



Bulletin

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LAW AND ARMS CONTROL ON THE SEABED

"Mankind's recent 'giant step' into outer space has captured the public imagination in a way no pioneering venture has ever done before," the Secretary of State for External Affairs, Mr. Mitchell Sharp, told the International Law Association in Toronto on November 5. Conquest of the "ocean space" of their own planet, however, might, he said, present men with "a more immediate challenge and perhaps even greater promise for the future". Advances in marine science and technology were "making the seabed and ocean-floor accessible to the scientist, the entrepreneur and, inevitably, to the military planner".

The rest of Mr. Sharp's speech follows:

If the predictions of "standing-room only" on the earth in 100 years time come true, we may be pushed into the sea. At the very least, a protein-hungry and mineral-short world will be increasingly seeking to exploit the natural resources of the ocean. A new colonial scramble for the seabed is by no means an academic possibility. Nor is the extension of the arms race to the ocean-floor.

The world still has the opportunity to achieve a new order of international co-operation under the sea. Governments are going to need all the help they can get from those who are interested in how international law is made and those who have ideas about what international law ought to be.

The international community focused its collective attention on the seabed in 1967 when Malta put before the United Nations General Assembly a proposal calling for the reservation exclusively for peaceful purposes of the seabed and ocean-floor beyond the limits of present national jurisdiction, and for the use of their resources in the interests of mankind. I should like first to deal with the suggestion that the resources of the seabed beyond the limits of

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national jurisdiction should be used in the interests of mankind, and later with the "peaceful uses" element.

The basic questions that have to be answered can be briefly stated: How far does or should the national jurisdiction of coastal states extend? What legal regime should be developed to govern the exploration and exploitation of the resources of the area beyond the continental shelf, that is, beyond the limits of national jurisdiction? And what international machinery, if any, will be required to give effect to this legal regime?

PROBLEM OF CONTINENTAL SHELF

At present, it is clear that coastal states enjoy exclusive sovereign rights for the exploration and exploitation of the resources of their continental shelves. These rights do not depend on occupation or on any express proclamation. No one may explore or exploit the continental shelf without the express consent of the coastal state, even if the coastal state itself is not conducting such exploration or exploitation. How the continental shelf should be defined for this purpose is much less clear.

The Convention on the Continental Shelf drawn up at Geneva in 1958 left the legal continental shelf with elastic inner and outer limits. The inner limit is the edge of the territorial sea, which, according to national claims, ranges from three to 200 miles in breadth. The outer limit is a double one, being a water depth of 200 meters or, beyond, to whatever depth will allow exploitation of the underlying resources. However elastic this definition may be, there

can be no question that the Convention relates to the continental shelf, and not to the whole of the deep-ocean bed. In other words, the Continental Shelf Convention recognizes that there is an area of the seabed and ocean-floor beyond the limits of national jurisdiction.

To determine the boundary of the area beyond national jurisdiction, it will be necessary to fix a new definition of the continental shelf by international agreement. As a country with vast and promising off-shore areas, Canada is intensely concerned with the development of a new definition of the shelf. The 1958 Geneva Convention obviously provides a basic point of reference. Another basic point of reference is the geographical and geological realities which underly the juridical concept of the shelf. The International Court of Justice, in the North Sea Continental Shelf Cases, confirmed the principle that the coastal state's rights over the continental shelf flow from the fact that this submarine area constitutes a natural prolongation of the coastal state's land territory. We are taking the position that the redefinition of the continental shelf must recognize coastal-state rights over the "submerged continental margin", which consists of the continental shelf and slope and at least part of the rise. Any arbitrary distance-plus-depth formula which disregarded existing international law and geographical-geological factors would be unacceptable to Canada, and doubtless to a significant group of other coastal states.

DEFINITION AND CONTROL

There is an interrelation between the ultimate definition of the limits of national jurisdiction and the nature of the regime to be developed for the area beyond. A curious "After you, Alphonse" situation characterizes this interrelation. Some states are more interested in protecting the resources of their own shelf than in benefit they might obtain under a particular regime for the area beyond. Others wish to know how much they might benefit from a particular regime for the internationalized area before deciding on the extent of seabed they wish to claim. Some developing countries might press for the broadest possible internationalized area if they succeeded in obtaining an international regime designed for their particular benefit. Some highly-developed countries might see an advantage in bringing the widest possible international area under a competitive regime in which their advanced technology would assure them of a dominant position. Many states are simply uncertain where their interests lie.

