

Outer Space and the Multilateral Treaty-Making Process

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Introduction

Among the different branches of modern international law, the law of outer space most vividly illustrates the problems inherent to multilateral treaty-making. From the beginning of the space age, deliberate efforts to create a coherent body of law for outer space and space activities were undertaken at the United Nations. Within this framework, the conclusion of multilateral treaties has become the principal means of enacting pertinent legal rules. At one time, states participating in the multilateral treaty-making process were able to reach agreement on a number of treaties establishing basic principles for this particular branch of international law. However, subsequent multilateral negotiations aimed at resolving the more specific legal issues posed by rapidly developing space activities have failed to produce satisfactory results. While the need for adequate space law-making is as urgent as ever, the international community has discovered that it is far more difficult to reach consensus on new legal rules today.

In view of the noticeable slowdown in the law-making process, the time has come for a reassessment of the existing legislative techniques. Given the global character and the importance of outer space activities, which affect the interests of the entire international community, we must make a serious effort to formulate proposals aimed at improving the law-making process for outer space. Against the background of the recent general review of the multilateral treaty-making process, undertaken under the aegis of the United Nations ¹, this article raises some of the issues in the ongoing debate about the most suitable and effective techniques for law-making concerning space and space activities.

This article examines past experience in space treaty-making and clarifies the need for continuous law-making on the global level. It then discusses the process and prospects of the consensus law-making techniques traditionally used in this particular area of law. This article then proposes a new approach to consensus law-making based on the notion of qualitative participation. Next, this article discusses problems posed by the continued insistence on anticipatory law-making, the proliferation of negotiating forums and the increasing fragmentation of the legal regime applicable to outer space. It explores the need and prospects for a proposed comprehensive space convention. Finally, this article concludes by formulating the future prospects of space law-making.

The Continuous Need for Space Law-making

For a certain period, which may be described as the "golden age" of space law-making, rapidly developing space activities were accompanied by the adoption of a number of general multilateral treaties which deal exclusively with outer space and space activities. Despite the adoption of these treaties and related conventions, however, key issues remain unresolved. Continuous law-making is essential to ensure a viable and coherent system of space law.

The first multilateral space convention, the 1967 Outer Space Treaty, ² establishes a basic framework for the international legal regime in outer space. The treaty declares that the exploration and use of outer space should be carried out for the benefit and in the interest of all countries and "shall be the province of mankind." ³ It provides that outer space, including the moon and other celestial bodies, should be free for exploration and use by all states. ⁴ Outer space is not subject to national appropriation. ⁵ The treaty prohibits the placement of nuclear weapons or any other kinds of weapons of mass destruction in outer space, and declares that the moon and other celestial bodies shall be used "exclusively for peaceful purposes." ⁶ The treaty contains provisions on the rescue and return of astronauts. ⁷ States bear international responsibility for national activities in outer space, ⁸ as well as international liability for damage. ⁹ According to the treaty, states conducting activities in outer space should inform the United Nations and the international scientific community, to the greatest extent feasible and practicable, of the nature, conduct, locations and results of such activities. ¹⁰ The treaty has been ratified by 91 countries. ¹¹

The Outer Space Treaty provides the basis for all subsequent treaties and other legal instruments relating to space activities. The 1968 Agreement on the Rescue of Astronauts ¹² expands the relevant general provisions of the Outer Space Treaty. The 1972 Convention on International Liability for Damage Caused by Space Objects ¹³ provides a detailed regime for the liability of states for damage caused by space objects on the surface of the earth, to aircraft in flight and in outer space. The 1975 Convention on Registration of Objects Launched into Outer Space ¹⁴ specifies the requirements for the registration of space objects. The 1979 Moon Treaty, ¹⁵ while

reaffirming a number of principles contained in the 1967 Outer Space Treaty, also declares the moon the "common heritage of mankind" ¹⁶ and calls for the creation of an international regime to govern the exploitation of the natural resources of the moon. ¹⁷

Along with these multilateral treaties dealing specifically with space and space activities, the international community has promulgated a number of other conventions bearing on space activities. Of major importance are the Partial Nuclear Test Ban Treaty, ¹⁸ which bans nuclear explosions in outer space, the Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques, ¹⁹ which bans the use of certain environmental modification techniques aimed at changing the dynamics, composition, or structure of outer space, and the International Telecommunications Convention, ²⁰ which contains provisions relating to space communications.

However, the successful adoption and subsequent entry into force of these multilateral treaties do not mean that further development of space law will focus exclusively on their implementation and interpretation. From a broad theoretical perspective, a viable system of space law presupposes continuous law-making activity. As a practical matter, the need for further law-making becomes clear after a perfunctory glance at existing space treaty law. Not all the essential subjects amenable to treaty regulation have been resolved. Even during the "golden age," states failed to reach agreement on a number of important problems. Some of them, such as the delimitation of outer space and the character and utilization of the geostationary orbit, are still on the agenda of the UN Committee on the Peaceful Uses of Outer Space (UNCOPUOS), a central legislative body dealing with space and space activities. ²¹

Advances in space technology and the need for international cooperation in the exploration and use of outer space require more specific and detailed rules to govern new activities. One urgent issue, high on the agenda of the UNCOPUOS, is adequate regulation of the use of nuclear power sources in outer space. ²² More generally, there is a growing need to agree on rules and procedures for the prevention of the pollution of outer space and the earth from space activities. ²³ The development of space military capabilities requires an adequate normative response from the international community, which is concerned with the escalation of an arms race in outer space. ²⁴ Expanding space economic activities ²⁵ require the creation of a favorable legal framework. ²⁶

