THE EMERGING CUSTOMARY LAW OF SPACE*

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THE most insistent question in the law of space today must be how the peoples of the world can best clarify the necessary general community policies, for resolution of the many important problems arising from their interactions in space, in a way which will appropriately reflect their genuine, common interests. My purpose is to outline a framework of inquiry in response to this question and to make a brief assessment of the degree to which peoples have already begun, through processes of customary development, to achieve an authoritative consensus upon preferred policies.

The importance of the problems in legal regulation with which we are concerned is, unfortunately, paralleled only by the pervasiveness of the misconceptions and confusions about them. Perhaps the most pervasive, certainly the most destructive, misconception is that which insists that we do not yet have any law of space at all. This particular misconception is, further, commonly accompanied by a clarion call for the assembling of a great multilateral conference to create vast new law—perhaps even to agree upon a comprehensive code for the regulation of all space activities. The enormous hold which such misconceptions have upon both popular and professional imagination could be illustrated from many different sources.

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Professor McDougal's paper opened the first series of conference sessions on "The Law of Space." John A. Johnson, Esq., General Counsel of the National Aeronautics and Space Administration, delivered the second principal paper on "The Freedom of Outer Space: Some Problems of Sovereignty, Control, and Jurisdiction". The substance of his remarks has been published under the title, "The Developing Law of Space Activities", in 3 VA. J. INT'L L. 75 (1963). Honorable Abram J. Chayes, Legal Adviser to the Department of State, delivered the third principal paper on "International Organization and Space". His paper has been published in 48 DEP'T STATE BULL. 835 (1963). The principal papers delivered in the second series of conference sessions, which were devoted to "Communications Satellites and the Law", appear in 58 NW. U.L. REV. 216, 237 and 266 (1963). The entire proceedings of the conference are being published by the National Aeronautics and Space Administration in a forthcoming volume.

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One particularly lucid illustration from popular sources is offered by a recurrent editorial in the generally more dependable *New York Times*. Thus, in one instance, following the launching of Telstar, the *Times* complained that despite all man's great technological achievements, we still have no law of space. In its words:

> Yet the cosmos today is a lawless dimension and there is no universal agreement even on so elementary a question as where space begins—no boundary line between the region in which existing national and international law holds sway and the region in which it does not.[1]

Summarizing some of the controversies which have already arisen between states, the editorial continued:

> But in the absence of space law, the cosmos bears some resemblance to a jungle. Each nation with space capabilities does as it pleases. Such license must surely become intolerable with the rapid expansion of man's capabilities in this new arena of human action and with the certain increase in the years ahead of the nations able to launch satellites, luniks and the like.[2]

A most influential illustration from professional sources is offered by Professor John C. Cooper, the dean of all air and space law scholars. As late as 1961 Professor Cooper wrote:

> It is quite impossible to apply international legal principles in a satisfactory manner in any geographic area whose legal status is unknown. Today the legal status of outer space is as vague and uncertain as was the legal status of the high seas in the centuries before Grotius, in the *Mare Liberum*, focused attention on the need of the world to accept the doctrine of the freedom of the seas.[3]

Again:

> My own view has also long been that no general customary international law exists covering the legal status of outer space.[4]

The point I would emphasize, and will seek to demonstrate in detail, is that these misconceptions do a great disservice to what we have already achieved. They grievously undercut an existing consensus among states about a great many problems, and by their overemphasis on explicit agreement and underemphasis upon custom in the creation of international law, may make more difficult the taking of appropriate measures to achieve a still greater consensus. What these misconceptions ignore is that in any legal system formalized agreements are of much less importance in affecting peoples' expectations about the requirements of future decision than is the whole flow of their cooperative behavior and communication in the shaping and sharing of values, sometimes called custom,

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[1] N.Y. Times, July 12, 1962, p. 28, col. 1.
[2] *Ibid.*
[3] Cooper, *The Rule of Law in Outer Space*, 47 A.B.A.J. 23, 24 (1961).
[4] *Id.* at 25.

in which they must perforce at least approximate a realistic common interest.

One of the dangers inherent in these misconceptions may be documented by reference to a position recently taken by the Soviet Union. In a meeting of the United Nations General Assembly Committee on the Peaceful Uses of Outer Space held last month the representative of the Soviet Union, Mr. Fedorenko, as advocate for a new platform of principles submitted by his country for governing activities in space, spoke as follows:

> In the Soviet Delegation's view, the aim of the declaration should be the imposition of binding legal obligations on States which would serve as the foundation of a permanent system of space law imbued with the ideas of peace and friendly relations among the peoples. In international practice, questions concerning the law of the land, sea and air were regulated by special multilateral and bilateral agreements. In the past, the rules governing such subjects as the law of the sea and diplomatic relations had taken shape very slowly, but technological and scientific progress dictated its own time-limits. The rapid development of aviation at the beginning of the twentieth century had necessitated the prompt conclusion of special agreements in that field. Now, the extremely rapid development of space technology made the legal regulation of activity in outer space even more imperative. It was sometimes contended that space law would develop by itself, through the accumulation of precedent and experience. It was doubtful, however, that in that process the law would be able to keep pace with the facts. Moreover, if reliance was to be placed on custom, there was no point to the existence of the Sub-Committee.[5]

It should be noted that this distortion of the historic role of custom in the prescription of international law principles, a distortion not uncharacteristic of the Soviets,[6] was accompanied by demands for inclusion in the proposed explicit agreement of certain new principles—such as those limiting space activities to state-owned craft, prohibiting the use of artificial satellites for collection of intelligence information, and requiring the consent of other states for many activities—which could only be wholly unacceptable to non-Communist countries and which would completely undercut other important principles which had previously been regarded by many peoples, including the Soviets, as accepted principles of international space law.

It is not, of course, my pretense to dispose of some minor miracle whereby we can easily erase these pervasive misconceptions, and their attendant dangers, and move unerringly toward a public order of space

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[5] U.N. GEN. ASS. OFF. REC., Comm. on Peaceful Uses of Outer Space, Legal Sub-Comm. (A/AC.105/C.2/SR.17) (April 19, 1963).