In the elaboration of a legal regime for the internationalized area of the seabed, general principles of international law must certainly apply. This does not mean, however, that it has the same status as the high sea and that the freedoms of the sea necessarily apply to the seabed. What we must do is to develop a new concept for the seabed beyond national jurisdiction, in the same way that a new concept was developed for the continental shelf.

One such new concept, that the seabed beyond national jurisdiction represents the "common heritage of mankind" is in many respects an attractive one. But, as a legal principle, it raises certain difficulties. One such difficulty is that beginning with the view that the seabed is the common heritage of mankind tends to predetermine the nature of the seabed's legal regime. It might be more constructive to begin with discussion of particular legal principles, which might lead to agreement on a comprehensive regime, rather than to seek initial agreement on a broad concept from which particular principles could then be determined. The theory of the common heritage of mankind raises so many questions as to its possible implications for other areas and other resources that the concept requires much further thought than it has so far received.

VARIOUS KINDS OF REGIME

Among the various types of legal regime for the seabed which have been suggested so far, those which involve dividing up the entire seabed and ocean-floor among the coastal states already appear to have been rejected by the international community. Those theoretical systems that do not involve national appropriation can be broadly summarized as follows:

(1) Systems under which states and their nationals would exploit seabed resources subject to an agreed body of rules but without any international control agency or machinery beyond a simple registration procedure;

(2) systems under which an international agency, or the United Nations itself, might act as a trustee in controlling exploitation of the seabed by states and their nationals;

(3) systems under which sovereignty over the seabed might be granted to the United Nations, which could itself carry on exploitation activities.

There appears to be general agreement that the regime to be adopted should ensure exploitation of the seabed in the interests of humanity and for the benefit of mankind, having regard to the special needs and interests of the developing countries. The provision concerning the special needs and interests of the less-developed countries has been written into all United Nations resolutions on this subject. Accordingly, many developing countries favor a regime or system which would be based on strong control or ownership by an international agency or by the United Nations itself.

On the question of establishing international machinery, the nature of the regime would determine whether any machinery is required and what its nature and scope should be. Even the most *laissez-faire* regime would probably require at least a central registry of licences for exploration and exploitation. Control or ownership by an international agency or the United Nations would imply the creation of international machinery of an extensive kind for which no precedent exists.

WEATHER KNOWS NO BOUNDARIES

The following excerpts are from an article in Transport Canada, a publication of the Department of Transport, September-October issue:

Canada as a member of the World Meteorological Organization, a Specialized Agency of the United Nations, is engaged in a wide variety of international activities in the field of meteorology. Besides the exchange of data and forecasts, special assistance for the improvement of meteorological services has been given to a number of countries through foreign aid programs, and particularly to Commonwealth countries under the Colombo Plan....

The Climatology Division of the Canadian Meteorological Service in Toronto is now recognized as one of the leaders in the development of modern methods, systems and techniques for analyzing and recording climatological data, and several foreign meteorological services have chosen Canada for training their own specialists in the design, development and implementation of climatological data processing systems.

TECHNICAL AID

In 1963, under the Special Commonwealth Aid to Africa Program (SCAAP), the Meteorological Branch participated in a substantial program of technical aid to the Nigerian Meteorological Service. After a feasibility survey was completed and the program accepted by the External Aid Office¹, Canadian data-processing equipment was shipped to Lagos, and Nigerian technical staff were trained in Canada. A Canadian meteorologist went to Nigeria to supervise the installation of the equipment and to get the program started. Four Nigerian meteorologists and technicians have come to Toronto for training periods over the past few years, and periodic correspondence has been carried on with the Nigerian staff regarding their technical problems and progress.

CANADA, INDIA AND GHANA

A training program, involving V.K. Raghavendra from India under the Colombo Plan and Sampson Masope from Ghana under the WMO Fellowship program, was recently concluded. Basically the purpose of the program was to familiarize students with the most modern equipment, techniques, facilities and methods for weather-data processing and analysis, and was adapted to the needs of the participating countries.

Since the Indian Meteorological Service plans to install a medium-scale computer in the near future, Mr. Raghavendra was working specially in the area of computer operating systems and equipment capabilities. He also became familiar with the most effective programming languages to be used on the current generation of computing equipment....

¹ Recently renamed Canadian International Development Agency.

BIRTHS, MARRIAGES, DEATHS

There were 31,903 births reported in provincial offices in September, compared to 33,017 in September 1968. For the first three-quarters of 1969, births were 0.9 percent above the corresponding period of last year, six provinces reporting increases.