There are also many important issues which are regulated only by relevant UN General Assembly resolutions. ²⁷ These include the use of satellites for direct television broadcasting, covered by the 1982 Principles Governing Direct Television Broadcasting, ²⁸ and the use of satellites for remote sensing, governed by the 1986 Principles Relating to Remote Sensing. ²⁹

Although at this juncture there is no consensus on the need to transform the recommendatory rules contained in these resolutions into legally binding rules of conduct, ³⁰ it may well be that such a consensus will emerge when the pertinent activities acquire more significant proportions. One of the existing space treaties directly envisages an agenda for further law-making activities. The Moon Treaty provides that states parties to this agreement "undertake to establish an international régime, including appropriate procedures, to govern the exploitation of the natural resources of the moon as such exploitation is about to become feasible." ³¹ The Moon Treaty also provides that, ten years after its entry into force, the question of the review of the Treaty shall be included in the provisional agenda of the UN General Assembly. ³²

These and other related issues establish a broad agenda for international space law-making in the years to come. Traditionally, technological progress has exerted a particularly strong influence on the formation of space law. One may assume that technology push will continue to bring about an increasing variety of space activities and consequently raise new problems for the decision-makers concerned with the progressive development of the law of outer space.

The Search for a Genuine Consensus

The exploration and use of outer space is a global problem affecting the entire international community. The Outer Space Treaty recognizes this fact by stressing "the common interest of all mankind" in the exploration and use of outer space for peaceful purposes. ³³ From a political legal perspective, this provision provides sufficient legal grounds for claims to full and effective participation by all members of the international community in the decision-making process relating to outer space. Consequently, a realistic policy of space law-making should recognize that viable solutions to outer space issues can be found only through multilateral negotiations that lead to legal regimes of universal scope.

The need to create legal norms acceptable to all interested states has led to the adoption of consensus as a major procedural principle governing space rule-making negotiations. While various negotiating forums emerging as legislative arenas on space issues ³⁴ may have different procedural rules, the central legislative body dealing with space and space activities, the UNCOPUOS, ³⁵ traditionally uses consensus techniques. Consensus rule was adopted by the UNCOPUOS in 1962 and is considered to be a major achievement of this UN body. ³⁶

Consensus is an important factor in space law-making. All multilateral treaties relating to outer space elaborated in the framework of the UNCOPUOS³⁷ were adopted by consensus. Within the UN system there is a widely held belief that consensus rule "appears to result in accelerating the national acceptance of and thus the entry into force of the ultimately promulgated instruments."³⁸ Specifically, it is often contended that the practice of using consensus technique in the UNCOPUOS "accounts for the wide acceptance of space treaties"³⁹ or even provides "a guarantee for wide acceptance of the space treaties."⁴⁰

While in the past the consensus technique proved to be quite successful in bringing about general agreement on fundamental principles of space law, recent experience demonstrates that it is increasingly difficult to reach a genuine consensus on new rules. Several subjects pending before the UNCOPUOS, such as the definition and delimitation of outer space, matters relating to the character and utilization of the geostationary orbit and the use of nuclear power sources in outer space have been on the Committee's agenda for many years. While the reasons for the lack of agreement on these items may be different in each particular case, there are general developments which appear to exert a strong influence on the law-making process.

In view of the growing economic value of outer space, an increasing number of states are making use of their right to equal participation in space law-making. As a result, the membership of negotiating forums, especially UNCOPUOS,⁴¹ has expanded. With the arrival of a large number of developing countries into the negotiating process, broad issues relating to the establishment of more equitable international economic relations have gradually surfaced in space law-making.⁴² The trend towards discussing space issues from the standpoint of establishing a new international economic order (NIEO) has become particularly evident in connection with the discussions on the status of the natural resources of the moon as the common heritage of mankind.⁴³ Reflecting the demands of the developing countries, the 1986 Principles Relating to Remote Sensing⁴⁴ contain special provisions creating preferential rights for these states.⁴⁵ The issue of equitable access to geostationary orbit is increasingly discussed in terms of the economic benefits and rights of the less developed nations.⁴⁶

The growing emphasis on equity in space is confirmed by the new item on the agenda of the UNCOPUOS relating to the distribution of benefits from space activities, adopted in 1988.⁴⁷ During the deliberations on this subject in the UNCOPUOS, the developing states stressed that the Legal Sub-Committee should develop a legal framework "aimed at securing the equitable access of all States to the benefits derived from the use and exploration of outer space . . . [to] eliminate inequalities among States."⁴⁸ In support of their position, the developing states cited a number of international instruments which emphasize the need for accelerating the economic development of the developing countries, such as the UN Declaration on the Establishment of a New International Economic Order⁴⁹ and the Charter of Economic Rights and Duties of States.⁵⁰

The increase in membership of the negotiating forums and the emergence of NIEO problems create additional difficulties in reaching substantive consensus on new legal rules, because they place space issues in a confrontational context where the positions of different groups of states are radically opposed. The search for consensus tends to result in settling on the lowest common denominator, so as not to prejudice the positions of the states involved. Such a consensus often serves only as a disguise for continued disagreement. The disputes over the meaning of the common heritage of mankind principle incorporated into Article 11 of the Moon Treaty⁵¹ illustrate this trend. Reservations expressed by a number of states in connection with the adoption of the 1986 Principles Relating to Remote Sensing⁵² indicate strongly the difficulties in reaching a genuine consensus on issues of economic importance.

The lack of genuine consensus becomes particularly apparent in cases where negotiated legal instruments require ratification. By 1984, the Moon Treaty⁵³ had been ratified by five states and in accordance with its provisions had entered into force; however, although the Treaty was negotiated by consensus, it had not been ratified by the major space powers.⁵⁴ It is beyond dispute that a treaty cannot be effective if it is not ratified by states whose participation is crucial for the implementation of its provisions. The present signatories to the Moon Treaty, who do not possess the necessary technical means to launch objects into outer space and to explore and exploit the resources of the moon, simply do not have the necessary power to bring this legislative project into operation.