[6] *Cf.* Tunkin, *Remarks on the Juridical Nature of Customary Norms of International Law*, 49 CALIF. L. REV. 419 (1961); Korovin, Peaceful Cooperation in Space, Int'l Aff., March 1961, p. 6 [Moscow].

representing only unquestionable common interest. It is, however, my strong conviction, fortified by a recent comprehensive study,[7] that we can by a more careful delimitation of our general problem and by the disciplined, systematic performance of certain intellectual tasks, indispensable to any policy-oriented inquiry, greatly increase our understanding as scholars and lawyers and perhaps increase the probabilities of rational community decision. The more careful delimitation of our general problem will require that we seek: (1) a comprehensive orientation in the earth-space social processes which will give rise to claims to authoritative decision, (2) an economic categorization of the probable types of particular claims to authority, and (3) a realistic perspective of the processes of authoritative decision which the general community can be expected to maintain for the resolution of controversies. The relevant intellectual tasks are interrelated and include at least the following: clarification of the policies about particular types of specific claims which we as responsible citizens of the larger community of mankind are willing to recommend to other responsible citizens; survey of past trends in decision to ascertain the degree to which the contemporary expectations of the peoples of the world presently agree upon these policies as requirements for future decision; observation of the factors which have affected the present degree of consensus and which may affect the course of future decision; and, finally, consideration of the alternatives which may be available to us to move future decision more into conformity with the policies we recommend.

Earth-Space Social Process

For the more careful delimitation of our general problem, it is necessary that we begin, as in any legal discussion, with the facts to which authoritative decision, the law, must respond. The facts with respect to which a law of space is demanded are constituted, as was suggested above, by our most comprehensive earth-space community process. Though in the beginning of space activity we have a community process largely confined to the earth, we are expanding out from the earth to the most distant reaches of space, further and further as technological development accelerates. Two aspects of this expanding process, easily observable in its major features, require especial emphasis: first, the continuity of the process and, secondly, the interdependences of all participants in it.

In a quick look at the major features of this process, it is easily observable that the people conducting activities in space are the same people who have been acting on earth. For convenience in inquiry we may categorize effective participants as states, international governmental organizations, political parties, pressure groups, private associations, and indi-

[7] McDougal, Lasswell, and Vlasic, Law and Public Order in Space (1963). All the remarks offered here build heavily upon this book.

vidual human beings. It is observable also that these actors, group and individual, pursue precisely the same objectives which they have sought on earth: they seek power, wealth, enlightenment, respect, and so on—the whole range of human values.

The situations in which activities occur continue to remain, as previously, both organized and unorganized. The greatest changes are perhaps in the time and geographical features of interaction. One aspect of the geographical features requiring special note is that space activities occur in a domain which, like the oceans, admits of being shared by many participants with only minor physical accommodation. Space is potentially a great sharable resource which can be enjoyed by all mankind.

The base values initially employed in the exploitation are the same as previously employed on earth and are, despite the contemporary predominance in activity by the two major powers, widely distributed among mankind. The strategies employed by participants in the management of base values may change in modality as access to space increases, but are still conveniently categorized as diplomatic, ideological, economic, and military.

The outcomes in the shaping and sharing of values obtainable from space activity we can only begin to anticipate. The potentialities for both gain and loss are still largely beyond our imagination. Man's knowledge about his earth and the universe have already been extraordinarily enriched. The possibilities for increased production of goods and services from new modes of communication, transportation, and weather control and from newly discovered resources can scarcely be overestimated. Similar forecasts might be made for many other values, such as health, skill, respect, and rectitude. Conversely, the possibilities of equally unprecedented loss cannot rationally be minimized: as the values acquirable in space increase, effective power dispositions on earth will vastly change, and access to space has obviously given mankind a new capability for destroying itself.

The most obvious aspect of these possible outcomes from space activity is the high degree of their collective impact upon all peoples of the world. The interdependences in the shaping and sharing of values which have in recent decades characterized the earth arena can only intensify with the expanding conquest of space.

Types of Claims

With this brief orientation in the most comprehensive process of interaction, we may now turn to the economic categorization of probable types of specific claims to authority. It has already been indicated that space is, like the oceans, potentially a great sharable resource which can with appropriate minor accommodations be enjoyed by all; hence the most relevant model for anticipating the probable pattern of future claims about

space would appear to be in our past experience with respect to the oceans and the air space above the oceans.[8] Building upon this model, as well as upon the types of claims concerning space which have already been made or otherwise anticipated, we may suggest a categorization under the following headings:

1. Claims relating to the establishment and maintenance of a process of authoritative decision for resolving controversies.
2. Claims relating to inclusive access to the domain of space—for freedom of access to space, as to the oceans.
3. Claims relating to inclusive competence over, and responsibility for, activities in space.
4. Claims relating to an occasional exclusive competence in space—after the analogy of contiguous zones upon the oceans.
5. Claims relating to the accommodation of inclusive and exclusive competences in outer space and air space—the pseudo-problem of boundaries.
6. Claims relating to minimum order—preservation of peace.
7. Claims relating to minimizing losses from lesser coercions and deprivations—torts and crimes.
8. Claims relating to the enjoyment and acquisition of the resources of space.
9. Claims relating to the conduct of organized, enterprisory activities in space.
10. Claims relating to interactions with non-earth advanced forms of life.

Process of Decision

Shifting now to characterization of the process of authoritative decision maintained by the general community for resolving controversies about space activities, we may observe, contrary to those who can see only a "lawless cosmos", that this process is, again, precisely the same as is maintained for resolving controversies about earth, including ocean and air space, activities. The effective power elites who have found it economic to maintain the comprehensive process of authoritative decision on earth, which we call international law, are the same elites who dispose of effective power with respect to space activities. These effective elites include, it may require emphasis, not merely representatives of the Soviet Union and the United States, but of all territorial communities, as well as of many non-governmental groups, such as political parties, pressure groups, private associations, and so on; non-space powers may obviously apply sanctions

[8] For categorization of historic claims to authority with respect to ocean activities see McDougal and Burke, The Public Order of the Oceans: A Contemporary International Law of the Sea (1962). The various analogies from the international law of the sea invoked in the subsequent sections of this paper are discussed in this book.

to space powers on earth for securing conformity to general community prescriptions about space activities. It is not to be expected that these elites will find it economic either to establish a new process of authoritative decision or dispense altogether with such process. Indeed, it is easily observable that for the resolution of controversies about space activities they are already making resort, as in the United Nations, to the inherited earth process.

It is common knowledge that the principal features of this inherited earth process—its "constitutive" features—are themselves a product of customary development, though of course with a considerable assist from the making and interpretation of great international agreements such as the United Nations Charter. These constitutive features are those which identify authoritative decision-makers, stipulate basic objectives or policies, establish structures of authority, confer bases of power, legitimize the employment of strategies or procedures, and provide for the taking of specific decisions in the prescription and application of policies. Some understanding of these features is indispensable to a realistic appreciation of how much space law we already have.