The 23,837 marriages recorded in provincial offices during September brought the total number registered for the first nine months of 1969 to 135,830, an increase of 10 per cent over those in the corresponding period of last year. Increases were reported in all provinces.

In September, a total of 12,866 deaths were registered in the provincial offices, compared to 12,430 in September 1968. During the first nine months of 1969 the cumulative total of registered deaths was about the same as for the corresponding months of last year.

SHAPE ESSAY CONTEST WINNER



Mr. Ross Campbell, Canada's Permanent Representative to the North Atlantic Treaty Organization in Brussels, congratulates Martin Baker, a Canadian winner of the 1969 SHAPE essay contest, an annual event open to high-school students from NATO countries living in Europe. Martin is in Grade 11 in Baden Solingen, Germany. His father, a radar technician with the Royal Canadian Air Force, is about to retire after 30 years of service.

The painting in the background is the work of Michael Landry, a 23-year-old Quebec artist, who achieved success at an exhibition of his work sponsored by Mr. Campbell last year in Brussels.

CANADIAN INDIAN ART AT EXPO 70

Contemporary Canadian Indian handicrafts will be on display in the Discovery Room of the Canadian Pavilion at Expo 70 in Osaka, Japan. On exhibit with other Canadian artifacts will be two articles selected by consultants of the Department of Indian Affairs from scores of products of the growing Indian arts and crafts industry — a Sioux tapestry and a Mohawk tea-set.

WALL TAPESTRY

The hooked woolen tapestry was designed and created by Beatrice Bear, 22, a Sioux Indian from the Standing Buffalo Reserve 50 miles east of Regina, Saskatchewan. The tapestry, intended as a wall decoration, measures 44 by 36 inches and has a black, white and turquoise design on an ochre background.

Miss Bear's tapestry is a product of the Sioux Handicraft Co-operative on her reserve, which has attained an international reputation during its first two years in operation. Sioux designs, based on geometric and abstract forms, tell of the spiritual gifts conferred on man by the Great Spirit, and of the human qualities of courage, strength and wisdom.

Miss Bear's tapestries and rugs are included in displays of Indian craft in many museums and art galleries throughout North America.

MOHAWK TEA-SET

The tea-set consists of a pottery teapot with six cups hand-crafted by Mrs. Elda Smith of the Six Nations Reserve near Brantford, Ontario. Mrs. Smith, a grandmother, is a sister of Jay Silverheels, known to millions of film fans as Tonto, the friend and ally of the Lone Ranger. Both teapot and cups are finished with an amber glaze; they have turquoise ceramic interiors and are decorated with linear Iroquoian designs.

Mrs. Smith's wares were presented by Judy LaMarsh, Secretary of State in the Pearson Government, to heads of state visiting Expo 67 in Montreal. Mrs. Smith said, of a piece of pottery she presented to Queen Elizabeth during Expo; "I'd used motifs from old Iroquois wampum belts and has been wamed by an old chief never to sell it because of its significance. So I gave it away".

Tom Hill, a Seneca from the Six Nations Reserve who heads the Promotion Section for Business Services of the Department of Indian Affairs, was departmental consultant and a member of the committee responsible for the choice of the items of Indian arts and crafts to be displayed at Expo 70.

CRIME STATISTICS

According to the publication *Crime Statistics (Police) 1968*, released by the Dominion Bureau of Statistics early in November, 1,404,434 offences, excluding traffic violations, were reported or known to police forces in Canada under the criminal code, federal statutes, provincial statutes and municipal

by-laws, during 1968. Upon investigation by the police, 68,990 or 4.9 of reported or known offences proved unfounded. "Unfounded" means that investigation established the crime did not happen or was not attempted, or there was no crime.

COAL INTO COKE

Canadian industry is showing increasing interest in a process developed by the National Research Council of Canada for turning low-grade coal into coke for iron-ore blast furnaces. The process, developed by Dr. Ira E. Puddington, Director of NRC's Division of Chemistry, and his colleagues, provides a method for making rapid and efficient separations of solids from liquid suspensions. It is known as spherical agglomeration.

In his initial research, Dr. Puddington was struck by the fact that crystals of barium sulphate suspended in benzene spheres "agglomerated" when small quantities of water were added and the suspension shaken. Investigation showed that the crystals were coated with a layer of water that acted as a binding material to hold the particles together when they touched.