The history of the ratification of the Moon Treaty demonstrates that a simple consensus achieved in negotiating forums is insufficient to bring proposed space treaties into effect. This is contrary to the widely-held view that consensus techniques provide a guarantee for the wide acceptance of a space treaty.⁵⁵ Indeed, in the framework of multilateral rule-making, negotiations consensus traditionally means no more than the absence of any formal objection to a particular decision. It does not imply the positive support which is necessary for subsequent approval of the treaty by the national bodies responsible for ratification. In the absence of such positive support, consensus may not lead to ratification when each state decides individually whether it is in its best interests to be bound by a particular treaty. This is especially so when the parties deciding that they are not bound by the treaty are the space powers most directly affected.

Although positive support from the states who are most involved in the relevant space activities is a prerequisite for effective space legislation, such states will remain a small minority in any multilateral negotiating forum in the foreseeable future. This fact inevitably affects the negotiating process, where the majority tends to use its numerical strength by controlling the agenda⁵⁶ and by pressing for solutions which satisfy its own interests. Experience in space rule-making indicates that, in extreme situations, the impatient majority may resort to use of the majority vote. The dramatic departure from a previously uninterrupted record of consensus decision-making in connection with the adoption of the 1982 Principles Governing Direct Television Broadcasting illustrates this.⁵⁷

On the official level, consensus decision-making is sometimes criticized by the developing countries as a procedural device impeding progress in space rule making and creating the undesirable right of veto for dissenting states.⁵⁸ Meanwhile, on the doctrinal level, various proposals for majority decision-making are offered as a means of breaking the continued impasse in negotiations on a number of outstanding issues within the framework of the UNCOPUOS. Commentators have suggested, in particular, that "[t]he qualified majority voting rule... merits serious consideration, at least in so far as the drafting of international space law agreements by COPUOS is concerned."⁵⁹ It is doubtful, however, that decisions by majority, even by absolute majority, will lead to viable legal regimes, especially when the outvoted minority includes the states most affected by any such decision.

In a situation where the majority is tempted to use its numerical strength, the influential minority may resort to a number of tactics which will eventually frustrate the multilateral law-making process. Diplomatic maneuvering may prevent the inclusion of major new items in the agenda of broad multilateral forums or frustrate meaningful discussion of existing items. Effective law-making may be shifted to specialized bodies dealing with more technical issues. Space powers may increasingly rely on customary processes based on the actual practices and traditional preferences of states whose interests are "specially affected." The International Court of Justice articulated this principle in the North Sea Continental Shelf Cases.⁶⁰ Finally, the dissatisfied minority may resort to limited international agreements negotiated within closed state groupings. In view of the unsatisfactory results of the multilateral negotiations on the moon, proposals have already been made that a commercially acceptable legal regime for the exploitation of lunar resources should be elaborated outside the United Nations through agreement between "the space powers potentially capable of exploiting outer space natural resources."⁶¹ From a broader perspective, some commentators contend that "[t]he world community cannot, at this point, meaningfully participate on an egalitarian basis in the initial space law negotiations. It is important that the drafting of space treaties be limited to as few participants as possible in order to conclude workable conventions in a minimum amount of time."⁶²

Towards More Realistic Space Law-making

Given the universal character of space activities, limited agreements among the major space powers regarding outer space probably cannot offer a viable solution to problems calling for essentially global management. At the same time, serious thought should be given to the need to secure the support of the most directly interested states for future space legislation. A realistic assessment of the situation should proceed from the undeniable fact that all states do not have the same level of interest in outer space. While many members of the international community may remain unaffected by a particular decision concerning outer space, others are deeply concerned. Therefore it seems reasonable that the law-making process should reflect the various levels of interest of the space powers and of other states.

Experience demonstrates that the creation of a viable system of space law is impossible without the consent of the major space powers. This fact is recognized on both doctrinal and official levels. Reflecting on international law-making, B. Cheng writes that

irrespective of the field of international activity in question, what one needs in order that such activity be effectively regulated by given rules of the international legal order, is that those accepting these rules must include what the International Court of Justice in the North Sea Continental Shelf Cases called, those states "whose interests are specially affected."⁶³

B. Cheng stresses that, as a practical matter, different states do not carry equal weight in the enactment of legal norms, although the principle of sovereign equality of states is formally recognized by international law. He points out that "[t]his weighing of states in the formation of legal norms in the international legal order is . . . demonstrated most dramatically in the field of space law."⁶⁴ N. Jasentuliyana writes that "it is obvious that no really viable regime in space can be established without the agreement of the major space powers."⁶⁵

Soviet commentators recognize that regulation of space activities by international law must take into account the interests of all states, regardless of the extent of their participation in the exploration and use of outer space. Nevertheless, G. Zhukov and Y. Kolosov emphasize that "it would be wrong to underestimate the role of the leading space powers, the USSR and the USA in this context."⁶⁶ These authors point out that the "UN activities in working out the rules of international space law depend, to a large extent, on the USSR and the USA acting in concert. Indeed, the principal international agreement on space would hardly have come into being had

this been lacking." ⁶⁷

C. Q. Christol, an American space law expert, echoed this view: "Past practice suggests, despite the participatory role of many countries in the formation of international space policy and law, generally at the United Nations, that the positions taken by the United States and the Soviet Union have preponderantly influenced the substantive provisions of the resulting legal regime." ⁶⁸ In expressing this line of thought on the official level, the US representative stated in the UNCOPUOS:

The experience of this Committee, beginning with the Outer Space Treaty of 1967, demonstrates that real progress in the development of legal norms applicable to the use and exploration of outer space can only be made when as many states as possible, including all states having the capability to engage in outer space activities, are actively in agreement. ⁶⁹

There is no doubt that consensus is and will continue to be the most effective response to the problem of the discrepancy between the power of the numerical majority and influence of the most affected space powers. However, it is also clear that consensus techniques should reflect the political-legal realities of contemporary space law-making. Viewed from this perspective, a major drawback of the present notion and practice of consensus is that it does not guarantee the necessary positive support on the part of the space powers. Therefore, it seems reasonable to suggest a redefinition of consensus to give it a more positive interpretation.