The more important decision-makers in contemporary international law are still the officials of nation-states. State officials serve not only as claimants before authority on behalf of their particular communities but also, in reciprocal judgment upon each other, as prescribers and appliers of policy on behalf of the general community. International governmental organizations and their officials are, however, playing an increasingly important role, and especially in relation to space activities. Parties, pressure groups, and private associations continue to perform functions in intelligence and recommendation.

The overriding community objective for which the process is maintained is that of identifying and securing common interests, while rejecting assertions of egocentric special interest. The common interests sought to be protected are both inclusive, shared in like manner by all states, and exclusive, unique in specific modality to particular states but common in generic character to all. The inclusive and exclusive interests so identified embrace both minimum order, the minimization of unauthorized coercion, and optimum order, the promotion of the greater production and wider sharing of all values.

The structures of authority maintained are both unorganized and organized. The unorganized structures are in the day-to-day interactions between foreign office and foreign office, the direct confrontations of the officials of one state with those of another. The organized structures are those of international governmental organizations, such as the United Nations, the International Court of Justice, and the specialized agencies.

The most important base of power conferred upon decision-makers, whether in organized or unorganized structures, is authority itself, in the sense of community expectations about the lawfulness of decisions. In

addition to authority, international governmental organizations have all the effective bases of power—control over military forces, resources, and so on—which their member states are willing to accord them. State officials have at their disposal for support of authoritative decision the same base values they enjoy for its subversion.

Similarly, authoritative decision-makers may employ in support of public order the same familiar strategies—diplomatic, ideological, economic, and military—as are commonly employed in attacks upon it. The improvements in technology which intensify the dangers from these strategies when employed against community interest could conceivably also enhance their effectiveness for sanctioning purposes.

A complete itemization of the specific kinds of decisions presently authorized and employed by earth-space constitutional process in the making and application of authoritative general community policies, about space and other activities, would include those relating to prescribing, intelligence-serving, recommending, invoking, appraising, and terminating. Though the particular modalities which are established for the taking of some types of these decisions are much more primitive than in the legislative, executive, judicial, and administrative institutions of the more mature nation-states, some provision in principles and procedures is made for all. In view of our immediate concern for the emerging principles of a customary law of space, we may focus most sharply upon the decisions by which the prescribing function is performed—with special emphasis upon the role of custom in establishing community expectation.[9]

The modalities by which the prescribing function is performed in the contemporary earth-space arena are commonly described as two: explicit agreement and the implicit communications of customary behavior. The importance of relatively explicit agreement is indicated not only by the recurrent calls, noted above, for the convening of a great multilateral conference to agree upon a code of space law, but also by the reasonably well developed, historic international law of treaties, designed to facilitate identification and application of the parties' genuine shared expectations. It is believed, however, that in the international arena, as in even the more mature national communities, the implicit communications of customary behavior play a much more important role than agreement or other deliberate formulation.

Consider, for example, the case within the United States. We all know that our "Constitution" is not a collocation of words put on parchment 170 odd years ago; it is rather the contemporary expectations, the subjectivities, of presently living people about all the phases of constitutive

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[9] A more detailed description of the comprehensive "constitutive" process of the earth-space arena and documentation of the assertions here made about the nature of customary international law may be found in MCDOUGAL, LASSWELL, AND VLASIC, *op. cit. supra* note 7, at ch. 1.

process—about who should make the decisions, in what structures of authority, by what criteria, and so on, and the pattern of practices by which such expectations are made effective. These contemporary expectations are affected not merely by what was said and written in the beginning but by the whole flow of communications and cooperative behavior in applications since that time. Even the simplest problem in interpretation must require recourse to many of the same features in the context which are ordinarily consulted in identification of customary law. If this is true even in a relatively mature national community, how much more true it must be in the international community which has even less agreement upon basic charter.

The traditional formulation of the requirements for establishing customary international law is relatively simple. It is commonly stated that two essential elements are required: a "material" element and a "psychological" element. The material element is said to consist of certain uniformities in behavior, and the psychological of certain subjectivities of "oughtness" attending the behavior. The flow of past decisions suggests, however, that both these elements are highly flexible and easily adapted to pursuit of peoples' genuine expectations in context.

The uniformities in behavior considered relevant have included not only the acts and utterances of officials, both national and international, but also those of private individuals and of representatives of private associations and non-governmental pressure groups. The amount of repetition required in the behavior has varied greatly and many different sources, oral as well as written, have been authorized for evidence of uniformities.

The subjectivities of "oughtness" which have been honored for transforming uniformities in behavior into expressions of authoritative expectation have related to many different kinds of norms, as from authority, morality, natural law, reason and religion. The required subjectivities have even been found to attend behavior which in the beginning was commonly regarded as unlawful. It was in this fashion that the law of blockade and war zones was drastically changed during two world wars.

It is important to note that the "uniformity" which has been required for behavior and attendant subjectivities is not that of universality, but of generality. The explicit consent of all states has not been demanded for establishing the authority of a particular customary decision, else custom would be equated with agreement. One principal function of honoring prescription inferred from customary behavior has been to permit states to submit to external law, without too obvious affront to overblown conceptions of sovereignty.

The length of time required for the establishment of a customary prescription has, further, been related to the certainty with which contemporary expectations about the requirements of future decision can be identified. In instances in which there has been no doubt about these

expectations, a very short time has been held to suffice. Thus, the doctrine of the "continental shelf", authorizing a coastal state to monopolize the sub-soil riches of an adjacent shelf, was established in less than ten years by a series of unilateral claims, made with promise of reciprocity by the claimant and without protest by others; the Geneva Convention of 1958 merely ceremonialized what many decision-makers had already accepted. Similarly, many of the rules of the road at sea were, as illustrated in the famous *Scotia* case,[10] established by reference to a very brief practice of uniform national statutes long before being embodied in international conventions. Fortunately, the new authority structures provided by the United Nations, especially in the General Assembly and in the Security Council, make it much easier today quickly and certainly to ascertain peoples' expectations about the requirements of future decision and may, hence, among their other services greatly facilitate the traditional process of customary prescription.

Customary Law and Outer Space

With these broad outlines of a more careful delimitation of our problem to reinforce us, we may now turn to a brief, systematic examination of past decisions and future prospects with respect to the various types of probably recurrent particular problems identified above. In the compass available to us the most we can attempt by way of performance of the several relevant intellectual tasks must, however, be that of giving some indication of the general community policies we would recommend and of noting the degree to which general community expectations already project these policies as requirements for decision. We consider *seriatim* the types of claims previously itemized.