Later work showed that recovery of valuable particles in slurries (suspensions of insoluble particles in a liquid) could be greatly facilitated if the particles were coated and agglomerated. Wetting agents, including oils, were discovered that permitted the successive agglomeration and selective recovery of several different particles in a slurry.

Armed with a variety of patented processes, NRC has been trying for some ten years, with little success, to interest industry in spherical-agglomeration processes. Among other things, these processes can be used to upgrade low-grade coal for coking, for separation of bitumen from tar-sands, for the beneficiation of ores, for the preparation of dispersable pigments, for a modified method for making phosphoric acid and for a new method of preparing spherical shot for the firearms and ball-bearing industries.

Owing to mounting public pressure for legislation on pollution-control and decreasing supplies of low-sulphur, low-ash coals, the future now appears to be brightening for the process of turning low-grade coal into coke for ore blast furnaces.

Dr. Puddington estimates that agglomeration should become economically feasible if a large-scale operation could be evolved that would reduce the ash and water content of coals to an acceptably low value.

DOMESTIC EXPORTS

The value of domestic exports increased to \$1,258,418,000 in September 1969 from \$1,104,104,000 and \$823,530,000 in the same month of 1968 and 1967 respectively. For the cumulative period January-September, exports increased over the three years, with the totals being \$10,643,367,000 in 1969, \$9,644,754,000 last year and \$8,128,351,000 in 1967.

LAW AND ARMS CONTROL ON THE SEABED
(Continued from P. 2)

OPPOSITE VIEWS ON CONTROL

Those states which favor a supra-national approach to a seabed regime tend to press for strong international machinery, while states which favor a national approach tend to resist anything but the most limited machinery. On this issue there is a rather extreme polarization of views between many developing countries and certain developed countries — the Soviet Union in particular. The U.S.S.R. strongly opposes the supra-national overtones of the seabed question and has resisted the study of international machinery in the United Nations.

The Canadian Government's position on these matters is still developing. We agree that there is an area of the seabed beyond national jurisdiction. We want this area to be reserved for peaceful purposes. We consider that a workable legal regime must be developed if the seabed is to be exploited in an effective, equitable and orderly manner. And we assume that some form of international machinery will be required. In our view, the seabed regime and machinery should provide some revenue for international community purposes, while protecting the legitimate interests of *entrepreneurs* and coastal states. We intend to be flexible and open-minded in examining all possible systems, but we have serious reservations about the more extreme proposals for international ownership and control.

I should now like to turn to the question of reserving the seabed exclusively for peaceful purposes. The basic Canadian position is that the widest possible range of arms-control measures should be extended to the widest possible area of the seabed and ocean-floor.

We have argued from the beginning that this objective should be understood in the light of the United Nations Charter and other principles of international law. Use of the seabed for offensive military uses should be prohibited, and especially the deployment of nuclear weapons and weapons of mass destruction. However, its use for purely defensive purposes, especially in areas adjacent to the coast, should not be precluded. We were the first country to call for the widest possible area of the seabed to be reserved for peaceful purposes, irrespective of the area which will eventually be subjected to an international legal regime.

The Conference of the Committee on Disarmament, which has been considering this question, reached an early consensus on the desirability of extending arms-control measures to the continental shelf as well as the area beyond national jurisdiction. There was also early agreement that there should be a narrow coastal band to which the proposed seabed arms-control measures would not apply, largely on the grounds that states have sovereignty over their territorial sea. The United States and the Soviet Union, co-chairmen of the Disarmament Committee, eventually

agreed on a limit of 12 miles for this coastal band. This corresponds to the breadth of the territorial sea claimed by the U.S.S.R. and some 55 other states.

The United States and the U.S.S.R. also agreed that this coastal band or "maximum contiguous zone" shall be measured in the same way as the territorial sea. Allowance will be made for the use of the straight-baseline system which Canada has applied to long stretches of its coast, and for the status of historic waters such as Hudson Bay.

SHORTCOMINGS OF DRAFT TREATY

The results so far of negotiations on arms control on the seabed have now been incorporated in a draft treaty tabled by the United States and the Soviet Union. The major achievement reflected in the draft treaty is prohibition of the emplacement of nuclear weapons and weapons of mass destruction on the seabed and ocean-floor. We warmly welcomed this bilateral self-denying agreement by the two great nuclear powers on the most important requirement for a seabed arms-control treaty. In other respects, however, the draft treaty falls short of our expectations and those of many other countries.