In view of the political realities prevailing in the international community, sweeping procedural reforms are improbable in the near future. It may be difficult to obtain acceptance for the idea that rules of procedure should overtly reflect differences in the power and importance of various states in the decision-making process. For example, it is highly unlikely that a weighted voting rule will be accepted in space law-making diplomacy. ⁷⁰

However, as a formal matter, states should carefully consider a qualitative criterion of participation in proposed space treaties, in addition to the quantitative criterion normally used in clauses dealing with the coming into force of treaties. Such a qualitative criterion would ensure that an agreement would take effect only if supported by a sufficient number of the most affected states. More specifically, a rule could be adopted providing that a particular space treaty would come into force only if ratified by a specified number of space powers. In addressing this issue, states could consider different criteria to identify the required qualitative representation, for instance, the level of investment in the exploration and use of outer space ⁷¹ or the number of space launchings per year. ⁷²

There are precedents where states have expressly recognized that ratification by specified states, who are in the position to effectively implement the agreed rules, is a necessary precondition for the entry of a particular treaty into force. Thus the Outer Space Treaty provides that it will come into force only if ratified by three depository governments, namely the USSR, the UK and the USA. ⁷³ A similar provision was included in the Agreement on the Rescue of Astronauts. ⁷⁴ The Partial Nuclear Test Ban Treaty provides that it will take effect only if three leading nuclear powers, the USSR, the UK and the USA, ratify it. ⁷⁵ There is also a well-established trend towards requiring qualitative participation in treaties elaborated in the framework of the International Maritime Organization. Thus treaties relating to shipping ⁷⁶ include requirements, not only in terms of a fixed number of states, but also of the amount of shipping tonnage they must possess.

The proposed approach would guarantee that, after coming into force, new space treaties would substantially control the subject-matter covered by their provisions. Undesirable situations would be precluded, such as those which have arisen with the Moon Treaty. ⁷⁷ Moreover, adoption of the proposed rule would also affect the negotiating process and the nature of the consensus emerging from such negotiations. The tested consensus procedure would lead to more realistic normative results and, therefore, more viable legal regimes in the future.

Anticipatory Regulation

International space law is based on anticipatory regulation, which produces rules to govern topics that might arise only in the future. Thus, the 1967 Outer Space Treaty ⁷⁸ contains a number of provisions dealing with situations and issues which not only were unlikely to arise in actual practice at the time when the Treaty was concluded but which are also unlikely today. The Moon Treaty ⁷⁹ was negotiated at a time when the activities of states in the exploration and exploitation of the natural resources of the moon were very limited. However, these treaties were negotiated and signed when the economic benefits stemming from space exploration and technology were not as readily apparent as they are today. Subsequent experience indicates that anticipatory regulation may be less appropriate in the formulation of detailed policies regarding complex technical and economic issues.

The tendency to formulate space law ahead of progress in science and technology and well before the emergence of the actual state practice is often cited as the principal reason for earlier successes in space law-making. In particular, commentators contend that it is easier to conduct negotiations and to reach compromises before the issues under discussion have acquired practical importance and states have fully realized their particular national interests.

[F]or the development of space law in general, it was a good thing that in the early days states and their representatives seemed not so much aware of the political, military and economic interests involved in space activities. Otherwise, the Outer Space Treaty at least would probably not have been so successful in achieving its wide scope of applicability or in being ratified by all major space states.⁸⁰

Observers often argue that, at an early stage of negotiations, negotiating states proceed, not from national, but from common interest.⁸¹ From a broader theoretical perspective, many would contend that anticipatory regulation is the most appropriate method to deal with technological and scientific problems.⁸² Especially with respect to space law there is wide support for the view that early negotiations are one of the major preconditions for success in space law-making.⁸³

Active participation in discussions relating to space issues of a cognitive nature does not necessarily presuppose practical experience in space exploration and research. Thus it is clear that, from a political-legal perspective, the anticipatory approach provides states lacking space capabilities better opportunities for an increased role in law-making. Furthermore, the anticipatory approach prevents unfavorable developments in actual practice which may be relied upon by space powers in order to establish effective patterns of behavior reflecting their preferences. In view of this, it is not surprising that, at the official level, the major proponents of early negotiations on space issues are the developing countries who feel that preventative regulation enables them to exert a greater influence on the law-making process.⁸⁴

However, while anticipatory regulation may be useful for the establishment of a broad legal framework for future space activities, it is dangerous to rely on it too heavily in cases which require detailed regulation of complex technical or economic issues. Early negotiations are usually carried out without substantial knowledge about the subject-matter under discussion. As a result, the law-makers are forced to conduct negotiations based on a number of assumptions about future technological developments, trends in practice and resulting national interests.