First, claims relating to the establishment and maintenance of a process of authoritative decision. The constitutive process which presently regulates space activities is, as we have seen, an inclusive process, established largely by customary expectation. Few would suggest that this process is adequate for the needs of the new earth-space arena, but improvements will—because of the contention between free society and totalitarian public orders—be hard to come by. Important changes are more likely to come from the implicit communications of necessary collaboration than from explicit agreement.

The very specific changes presently being proposed by the Soviet Union would appear most destructive. The Troika principle of organization which they demand for structures of authority is obviously a denial of that common interest for which constitutive process is ordinarily established. The conception of the role of custom in the prescription of international law which they presently project, as in the quotation above from Mr. Feodorenko, would equate custom and explicit agreement and give

[10] 81 U.S. (14 Wall.) 170 (1871).

a single state a veto over the clarification of general community expectations. The conceptions of state sovereignty, of aggression, and of intervention in their much heralded principles of "peaceful coexistence" would change many of the overriding "constitutional" principles of the comprehensive process in a way greatly to favor the ultimate triumph of a totalitarian world public order. Certainly we cannot accept such changes by agreement, and it is to be hoped that they will not be forced upon us by customary development.[11]

Second, claims relating to inclusive access to the domain of space. The overwhelmingly significant feature of space for policy purposes is of course its vastness—its boundlessness and inexhaustibility—making it preeminently suitable for shared use by multiple participants at a minimum cost in mutual interference. The rich outcomes in the production and distribution of values which mankind has achieved in recent decades through the inclusive enjoyment of the oceans, the airspace above the oceans, international rivers, and the polar regions clearly suggest that this newly accessible, sharable domain of space, with all of its potential riches, should be held open for the free and equal access of all peoples who can attain the necessary capabilities.

Fortunately, this recommended policy would appear today to be already, without formal convention, an accepted principle of international law. It is the policy which, since the advent of the first Sputnik, has been consistently demanded, by all national and international officials, as well as by the most eminent private spokesmen. The states with space capabilities have uniformly projected, and acted upon a claim of inclusive, reciprocal right; and even the states as yet without capabilities have participated in this practice both by sustaining cooperative activity and by failing to protest over-flights. The policy has, further, been stated in utter explicitness by a United Nations General Assembly resolution, unanimously adopted in 1961.[12] Under these circumstances, general community expectations about the requirements of future decision would appear completely certain, and the traditional tests—both material and psychological—for the establishment of a customary prescription fully met.

Some of the provisions included by the Soviet Union in its latest draft declaration of principles for governing space activities could, as we have suggested above, gravely encroach upon this previously existing consensus. One such provision stipulates: "All activities of any kind pertaining to the exploration and use of outer space shall be carried out solely by States".[13] Another would require that "any measures that might

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[11] *Cf.* McWhinney, *"Peaceful Coexistence" and Soviet-Western International Law*, 56 AM. J. INT'L L. 951 (1962).

[12] U.N. GEN. ASS. OFF. REC. 16th Sess., Agenda Item No. 21 (A/RES/1721 XVI) (1962).

[13] U.N. GEN. ASS. OFF. REC., Comm. on Peaceful Uses of Outer Space, Legal Sub-Comm., (A/AC.105/C.2/L.6) (April 16, 1963).

in any way hinder the exploration and use of outer space for peaceful purposes by other countries may be implemented only after prior discussion of and agreement upon such measures between the countries concerned".[14] Still another, without even effort at definition insists: "The use of outer space for propagating war, national or racial hatred or enmity between nations is inadmissible".[15] It should be clear that responsibility for space activities can be fixed without limiting such activities only to states, that protection from extraordinarily dangerous activities in space can be secured without according every state a veto upon all activity, and that harmful propaganda can be appropriately regulated without impairing rights of access to space. The importunate demands made by the Soviet Union with respect to these matters might suggest that immediate, explicit agreement offers no brighter prospects than customary development for a clarification of genuine, common interest.

Third, claims relating to inclusive competence over activities in space. Man's experience upon the oceans would appear to suggest that inclusive rights of access to a sharable resource can only be secured and protected by an equally inclusive competence over the specific activities undertaken in exploitation of the resource. Indeed even the empirical reference of "inclusive access", as historically developed, includes the notions that no state may claim the resource as its exclusive base of power, with a continuing, comprehensive, and arbitrary competence to exclude others from its use and that all states have an equal competence to prescribe and apply policies for regulating the activities of their nationals in enjoyment of the resource.

The principles of jurisdiction developed for the relatively unorganized arena of the oceans would appear, again, to afford an excellent model for a regime of unorganized, inclusive competence in space. One set of these provides, as we have seen, in protection of freedom of access, that every state may decide for itself whether to send ships out upon the oceans and that no state may arbitrarily preclude access to another state. A second set of principles, designed to secure at least a minimum public order upon the oceans, provides that every state has competence to prescribe and apply policies in control of its ships upon the oceans and that no state may prescribe and apply policies to the ships of other states save for violations of international law. A final set of principles—designed to establish with certainty what ships belong to what states and, hence, to identify both who is responsible for the activities of a ship and who may protect it against unauthorized assertions by others—provides that no state may unilaterally question the competence of another state to confer its nationality upon a ship and that, in cases of conflicting claim, simple priority in time in conferment of nationality is to prevail.

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[14] *Ibid.*
[15] *Ibid.*

In most of the utterances and behavior invoked above to establish a customary prescription of freedom of access to space, jurisdictional principles comparable to those which have been achieved for the oceans were either explicitly stated or assumed to be applicable for the regulation of activities in space. Hence, little, if any, further crystallization of consensus would appear to be required to permit the conclusion that these principles, too, represent established customary international law.

How much beyond the establishment of this minimum, relatively unorganized, inclusive competence for the regulation of activities in space the peoples of the world may be willing to go must be left to the future. It may be appropriate to hope, however, that no emerging consensus about space will include the newly invented notion of "genuine link" as a test for appraising the lawfulness of conferments of nationality upon space craft. This notion, derived from the highly questionable *Nottebohm*[16] decision about individual human beings and recently applied by the Geneva Convention to ships, has never been given empirical meaning in terms of rational community policy and could carry as much threat to freedom of access to space as it does to the freedom of the oceans.