In the Disarmament Committee, Canada advanced a group of interrelated suggestions for disarmament of the seabed. In summary, these suggestions involved:

(1) The prohibition not only of nuclear weapons and weapons of mass destruction, but also of conventional weapons and military installations which could be used for offensive purposes, without, however, banning installations required for self-defence;

(2) the establishment, beyond the 12-mile coastal band, of a 200-mile security zone to which the proposed arms prohibitions would apply in full but where the coastal state could undertake defensive activities;

(3) the elaboration of effective verification and inspection procedures to assure compliance with the terms of the treaty, together with an international arrangement making such verification possible for countries with a less-developed underwater technology.

With the exception of the prohibition of the emplacement of nuclear weapons and weapons of mass destruction, these Canadian suggestions are not reflected in the draft treaty put forward by the U.S.A. and U.S.S.R. The co-chairmen's draft does recognize the existing right of states to observe the seabed activities of other states and it does incorporate an undertaking to consult and co-operate in removing doubts concerning compliance with the treaty. It does not, however, provide for the right of inspection and access on the model of either the 1959 Antarctic Treaty or the 1967 Outer Space Treaty.

Non-nuclear coastal states like Canada wish to be sure that there is nothing on the seabed which could threaten their security and that even permissible defensive activities on the continental shelf are limited to the coastal state concerned.

The provision in the draft treaty limiting the prohibition to nuclear weapons and weapons of mass

destruction only, in our view, intensifies the need for the recognition of a broad coastal-state security zone. Demilitarization of the broadest possible area of the seabed would make such a zone much less necessary, since *no* state would then have any right to make *any* military use of the continental shelf. With only nuclear and mass-destruction weapons prohibited, the possibility arises that states may attempt to emplace conventional weapons or military installations on the continental shelf of another state. Obviously, no coastal state could accept with equanimity the emplacement of offensive installations near its shores. If any state has the right to make any military use of the continental shelf, even for defensive purposes, it is the coastal state and the coastal state only. The exclusive sovereign rights of the coastal state to explore the continental shelf and exploit its resources are not compatible with any degree of freedom of military activity on the shelf by other states. The possibilities of conflict between foreign military activities and the coastal state's exploration and exploitation of the shelf are only too obvious.

VERIFICATION AND INSPECTION

Without a provision for effective verification and inspection procedures under an international arrangement, states with a less-developed underwater technology will not have any assurance that the nuclear states are complying with the treaty. It is easy to see that particularly troublesome problems would arise if a state emplaced military installations on the continental shelf of another state and then attempted to deny that other state access to the area or installation. In our view, a military installation by a foreign state on the continental shelf would be contrary to existing international law. Canada maintains that the coastal state has an unrestricted right to verify foreign activities on its shelf and it has the right to be notified of and associated with actual inspection procedures undertaken by foreign states.

In summary, the U.S.-Soviet draft treaty is unfortunately silent on a number of important questions. The seabed arms-control negotiations excluded con-

sideration of the problem of submarines armed with nuclear missiles. Thus the draft treaty bars only a potential nuclear presence from ocean space, while leaving the existing mobile presence intact.

The draft treaty is described in its preamble as a step towards the exclusion of the seabed from the arms race and expresses a determination to continue negotiations concerning further measures leading to this end. With this description and this determination we are in complete agreement. The debate in the United Nations General Assembly will indicate whether or not the co-chairmen of the Conference on Disarmament have put forward a treaty which provides a truly multilateral basis for seabed arms-control measures consistent with the other requirements of a regime for the continental shelf and the seabed beyond national jurisdiction.

I have only traced the bare outlines of some of the more vital issues in the developing area of the seabed. I have not, for instance, taken up the problem of marine pollution which may arise from exploitation of seabed resources. This is another crucial aspect of the seabed question, to which the Canadian Government intends to give the most vigorous attention both domestically and internationally. My purpose today has been to illustrate our active concern that the seabed and ocean-floor should be preserved from any form of submarine colonialism and from the vicious circle of the arms race.

Perhaps some of the visions of vast wealth to be had for the taking from the sea are utopian. We know too little about the resources of the seabed, but it is certain that the costs and risks of exploiting them will be high. Perhaps visions of new and nobler forms of peaceful international co-operation under the sea, while the old and imperfect forms continue on land, are equally utopian. We know too much, perhaps, about the nature of man and the nation state, and it is unlikely that either will undergo some sort of "sea change" at "full fathom five". Nevertheless, there is an urgent need for the law of the sea and seabed to keep pace with the exciting but potentially dangerous growth of underwater technology. We intend to make the fullest possible Canadian contribution to the development of this area of international law.