Nevertheless, experience indicates that it is extremely difficult to foresee the content and impact of these and other factors on international relations. There is a substantial risk that the proposed normative solutions may be unworkable from both the technical and political points of view. The resulting conflict between practical requirements and the negotiated legal rules will inevitably have an adverse effect on emerging space activities.⁸⁵

The tension between the pressure for anticipatory normative solutions and the dangers of premature regulation became particularly evident in the course of negotiations relating to the legal regime governing the exploitation of the natural resources of the moon. The majority of negotiating states supported the idea of an early normative response to future problems. Other countries, including those specially affected, tried to point out that, at the current stage of development of exploration of the moon, there were no material prerequisites for the detailed regulation of the relevant issues. The Soviet representative in the Legal Sub-Committee of the UNCOPUOS emphasized that only

practical experience in the use of the resources of celestial bodies would make it possible to formulate well-founded normative provisions to regulate that aspect of space activity. Otherwise, there [is] a danger that legal norms lacking any practical value might be adopted, norms that would have no relationship to the real tasks and trends of moon exploration and would therefore hamper rather than stimulate that activity, thus having a retrogressive effect.⁸⁶

Notwithstanding claims to the contrary, actual experience does not support the view that early negotiations make the success of an agreement more likely. In the absence of adequate information about emerging space activities, states may put forward extreme and unrealistic demands. Such demands are usually modified only under pressure of reality.

A number of developing countries expressed serious concerns about the possible negative consequences of unrestricted remote sensing of their territories and the free dissemination of satellite data concerning their natural resources. These countries believed that developed states could use satellite technology to acquire detailed information about natural resources, which they would exploit to the detriment of the national economic interests of developing countries. These countries feared that technologically advanced countries would interfere with "national rights with respect to their territories and national resources."⁸⁷ These concerns were reflected in negotiating proposals aimed at introducing serious restrictions on remote sensing of foreign territories and dissemination of data.⁸⁸ In

particular, the developing countries stressed that, before engaging in remote sensing activities of natural resources of foreign countries, the sensing states should obtain prior permission of the sensed states.⁸⁹

However, actual practice has shown that these early concerns were largely exaggerated. No harm has resulted from free remote sensing of foreign territories and dissemination of satellite data. The realization of this fact was a major factor influencing the final stage of negotiations on remote sensing⁹⁰ and contributing to the subsequent compromises reflected in the 1986 Principles Relating to Remote Sensing.⁹¹

Doubts about the appropriateness and extent of anticipatory regulation may reduce the chances of early ratification of treaties which use the anticipatory approach. Many states failed to ratify the Moon Treaty because they felt that it was premature. Indeed, one can hardly claim that there is pressing need to adopt legal rules at this stage which purport to govern mini-activities on the moon and other celestial bodies.⁹² Such activities will take place only in the very distant future.

Proliferation of Negotiating Forums

The growing diversity of space-related activities means that relevant legal issues may arise in many different international forums. Space law-making is no longer restricted to the UNCOPUOS, although this remains the principal UN body concerned exclusively with legal questions arising from the exploration and use of outer space. It is becoming increasingly necessary to co-ordinate the law-making in these different forums to eliminate undesirable discrepancies.

Questions relating to the use of satellites for direct television broadcasting have been dealt with not only in the framework of the UNCOPUOS but also of the UN Educational, Scientific and Cultural Organization (UNESCO), which in 1972 adopted a Declaration of Guiding Principles on the Use of Satellite Broadcasting for the Free Flow of Information, the Spread of Education and Greater Cultural Exchange.⁹³

The International Telecommunications Union (ITU) addresses issues pertaining to the geostationary orbit for space communications. The ITU has become a major forum for the development of international space law, though it remains a technical body. Recently, the ITU's World Administrative Radio Conference (WARC) on the Use of the Geostationary Orbit established a new regulatory regime for satellite telecommunications. Telecommunication is the primary commercial use of outer space.⁹⁴

Other forums also play an important role in space law formulation. Matters concerning the prevention of an arms race in outer space are being discussed in the framework of the Conference on Disarmament.⁹⁵ Specific amendments to the Outer Space Treaty have been submitted to this forum.⁹⁶ Important norms governing the early notification of nuclear accidents on space objects were adopted in 1986 by the General Conference of the International Atomic Energy Agency (IAEA).⁹⁷ Issues of international liability for damage caused by space objects have assumed importance in the deliberations of the UN International Law Commission on the topic of international liability for injurious consequences arising out of acts not prohibited by international law.⁹⁸ Experience indicates that with the diversification of space activities, attempts at space legislation may be made in many different law-making arenas.⁹⁹

While the recent trend towards proliferation of space negotiating forums is primarily caused by the growing diversity of topics under discussion, political considerations also play an important part in this process. Difficulties in reaching consensus in broad multilateral bodies, especially in the UNCOPUOS, create pressure to transfer space negotiations to other institutions which are regarded as more suitable for dealing with a particular issue. However, differences in the composition, decision-making procedures, working methods and other characteristics of various forums, may influence the outcome of negotiations. Specialized institutions dealing with technical issues are generally regarded as more responsive to the preferences of the states most involved in relevant activities.