Fourth, claims relating to an occasional exclusive competence in space. Just as particular coastal states have in the past found themselves uniquely and substantially threatened by activities upon the adjacent oceans and in the adjacent air space over the oceans, so also may the surface states of the earth find themselves in the future uniquely and substantially affected by activities in space. The threats to coastal states have come from relatively proximate areas of the oceans, but have extended to all basic internal community values, such as security, health, economic well-being, and so on. The threats from space may not be so geographically limited; they may come from the most distant reaches of space, but could be equally extensive in their impacts upon internal community values.

For the protection of coastal states subjected to unique threat the general community has in recent decades under the concept of "contiguous zones" and various equivalents honored the assertion, in adjacent areas of the oceans or airspace above the oceans, of such an occasional, exclusive competence in relation to the ships or aircraft of other states as is reasonably necessary and proportionate to secure certain important interests. The interests thus authorized to be protected have been regarded as open ended and have ranged from security through health measures and immigration policies to fiscal integrity. Even upon the oceans the concept of contiguity has been regarded as a relative one, and assertions of competence have been honored at different distances for different purposes, and often at a very considerable distance. Thus, during World War II countries in

[16] [1955] I.C.J. Rep. 4. These strictures are developed in McDOUGAL AND BURKE, *supra* note 8, at 1013.

this hemisphere claimed a contiguous zone for security purposes of some 1300 miles at its utmost extent, and the United States and Canada presently assert a contiguous zone for security with respect to aircraft of one hour's flying time from their coasts. The kinds of authority authorized to be applied have involved varying degrees of effective control, from mere requirement of identification or surveillance to seizure and destruction.

The test which has been developed in historic practice for appraising the lawfulness of particular assertions of occasional, exclusive competence by coastal states has been that of reasonableness—of necessity and proportionality—as determined by the careful balancing of important variables in context. The burden of establishing reasonableness is of course upon the state asserting the competence to apply its authority to the craft of other states within the shared domain. The factors taken into account in determinations of reasonableness have included the importance of the interests sought to be protected, the particular measures in authority claimed to be applicable to the craft of other states, the relation between the interests sought to be protected and the measures demanded, the kind of activities engaged in by the craft of other states and the interests of the other states in these activities, the relation beween claimed immunities from competence and such interests, the precise location of the contested activities and the degree of their impact upon the coastal community, any conditions suggesting necessity for unilateral action, and, finally, the alternatives open to the various states for avoiding both injury and the imposition of injury upon others.

Considering the enormous threats to security and other values which space activities may impose upon particular states, it would appear highly probable that the states of the world will demand, and reciprocally honor, an occasional exclusive competence within the domain of space not unlike that which has been established upon the oceans. The consistent statements of the spokesmen of the Soviet Union with respect to what they call "spy satellites" and of spokesmen of the United States with respect to nuclear-tipped missiles or other craft would suggest such a development. Certainly, this would appear to be the most economic modality by which the inclusive interests of all states in the utmost freedom in enjoyment of space can be reconciled with the occasional unique needs of particular states to take unilateral measures for their self-protection. With respect to activities in space, the notion of contiguity as a factor for determining reasonableness will of course become largely irrelevant. By this anticipation and recommendation of customary development, we do not intend to minimize the difficulties which may ensue in making determinations of reasonableness—as, for example, in distinguishing between scientific observation and espionage. In the contemporary highly unorganized earth-space arena, in which the states of the world cannot effectively be denied a competence to protect themselves under conditions of grave threat, there would appear to be simply no alternative. It is to be hoped that the require-

ments of reciprocity and the potentialities of retaliation may serve an appropriate policing function.

Fifth, claims relating to the accommodation of inclusive and exclusive competences. If the general community is to authorize and protect both inclusive and exclusive competences in outer space and also to continue to recognize the relatively exclusive competence of states within their territorial airspace, quite obviously some method must be provided for accommodating these two very different types of competences when they conflict in particular instances. The modalities presently being proposed for securing this necessary accommodation include both the establishment of a boundary, such as is still being sought between the territorial sea and the high seas, between "airspace" and "outer space" and the adoption of a functional mode of analysis, comparable to that employed with respect to contiguous zones upon the oceans and recommended above for the resolution of conflicts arising even in the most distant reaches of space, which would assess the reasonableness of particular types of activities in context and regard the geographic location of activities as only one of many variables affecting reasonableness.

The proposals for seeking accommodation by the establishment of an explicit boundary between airspace and outer space are legion, and invoke many different criteria for the location of such a boundary. The criteria most commonly invoked include interpretative derivations from prescriptions in contemporary conventions relating to airspace, the varying physical characteristics of space, the varying capabilities of flight instrumentalities, the effective power of the claimant state to assert its authority in space, and the physical limits of the earth's gravitational effect. It is not believed, however, that any of these proposed criteria have any chance of general acceptance—for the reason that none of them bear any demonstrable relation to the common interests of the peoples being asked to accept them.

Consider for a moment what the common interests of all peoples are in the accommodation of inclusive and exclusive competences. First, there is the inclusive interest of everyone, emphasized in the discussion above of access claims, in the utmost possible use and exploitation of a great sharable resource for common benefit. Secondly, there are the exclusive interests of all particular communities, noted in the discussion above of claims to an occasional exclusive competence, in protecting themselves from unique threats and injuries from activities in space. The fullest protection of the first interest would, contrary to the various criteria being proposed, establish the surface of the earth as appropriate boundary—an outcome no one immediately expects. For the protection of the second set of interests, no boundary, whatever the criteria invoked, can have a very great relevance. It may be recalled that substantial threats to particular territorial communities may come from anywhere in space and may come horizontally as well as vertically. Should every state seek to extend the boundaries of

its comprehensive, continuing competence upwards and sidewise in the degree it deems necessary for protecting its unique exclusive interests, the result could only be endless strife and defeat of common interest.

The one type of boundary which might make sense in common interest would be very low, somewhat arbitrarily fixed boundary, such as the historic three-mile limit for the territorial sea. A boundary of this type might, like the territorial sea, serve two functions: it could minimize the number of controversies which arise and it could aid in fixing the burden of proof for such controversies as do arise. Operators of spacecraft able to distinguish between the established inclusive and exclusive domains might shun the exclusive; this may of course be a very difficult judgment to make, even with a very low boundary. Similarly, if a surface state interfered with activities above the boundary, the burden could be placed upon it of justifying the reasonableness of its assertion of exclusive competence; for activities below the boundary, the burden could be placed upon the state of the nationality of the spacecraft to establish innocent passage and absence of injury. In a context, however, in which states are attempting to disturb their long established consensus upon a relatively narrow territorial sea, the prospects would not appear overly bright for quick and universal agreement upon a low boundary between airspace and outer space.

