The Report of the PIM III Working Group for the ISS pointed out that an effective ISS, organized on a regional basis, could help allay the fears of developing states concerning the conduct of research and exploration by advanced states off their coasts.
These potential interactions with national space programs as described appear to fall within the purview of the Maltese proposal and were considered within the context of discussions on the ISS which took place during the 1972 Pacem in Maribus Conference. Beyond them, and beyond the scope of this article, are the grander visions of an International Sea Service.

CONCLUSION

THE BLUE PLANET BLUEPRINT

Assuming that world-wide social collapse can be averted in the twentieth century and that advances in technology will continue apace, the explicit details of an integrated blue planet blueprint for Trans-national Space will inevitably be written sometime in the twenty-first century when all segments become susceptible to exploration, exploitation, and colonization on a broad scale. Precipitated by the Maltese initiatives the edges of that blueprint are now discernible.

The 1967 Seabed Proposal caused the state-centric world of the Planent of the Fatherlands to accept, in Trans-national Space, for the first time, the revolutionary postulate that a part of the earth's surface together with certain of that area's resources should be dedicated in perpetuity to the common heritage of all mankind with the poor present as de facto co-equals at a banquet table of ocean resources prepared in turn, by some type of public international machinery—a second revolutionary postulate. As a direct outgrowth of the same initiative, the “Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Seabed and the Ocean Floor and in the Subsoil Thereof” represented the first steps in extending to portions of the hydrospace segment selective bans on military weaponry and fixed emplacements confined formerly to treaties governing the outer space and Antarctic segments of Trans-national Space. Uniquely associated with the descriptive segments of Trans-national Space, these multilateral instruments are not properly classified as “disarmament treaties” but rather more signi-

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Earth Resources Technology Satellites were not excluded from this observation. Report of Working Group supra note 106, at 190. See also note 2 supra. The most critical law of the sea issue with respect to scientific research is whether or not coastal state consent will be required to carry on scientific research in areas of coastal state resource jurisdiction. A coastal state’s basic concerns, from a resource management point of view, are the bona fides of the research project, participation in the research project, availability of all data and samples, and, particularly in the case of developing states, the technical means to assess the implications of the research for its economic interests. Stevenson and Oxman, supra note 65, at 29.

154. See statements by Pell, Cousteau, and Egge in notes 111, 112 and 114 supra. See also note 31 supra on U.N. Sea Guard.
significantly as "prevention of armament treaties," another discernible feature of the unfolding blueprint.

A further by-product of the Maltese initiative was the decision by the United Nations General Assembly to convene a third Conference on the Law of the Sea with a mandate for action considerably broader than the 1958 and 1960 Conferences. Predictably, the welter of draft treaty proposals in this third attempt to codify the law of the sea divided along the lines of competing political blocs of developed as opposed to developing countries, each with their land and shelf-locked contingents. Except for the Maltese treaty proposal, all others are united in preserving sectoral and functional distinctions between seabed and non-living resources as opposed to the superjacent water column and living resources.

In an attempt to reconcile the politics of the ocean with the scientific hypothesis that the planet cannot be divided into neat national compartments if the oceans themselves are to be saved, the Maltese draft Ocean Space Treaty considers hydrospace as an ecological whole including ocean floor, continental shelf, territorial waters, contiguous zones, high seas, and the atmosphere above. While from the beginning marine scientists and environmentalists have been convinced and convincing advocates of this approach, it would appear from an examination of preparatory U.N. documentation that statesmen will hold to the rigid distinctions between the various geographical and functional areas of hydrospace and its management.

Nevertheless, it is possible to conceive that the Conference might add an entirely new dimension to the future blueprint for a unified trans-national regime. That new dimension is the possible establishment of international machinery for managing selected resources within the hydrospace segment and for equitable distribution of the proceeds. Once woven into the woof and warp of international law, this concept could—and ought to be—extended to other segments of Trans-national Space.

For Antarctica the need for international machinery seems obvious. The Treaty concerning that area and its resources is more of a thirty year truce than a final settlement of conflicting national interests. For the time being these interests are held at bay in a juridical stasis through unique treaty provisions which maintain the status quo on national claims assertions to entire wedges of the continent. In the writer's opinion, areas not claimed should fall under the immediate sway of some public international administration preparatory to seeking an enlarged multilateral solution to the resources management of the entire Continent. Since the multilateral blueprints for both the Antarctic and outer space segments of Trans-national
Space even now comprehend activities in these areas by public international organizations, the transition to operative international machinery should not be traumatic, particularly if confidence can meanwhile be gained in some functional international machinery established for the hydrospace segment. This awaits the results of the 1974 Caracas Conference.

Scattered operational activities by a few public international organizations in the hydrospace segment are not attributable to declarations concerning these activities in Law-of-the-Sea-type treaties, but are traceable instead, directly or by implication, to grants of authority set forth in the various public international charters and statutes which establish these organizations and define their terms of reference. In the Maltese proposal for an International Sea Service, a new U.N. Specialized Agency is envisioned with the sole function of procuring, operating, and crewing research and training vessels for and on behalf of all other agencies within the U.N. system including selected precincts within the United Nations Organization itself. In its role and capacity as seaborne agent for these agencies, the Sea Service would institutionalize their legitimate operating interests in hydrospace while introducing in the process types of cost economics which can never be realized under existing modes and patterns of public international fleet operations.

Departing from the revolutionary directions generated by the two earlier Maltese proposals, the one concerning the International Sea Service is geared to accommodate, rather than inhibit, sovereign prerogatives in hydrospace. Consequently, unlike other national proposals transmitted to the United Nations Seabed Committee, the proposal for an International Sea Service would not be particularly affected by results arising from the deliberations of the Caracas Conference or future U.N. Law of the Sea Conferences.

The interrelationships between the Sea Service proposal and the work of the U.N. Seabed Committee arise presumably from aspects of the plan which pertain to the preservation of the marine environment and the facilitation of scientific research in hydrospace. But these aspects are actually tangential to the preeminent features of the Sea Service proposal with its accent upon the potential roles of public international organizations as both authorized users of the Sea Service and institutional participants in the selection and advanced training of Science and Seafarer Crewmen. An evaluation of the proposal in chief with all of its ramifications would appear to fall considerably beyond the limited terms of reference granted to the U.N. Seabed Committee. Moreover, the companion features of the proposal which interlock the scheme with future possibilities for wider multinational participation in both manned spaceflight and space applications programs
hardly qualify as subjects of discussion at law-of-the-sea type convoca-
tions. These ramifications suggest a need for a series of continuing
deliberations on the merits of the Sea Service proposal by public and
private research constituencies ranging from universities to all of the
public international organizations identified within the plan. Such
broad-based deliberations could create the climate for a planetary
renaissance in the confidence and trust of man's advanced technology,
tarnished through the years in its military misdirection. Unattainable
by SALT agreements and fragmented disarmament pacts between the
Fatherlands, that confidence and trust might conceivably be sparked
for the whole of Trans-national Space by a completely weaponless in-
ternational research fleet of the future—the tangible ships of world
peace, manned and operated by the youth of many countries who sail
together not as comrades-in-arms but as envoys in the service of all
mankind.