Arguments relating to competence may impose limits to diplomatic maneuvering aimed at shifting space law-making from broad forums to specialized institutions. For example, as a formal matter, the ITU deals only with the allocation of orbital positions for space communication.¹⁰⁰ Consequently, its mandate does not allow it to regulate other possible uses of the geostationary orbit. Therefore, it is not surprising that the first session of the World Administrative Radio Conference on the Use of the Geostationary Orbit, convened by the ITU, declared itself not competent to deal with broad political and legal issues relating to the claims of sovereignty or jurisdiction over the segments of the orbit.¹⁰¹

Partial solutions adopted by specialized institutions affect discussions on broader issues. An analysis of negotiations in the framework of the UNCOPUOS shows that technical regulations established by the ITU may exert a strong *de facto* influence on negotiations regarding the general rules of space law governing the same matters. Thus, during the negotiations on the question of direct broadcast satellites in the framework of the UNCOPUOS, the technical regulations issued by the ITU were cited by a number of countries in

support for the proposition that the ITU rules had in effect established prior consent as a principle of international law.¹⁰² The ITU had approached the much-debated issue of broadcast satellites¹⁰³ from a primarily technical perspective. The regulations which it adopted require agreement for satellite broadcasts between interested countries.¹⁰⁴ The tendency to use the ITU technical rules in debates over general principles is also confirmed by the recent UNCOPUOS discussions concerning the proposed general definition of the concept of "equitable access" to the geostationary orbit.¹⁰⁵

From a legal policy perspective, it is clear that the recent proliferation of negotiating forums requires greater coherence and coordination of law-making activities at national and international levels. Lack of coordination at the national level results in inconsistent positions being taken by delegations from the same state in various international bodies.¹⁰⁶ If there is no coordination at the international level, different legislative bodies may adopt conflicting rules on the same issue.

Both the Convention on Early Notification of a Nuclear Accident and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency adopted by the IAEA¹⁰⁷ contain rules on nuclear power sources on space objects relating to notification and assistance which conflict with the relevant provisions of the Draft Principles Relevant to the Use of Nuclear Power Sources in Outer Space currently under discussion in the UNCOPUOS.¹⁰⁸ Policy considerations relating to the need for a coherent body of space law clearly require a careful comparative study of the provisions of the 1986 IAEA Conventions and the UNCOPUOS Draft Principles¹⁰⁹ with a view to eliminating the undesirable discrepancies.¹¹⁰

From a political-legal perspective, it is clear that the lack of coordination between different negotiating forums endangers the unity and coherence of space law. There is no doubt that the existence of conflicting rules in different instruments on the same issues could create serious legal and practical problems for the interpretation and implementation of space treaties and other relevant international instruments. In view of the increasing danger to the unity of space law, serious thought should be given to the need for elaborating a coherent space legislative policy.

One of the results of the recent UN review of the multilateral treaty-making process¹¹¹ is the recognition of the need for continuous gathering and dissemination of data relating to treaty-making activities of different bodies within the UN system. In view of this general trend, it is reasonable to expect an increase in the role of the UN General Assembly and of the UNCOPUOS in promoting greater coherence of space legislative efforts. As a technical matter, the UNCOPUOS lacks the necessary authority to co-ordinate the space law-making of different forums, in particular international organizations. Nevertheless, it can obviously increase its efforts in the gathering and dissemination of information about international rule-making relating to outer space and space activities. The time may also have come for it to undertake a review covering the activities of different international organizations engaged in multilateral space treaty-making with a view to improving the existing legislative techniques.

Fragmentation of the Legal Regime

Lack of coordination among different legislative bodies is not the only factor leading to the fragmentation of the legal regime applicable to space activities. The unity and coherence of space law may also be endangered by conflicting provisions elaborated in the same negotiating forum. Although both the Outer Space Treaty¹¹² and the Moon Treaty¹¹³ were adopted in the framework of the UNCOPUOS, the states which were parties to these treaties assumed different obligations in a number of areas.

A comparative analysis of Article IX of the Outer Space Treaty and of Article 7 of the Moon Treaty indicates that the content of the obligations relating to the protection of the earth and space environments imposed by these treaties is different. Regarding outer space, Article IX of the Outer Space Treaty expressly limits the relevant environmental obligations to activities relating to the "study" and "exploration" of outer space.¹¹⁴ Other types of space activities, including such environmentally significant activities as the exploitation of the resources of outer space, do not seem to fall within the purview of Article IX.¹¹⁵ With respect to the earth, Article IX requires only the avoidance of environmental hazards relating to the possible introduction of extraterrestrial matter.¹¹⁶ It does not contain a general environmental obligation applicable to all space activities. In contrast, the environmental protection rules of the Moon Treaty cover all possible kinds of adverse effects on the moon's environment, as well as the earth's, which may result from activities associated with the exploration and use of the moon and other celestial bodies.¹¹⁷

Another important area is the exploitation of the natural resources of outer space. While the Outer Space Treaty proclaims freedom in the use of outer space,¹¹⁸ which, as generally recognized, includes the freedom to exploit its resources,¹¹⁹ the Moon Treaty is regarded by many as imposing a moratorium on exploitation of the resources of the moon and other celestial bodies.¹²⁰ Even if there is no moratorium, the parties to the Moon Treaty have assumed a number of specific obligations relating to the exploitation of lunar resources, which are absent from the Outer Space Treaty. These include, in particular, obligations relating to "[t]he orderly and safe development of the natural resources of the moon", "[t]he rational management of those resources", "[t]he expansion of opportunities

in the use of those resources", and "[a]n equitable sharing by all States Parties in the benefits derived from those resources" ¹²¹

Furthermore, according to Article 11 of the Moon Treaty, the parties have an obligation to establish an "international regime" to govern the exploitation of the natural resources of the moon. ¹²² Further fragmentation of the applicable legal regime is possible in this case, too, because not all parties to the Moon Treaty may be able to join the envisioned "international regime." As a result, the exploitation of lunar resources may be governed by the various rules contained in the Outer Space Treaty, the Moon Treaty and the future "international regime" envisioned by the Moon Treaty. This could lead to considerable legal uncertainty and an increased danger of tension and conflicts between different groups of states.