Fortunately, the alternative proposal for accommodation by functional, contextual, multifactoral analysis has behind it the general community's rich experience with contiguous zones and other forms of occasional competence asserted upon the oceans. This experience would appear to confirm such analysis as a most economic mode for achieving the necessary delicate balance of inclusive and exclusive interests, with an appropriate priority for overriding inclusive interests. The requirements of mutual restraint and reciprocal tolerance inherent in the shared enjoyment of any resource would, again, appear most likely to stimulate a customary development toward adoption of this mode of accommodation so soon as states acquire the technological competence seriously to interfere with each other's space activities. The public utterances of statesmen tend in this direction and the peoples of the world are not likely to tolerate arbitrary destructiveness.

Sixth, claims relating to the preservation of minimum order—the minimization of major coercions. Man's new access to space, along with the advent of thermonuclear weapons, has increased enormously the comprehensiveness and intensity of the major coercions which may be directed against the territorial integrity and independence of states and has, hence, added vast new dimensions to the task of maintaining minimum order among the different territorial communities. The new earth-space arena is, as was its earth forerunner, a military arena; highly intense expectations of violence, parochial identifications, and compulsions to sacrifice on behalf of special interests continue to prevail. The claims to authority already being made parallel those previously made with respect to earth

activities and exhibit two principal modalities: first, demands for the characterization of particular coercions as permissible or impermissible and, secondly, demands for the employment of a wide range of community sanctioning techniques in the regulation and control of impermissible coercions.[17]

With respect to the first modality of claim, that demanding the characterization of particular coercions as permissible or impermissible, a practically universal consensus has emerged, without benefit of formal agreement, that the basic distinctions of the United Nations Charter are fully as applicable to states' activities in space as on earth. By virtue of these distinctions, it may be remembered, "acts of aggression", "threats to the peace", and "breaches of the peace" are regarded as impermissible, while "self-defense", "collective self-defense", and "community police action" are regarded as permissible. In more factual terms, coercions which create in the target state realistic expectations, as third parties might determine, that it must employ the military instrument in defense of its territorial integrity and political independence are prohibited; coercions undertaken, whether by the target state or the general community, in defense against such initial, precipitating coercions are permissible.

As indispensable as are the basic distinctions of the United Nations Charter to the maintenance of even a minimum public order in the earth-space community, the application of these distinctions under the conditions of man's access to space must be infinitely more difficult than ever before. Some indication of this difficulty may be observed in the contemporary debate about the lawfulness of the Soviet-Cuban quarantine imposed by the United States in the fall of 1962. Many observers emphasizing various significant features of the context, such as the bypassing of the United States' DEW warning line and the expansionist objectives of the Soviets, have concluded that the United States was justified in making a proportional use of the military instrument in self-defense; other observers, emphasizing other features of the context, have come to a different conclusion. If, however, the case of the Soviet-Cuban quarantine is difficult, consider how much more difficult rational general community decision will be when the earth is being circled by nuclear warheads, when reconnaissance spacecraft can catch the most minute details of activities on earth, and so on. It is not my suggestion that reliance upon the development of a customary consensus, or any other presently known alternative, can make this problem easy of solution.

With respect to the second modality of claim, that demanding the employment of appropriate general community sanctioning techniques in promotion of minimum order, certain other distinctions must be taken.

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[17] More detailed discussion of these claims may be found in MCDOUGAL AND FELICIANO, LAW AND MINIMUM WORLD PUBLIC ORDER: THE LEGAL REGULATION OF INTERNATIONAL COERCION chs. 3, 4 (1961).

When the overriding goal of minimizing unauthorized coercion and violence across particular community lines is closely examined, it may be seen to include a variety of sub-goals, such as prevention (the long-term preclusion of occasion for resort to unauthorized coercion), deterrence (short-term preclusion of resort to unauthorized coercion in contexts of immediate threat), restoration of order (the stopping or arrest of unauthorized coercion after it is under way), rehabilitation (the short-term binding up of wounds), and reconstruction (long-term efforts to affect participants and conditions in a way to preclude further resort to unauthorized coercion). For the more immediate, better securing of such particularized sub-goals as these, the promise of customary development is of course quite limited. The appropriate promotion of such objectives must require new, explicit agreement—as difficult as it is to achieve—upon new structures of authority and new sanctioning procedures, capable of employing our developing technology for defense of, rather than attack upon, public order. Should, however, the necessary new agreement continue to be unobtainable, our only recourse will be to unilateral action projected in the hope of creating expectations of future uniformities in conduct. Thus, the contemporary statements by United States officials that the United States does not intend to place nuclear warheads in orbit are obviously being made in invitation to the Russians to engage in reciprocal restraint. Reciprocal restraint in minimizing one threat could, in the historic manner of customary development, expand to embrace the minimization of other threats.

Seventh, claims relating to minimizing losses from lesser coercions and deprivations. In the future exploration and enjoyment of space it can only be anticipated that many different injuries, other than those sufficiently substantial to amount to violations of minimum order, will be imposed upon many participants in earth-space social process. The occasions of such injuries may include the conduct of hazardous activities, disregard of safety standards, unsuccessful performance of launching apparatus, malfunction of spacecraft, and so on. In any particular instance, the injury may have been deliberately sought or merely an incidental or unintended outcome. The range in types of potential injury is enormous, but some of the more probable types of events arising out of space activity about which states may make claims against other states include surface impacts, collisions, pollutions or contaminations, interference with telecommunications, and invasions of privacy.

The difficult policy issue confronting the general community with respect to probable injuries from space activities is that of balancing the inclusive interest of all peoples in encouraging the utmost possible exploration and exploitation of space against the exclusive interest of particular participants in not being subjected to unique burdens, without deriving unique benefits, from space activities.

Comprehensively considered, an appropriate general community policy of minimizing losses from unauthorized deprivations would include sub-

goals, comparable to those noted above with respect to major coercions, of prevention, deterrence, restoration, rehabilitation, and reconstruction. With respect to all five of the types of events, specified as offering possibilities of claims to authority, the general community can, fortunately, draw upon a rich experience derived from analogous situations. Though the future space problems may not be precisely the same, this experience in analogous situations does create certain expectations about appropriate future decision.

Thus, with respect to claims concerning impact with the surface of the earth, there is the experience from the regulation of extra-hazardous activities within particular states, from air transport law, and from the recent regulation of atomic energy. The sum of this experience suggests certain trends in decision discernible with reasonable clarity: (a) towards the imposition of absolute liability; (b) towards the limitation, by fixed maximums, of the aggregate amount of liability; (c) towards the use of money damages, rather than the injunction, as a remedy when the questioned activity is generally beneficial; and (d) towards a requirement of compulsory insurance.

With respect to claims arising from collisions, there is the experience with ships and aircraft. This would suggest that the rules of the road will be highly determinative and that liability will not be based upon conceptions of absolute liability. When fault cannot be ascertained, responsibility will probably be shared.

For claims concerning pollutions, there is a developing experience from activities upon the oceans and in airspace and the traditional national laws of nuisance. It may be recalled that in the famous *Trail Smelter*[18] case Canada was held responsible for injuries caused within the United States by noxious fumes originating in Canada. Though it did not concede liability, the United States paid a large sum to Japanese fishermen injured by its nuclear tests in the Pacific. The probability is that distinctions will be taken between different types of pollutions: for ultrahazardous activities, deliberately undertaken, absolute liability may be imposed; for less hazardous, ordinarily beneficial activities the less onerous test of reasonableness from historic "nuisance" doctrines may be applied.

For claims arising from interferences with telecommunications, the processes of customary crystallization of consensus are not likely to prove adequate. Even within national communities special agencies have been required for allocation of uses, for the licensing of users, for the assignment of frequencies to specific users, and for the formulation and application of standards with respect to transmission techniques and equipment designed to minimize interferences. Future developments with respect to space activities will largely depend upon achievement of appropriate

[18] 3 U.N. REP. INT'L ARB. AWARDS 1905 (1963).

comprehensive arrangement for all uses of the ratio spectrum, including those relating to space activities, and the establishment of effective structures of authority and sanctioning techniques.

The claims concerning invasions of privacy by observations from space, other than those which endanger military security, will probably get pretty short shrift. The interests of all mankind in the exploration and use of space are too great to encourage the protection of a "right of privacy" in territorial communities comparable to that which some mature societies protect in the individual.

Eighth, claims relating to the enjoyment and acquisition of space resources. Like the resources of the earth, the presently known or anticipated resources of space may conveniently be classified into three main categories: spatial-extension resources, such as surfaces or voids, whose distinctive characteristic is their utility as media of transportation and communication; flow or renewable resources, which have "successively available quantities" becoming available at different intervals and are variously affected by human action; and stock or non-renewable resources, whose characteristic is that the "total physical quantity does not increase significantly with time" and which may be either abundant or scarce.[19] Space resources of the first kind include the void of space, the surfaces of celestial bodies, and the contiguous space surrounding celestial bodies. The more important known flow resources are represented by cosmic rays, other radiations, magnetic and gravitational forces, gases, meteorites, asteroids, and the atmospheres of celestial bodies. Stock resources may include supplies of minerals or other useful materials found on celestial bodies. With respect to all these resources, and others still to be discovered, the two principal types of claims to authority to be anticipated, if man's experience on earth affords a useful guide, are, first, those relating to whether or not a resource may be subjected to exclusive appropriation and, secondly, those relating to the modalities by which a resource, decided to be subject to such claim, may be appropriated.

It is familiar knowledge that, in response to claims of the first type, many important resources of the earth have been held to be not subject to exclusive appropriation. Among such resources are the oceans and their riches, the airspace above the oceans, international rivers, and the polar areas. The only resources which have been generally held subject to exclusive appropriation are the indispensable components of state territory: the land masses, immediately superincumbent airspace, internal waters, and closely proximate ocean areas. The recognition has in recent times been nearly universal that, when resources technologically admit of sharing, inclusive use and competence make possible both a much greater produc-

[19] The quoted words are from CIRIACY-WANTRUP, RESOURCE CONSERVATION: ECONOMICS AND POLICIES 35, 37–38 (1952), from whom the second and third categorizations are adopted.

tion of all values and a more certain fairness in the distribution of values. The different decision with respect to land masses may be accounted for both by their physical characteristics, combining both spatial-extension and stock resources and exhibiting difficult natural barriers to movement, and by the whole history of the development of the family and tribe into the nation-state.

The expectations of the peoples of the world would appear, happily, already to have crystallized into a consensus, as explicit and precise as customary consensus ever is, that the sharable resources of space, like those of the earth, are to be held free of exclusive appropriation and open to enjoyment by all upon basis of equality. The documentation of this consensus for the void of space was offered above in discussion of the claims to inclusive access. The same official spokesmen, national and international, and the same formal resolutions demanding inclusive access to the void have, however, equally demanded inclusive access and enjoyment with respect to other resources. Thus, the important United Nations General Assembly Resolution on International Cooperation in the Peaceful Uses of Outer Space, of December 20, 1961, adopted with the support of both the United States and the Soviet Union and without a single dissenting vote, reads simply: "Outer space and celestial bodies are free for exploration and use by all States in conformity with international law and are not subject to national appropriation."[20] In the light of our present knowledge, it would not appear likely that any of the resources of space, other perhaps than some of the scarce stock resources of the celestial bodies, will be held subject to exclusive appropriation.

With respect to the second type of claim, that relating to the modalities by which a resource subject to appropriation can be appropriated, man's rich experience in the allocation of the continents of the earth has, again, created expectations that only "effective occupation", as contrasted with discovery and symbolic annexation, can serve common interest. It is only with respect to a few isolated islands in the Pacific that symbolic activities have been found adequate to establish exclusive title. The kind of "effective occupation" historically required for establishing exclusive claim to the larger land masses of the earth has, further, been not merely some single act of assertion of naked power but rather a continuous and comprehensive process in utilization and enjoyment. Such process has been required to include, as elsewhere summarized:

> ... an identifiable participant taking effective control of the resource, as effectiveness may be determined by the varying characteristics of the resource and context, giving notice to the world through appropriate ceremonials or otherwise of its intent to acquire, asserting authority over the resource in its management as a continuing base of

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[20] U.N. GEN. ASS. OFF. REC. 16th Sess., Supp. No. 17 at 6 (A/5026) (1961).

> power, and employing the resource in strategies appropriate to its characteristics in the production of values.[21]

The adoption of a comparable requirement for any space resources which may be held to be subject to exclusive appropriation could of course, because of the very great difficulties which may be encountered in establishing such effective occupation, greatly reinforce the substantive policy favoring the greatest possible inclusivity in access and enjoyment.