The trend towards fragmentation of the applicable legal regime may intensify if states displaying divergent attitudes on controversial issues resort to limited agreements reflecting their preferences. An indication of this possibility is the regional Convention on the Transfer and Use of Data of the Remote Sensing of the Earth from Outer Space adopted by a group of socialist countries. ¹²³ While the 1986 Principles Relating to Remote Sensing ¹²⁴ and, arguably, the emerging general customary law allow free dissemination of satellite data, ¹²⁵ the Convention restricts the dissemination of data with a spatial resolution finer than 50 m. ¹²⁶

To some extent, the trend toward fragmentation is limited by the fact that new space treaties generally repeat the general provisions which have already been endorsed by earlier treaties dealing with outer space. ¹²⁷ Although this legislative technique may raise difficult questions about the relationship between the obligations created by different instruments, it enables law-makers to establish a legal system in which some basic rules are adopted by states which may not be bound by similar provisions in earlier treaties. As a result, the rules of space law acquire broader community support.

Inconsistencies and gaps in space law are inevitable as long as the law-making process continues to be limited to the adoption of different conventions dealing with particular space activities. From this perspective, the establishment of a harmonious body of space law requires the codification of space law in a single comprehensive convention governing all space activities.

A Comprehensive Convention?

Arguments for a comprehensive space convention governing all uses of outer space usually rely on existing experience in codification. Of particular importance is the Convention of the Law of the Sea, where the UN made serious attempts to establish an all-embracing legal regime for the oceans in a single UN document. ¹²⁸ The proponents of such an approach to space law-making ¹²⁹ argue that it will result in a stable and coherent legal regime for outer space promoting international cooperation in its exploration and use.

This proposal may find a certain amount of support not only on the doctrinal but also on the official level, especially among states pressing for a radical reform of existing space law. Relevant political-legal arguments were already being advanced in the 1970s. Thus, the representative of Chile stated: "The 1967 Treaty, which had met the demands of what was essentially a period of exploration, should be superseded by a comprehensive international regime eventually covering the whole of outer space, duly delimited, and all its uses and resources." ¹³⁰

In assessing the prospects for future space law-making it is useful to bear in mind that the developing countries tend to rely on international law as an instrument to achieve a more equitable space order. Consequently, they have a strong interest in establishing a comprehensive legal regime for outer space covering all possible aspects of space activities. It is therefore not surprising that some of them are pressing "for a systematic and coherent legal regulation of technological development and the purpose of achieving an equitable distribution of the benefits of the exploration and use of outer space, so as to end the unjust predominance of some countries over the others." ¹³¹

As a technical matter, the proposal to negotiate a comprehensive space convention may be attractive. However, there are grounds to believe that any legislative initiatives in this direction would be premature at this stage. Space law is still at an early stage of development. Rapid technological transformations continue to create new political-legal problems which cannot be envisioned at this stage. It appears that the tested method of step-by-step resolution of emerging issues through non-binding instruments which are confirmed, at a later stage, by limited agreements dealing with particular matters is an essential prerequisite for successful law-making. Furthermore, in view of the growing difficulties in achieving consensus in space negotiating forums, genuine consensus on new universal treaty principles may be reached only in carefully defined areas of common concern dealing with specific space activities.

In reality, proposals for a comprehensive space treaty are likely to encounter serious political opposition. Many states, especially those most affected, may feel that comprehensive solutions and global conferences create a political environment highly responsive to numerical majorities. Experience in other areas of law, especially in the law of the sea, indicates that comprehensive negotiations favor states which advance extensive claims in order to obtain a bargaining leverage on the whole range of issues under discussion, even

though they have no direct and immediate link to a particular activity. In the context of negotiations on a limited agenda, extreme positions are unlikely to yield positive results.

By contrast, in the framework of comprehensive settlements, states advancing far-reaching claims may easily form special pressure groups and negotiating alliances that multiply their original negotiating strength. Consequently, there is a danger that normative results of negotiations on a comprehensive space convention may not reflect the actual balance of interests of different groups of states as regards the exploration and use of outer space. In particular, space powers may find it difficult to preserve the existing principles of space law, such as the freedom of exploration and use of outer space, which have been criticized by a number of developing countries. It is clear that comprehensive negotiations will provide states pressing for radical reforms of the existing space law an ideal opportunity to reopen negotiations on these basic principles of space law which have been codified in the Outer Space Treaty.¹³² It is highly unlikely that the relevant global conference would adopt rules of procedure reflecting the idea that the opinions of those states who are most actively involved in space activities should carry more weight than others.

In space law-making there is also no established tradition of requiring qualitative participation in the proposed space treaties. Consequently, from this perspective it is also reasonable to assume that the resulting compromises would tend to reflect the preferences of the numerical majority. As a result, there is a substantial risk that the negotiated convention would be resisted by the space powers. In the absence of their support, the envisioned ambitious legislative project might remain a dead letter. Far from achieving the desired coherence in space law, such a development would only destabilize the already existing legal regime for outer space.

Conclusion

The international community has successfully promulgated a number of general multilateral instruments establishing a broad legal framework for the uses of outer space. In view of the growing diversity of space activities, especially in the economic field, the need for the development of new legal rules to regulate new space activities has increased. The lack of meaningful progress in negotiations in a number of areas has also intensified the need for improvements in the existing law-making process. In considering possible improvements, states must realize that, in order to be effective, space law-making should increasingly be based on legislative techniques that will reflect the realities of international relations. The future of the space legislative process depends primarily on the ability of the international community to achieve a genuine consensus reflecting both the legitimate common interests of all states in space and the special interests and responsibilities of the space powers in the exploration and use of outer space for the benefit of mankind as a whole.

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1 REVIEW OF THE MULTILATERAL TREATY-MAKING PROCESS, U.N. Doc. ST LEG SER.B 21, U.N. Sales No. E F.83.V.8 (1985).

2 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, Jan. 27, 1967, 18 U.S.T. 2410, T.I.A.S. No. 6347, 610 U.N.T.S. 205 [hereinafter Outer Space Treaty].