Ninth, claims relating to the conduct of organized enterprisory activities. It is not to be expected that the peoples of the world, in their demands for new values, will stop short with the *unorganized,* inclusive exploitation of space; much greater promise inheres, because of the augmentation in resources and skills made possible, in *organized,* inclusive exploitation. Increasing demands can be expected for the establishment of many new international organizations, both public and private, for the direct conduct of enterprisory activities, as contrasted with mere supervision or regulation, in exploration and enjoyment of the great sharable resources of space. This demand is already insistently being made with respect to the communication activities. The kinds of claims to authority which can be expected to accompany these demands for new inclusive organizations will no doubt parallel those which have hitherto attended the establishment and operation of any international organization. They will relate to the constitution of an enterprise as a legal personality, separate from its members or agents; to the recognition of this separate legal personality by non-members; to the imposition of community limitations upon the objectives of the enterprise; to regulating the access of the enterprise for conduct of activities both to outer space and to the territorial domains of particular states; to the allocation and protection of base values (finances, powers of operation, privileges and immunities); to regulating the employment by the enterprise of strategies in agreement and deprivation; to the appropriate distribution of the benefits achieved or the losses incurred by the enterprise; and to the termination of the enterprise.

The common interest of all peoples would appear to require the utmost general community encouragement of the establishment of appropriately inclusive, organized enterprisory activities. Important models for this encouragement creating expectations of the course of future decision, can, fortunately, be found both in the vast customary, constitutional law of international governmental organizations, developed during the last century, and in the even older private international law principles, designed to promote and sustain an international economy, which protect private enterprises in their activities transcending state lines.

Tenth, and finally, claims relating to interactions with non-earth advanced forms of life. Many leading scientists now regard the presence of

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[21] McDougal, Lasswell, Vlasic, and Smith, *The Enjoyment and Acquisition of Resources in Outer Space,* 111 U. PA. L. REV., 521, 529 (1963).

life, perhaps in strange new forms, elsewhere in the universe as highly probable. It may perhaps be conceded, without too great a detriment to our general thesis, that with respect to possible interactions between man and non-earth advanced forms of life, the historic expectations of customary law forecast future decision with somewhat less clarity than with respect to the other more definitely anticipatable problems we have been considering. Such expectations may not, however, be entirely irrelevant.

For noting the conceivable relevance of our earth experience in the management of these esoteric claims, we may pose three possibilities: the non-earth advanced forms of life may be our inferiors, our equals, or our superiors in culture and technology. If they are our inferiors, our experience with spheres of influence mandate or trusteeship devices, direct intergovernmental administration, and a vast variety of internal techniques in the devolution of authority and control may all become relevant. If they are our equals, our whole earth experience—as unfortunate as it has been in movement toward unity—will of course continue to be relevant. If they are our superiors, the relevant decisions may not be ours to take. The problem confronting more advanced forms of life may be that of segregating and isolating us, pending our re-education or elimination; some of man's experience on earth might possibly be pertinent to their required choices. Our problem might possibly be that of how gracefully to commit mass suicide.

Conclusion

Even so brief a resumé of contemporary expectations about probable future decision upon the various types of important problems expected to arise from space activities should suffice to establish, as we made initial premise, that the critics who so clamantly bemoan that there is as yet no law of space are needlessly, and dangerously, destructive of existing achievement. The most comprehensive process of authoritative decision previously established for the earth arena—the basic "constitutive" process of public and private international law—we have seen already clearly to have been extended by customary consensus to the whole of the earth-space arena, and to remain as available for the regulation of activities in space as for that of activities upon the oceans or elsewhere. The more fundamental general community prescriptions presently being formulated and projected by this process for the regulation of the various types of problems we have observed, furthermore, not importantly to depart from the policies which a responsible citizen of the larger community of mankind might recommend to other responsible citizens in promotion of a comprehensive public order of human dignity. In view of these developments, the fact that some of the problems are not amenable to prescription other than by explicit agreement should not, it may be submitted, be made cause, in responsible performance of intelligence and recommending functions,

for undercutting the substantial consensus already achieved on many problems without formal agreement.

Whether the peoples of the world will be able to continue to maintain a comprehensive constitutive process capable of clarifying and implementing their common interests with respect to space activities, or with respect to any other activities anywhere located, must of course depend upon many changing conditions in the whole earth-space community process. Should the Communists prevail in the contemporary confrontation of totalitarian and free-society world public orders, they can be expected to establish a monolithic, centralized constitutive process quite unlikely to clarify human dignity values with respect to space or any other activities. In support of more optimistic expectations, it may, however, be noted that in recent centuries, at least, no single power or bloc of powers has been able to achieve the scientific and technological capabilities necessary to domination of the whole earth arena and that during these centuries the oceans of the world have been established and maintained, by states having very different internal structures of effective control and authority, as a great sharable resource, open for the free and inclusive enjoyment of all peoples. Indeed, it may be emphasized that all the progress toward a public order of space compatible with human dignity values, recounted above, has been achieved despite the deep division between the totalitarian and free-society public orders and the expanding confrontation of rich and impoverished communities; the inexorable necessities of interdependence or interdetermination in shared enjoyment have exacted compromise in both ideological and material aspirations. In line with these past trends, it is hardly to be expected that in the calculable future any single power or bloc of powers will attain the scientific and technological capability of establishing a durable effective control over the whole earth-space arena, but it can be realistically expected, as was indicated at the beginning of our discussion, that the interdependences for all values of all peoples everywhere will tremendously intensify. Under such conditions it would not appear an entirely forlorn hope for proponents of a free society to continue to seek alternatives for the promotion of a constitutive process and public order decisions more in accord with their preferred values.

The alternatives open to us as responsible citizens of the larger community of mankind for promoting a more appropriate comprehensive law and public order for the earth-space arena depend in measure upon who we are. For observers or scholars, legal craftsmen outside government, the most urgent task is that of improving our intelligence procedures and activities for the better clarification of common interest and for the more effective instigation of appropriate action by both officials and private citizens at all levels in every particular community. It is our responsibility to clarify in all necessary detail the relevant goals of a comprehensive public order of human dignity, to supply the flow of information which

will give peoples a clearer perception of the realities which condition their choices, and to suggest the measures which may affect peoples' identifications toward a greater inclusivity, perhaps even embracing non-earth advanced forms of life. For officials, the responsibility is even greater: it is that of building upon appropriate intelligence to make and implement the decisions which will move mankind more certainly toward the preferred comprehensive law and public order. The new technological capabilities afforded us by access to space give us, fortunately, some added hope that we may eventually be able to discharge these responsibilities.