3 art. I.

4

5 art. II

6 art. IV.

7 art. V.

8 art. VI.

9 art. VII.

100 art. XI.

111 17 J. SPACE L. 98-102 (1989); M. BOWMAN & D. HARRIS, MULTILATERAL TREATIES: INDEX AND CURRENT STATUS (1984 & Supp.).

122 Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched Into Outer Space, Apr. 22, 1968, 19 U.S.T. 7570, T.I.A.S. No. 6599, 672 U.N.T.S. 119 [hereinafter Agreement on the Rescue of Astronauts].

133 Convention on International Liability for Damage Caused by Space Objects, Mar. 29, 1972, 24 U.S.T. 2389, T.I.A.S. No. 7762, 961 U.N.T.S. 187.

144 Convention on Registration of Objects Launched into Outer Space, Nov. 12, 1974, 28 U.S.T. 695, T.I.A.S. No. 8480, 1023 U.N.T.S. 15.

155 Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, Dec. 5, 1979, G.A. Res. 34 68, 34 U.N. GAOR Supp. (No. 46) at 77, U.N. Doc. A 34 46 (1979) [hereinafter Moon Treaty].

166 art. 11.

177 art. 11, para. 5.

188 Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water, Aug. 5, 1963, 14 U.S.T. 1313, T.I.A.S. No. 5433, 480 U.N.T.S. 43 [hereinafter Partial Nuclear Test Ban Treaty].

199 Convention on the Prohibition of Military or Any Other Hostile Use of Environmental Modification Techniques, Dec. 10, 1976, 31 U.S.T. 333, T.I.A.S. No. 9614, 1108 U.N.T.S. 151.

200 International Telecommunication Union, (1982) [hereinafter ITU Convention].

211 U.N. Doc. A AC.105 430 at 4 (1989). Not all states believe, however, that there is a need for the legal definition of the boundary between air space and outer space. In particular, the U.S. has traditionally expressed the view that the absence of a definition or delimitation of outer space has not created and will not create practical problems for the progress in the exploration of outer space. The U.S. representatives urge the UNCOPUOS to drop this matter from the agenda of its Legal Sub-Committee. U.N. Doc. A AC.105 PV.332 at 17-18 (1989) (statement of the U.S. representative in the outer space committee). For a presentation of this approach on the doctrinal level, see, e.g., Hosenball & Hofgard, 57 U. COLO. L. REV. 885-893 (1986).

222 U.N. Doc. A AC.105 430 at 4 (1989).

233 For expressions of concern over the environmental effects of space activities on the part of the international scientific community, see U.N. Doc. A AC.105 420 (1988) (submitted by the Committee on Space Research and the International Astronautical Federation). During the discussions in the UNCOPUOS on the issues relating to the use of nuclear power sources in outer space, it was proposed that special provisions on the prevention of "space pollution" be included into the relevant Draft Articles under discussion. U.N. Doc. A AC.105 430 at 21 (1989). There is also a growing number of official statements calling for the study and discussion of space environmental problems, especially of issues relating to space debris. In 1989 Austria, Belgium, Canada, F.R.G., the Netherlands, Nigeria and Sweden proposed that the issue of space debris be put on the agenda of the Scientific and Technical Sub-Committee of the UNCOPUOS. U.N. Doc. A AC.105 L.179 (1989) (U.N. documents denoted "L." are issued in restricted distribution. These documents are only available at the U.N. libraries in New York City, New York and Geneva, Switzerland.). U.N. Doc. A AC.105 PV.322 at 33 (1989) (statement in the UNCOPUOS by the representative of the Soviet Union: "[T]he Soviet delegation shares the disquiet over the state of space environment voiced by a large number of Committee members. We are prepared to discuss that problem."); U.N. Doc. A AC.105 PV.323 at 67-68 (1989) (statement in the UNCOPUOS by the representative of Brazil: "We strongly recommend that the

Committee deals, on a priority basis, with questions relating to the threats posed to the Earth's environment by space activities and to the preservation of space's environment itself.").

244 For a comprehensive discussion of relevant problems, see MAINTAINING OUTER SPACE FOR PEACEFUL USES (N. Jasentuliyana ed. 1984).

255 On the growing economic advantages of space activities, see SPACE ACTIVITIES AND EMERGING INTERNATIONAL LAW 39-50 (N.M. Matte ed. 1984); J. GOODRICH, THE COMMERCIALIZATION OF OUTER SPACE: OPPORTUNITIES AND OBSTACLES FOR AMERICAN BUSINESS (1989).

266 For details, see Böckstiegel, 12 ANNALS AIR & SPACE L. 175 (1987).

277 On the role of the UN General Assembly resolutions in the development of space law, see Kopal, 16 J. SPACE L. 5 (1988).

288 G.A. Res. 37 92, 37 U.N. GAOR Supp. (No. 51) at 98, U.N. Doc. A 37 51 (1982).

299 G.A. Res. 41 65, 41 U.N. GAOR Supp. (No. 53) at 115, U.N. Doc. A 41 53 (1986).

300 After the adoption of the 1982 Principles Governing Direct Television Broadcasting by the UN General Assembly, different opinions were expressed on the need for further legislative action. Thus, the Soviet representative in the UNCOPUOS expressed the view that "the Legal Sub-Committee should as quickly as possible proceed to draft a convention on international direct television broadcasting on the basis of the declaration of principles." U.N. Doc. A AC.105 PV.247 at 16 (1983). By contrast, the representative of Italy stated:

The text of principles may be reviewed in due course so as to meet with general acceptance and to make implementation of these principles more likely. This leads us to think that for the time being the wisest course could possibly consist of letting a certain period of time pass before re-examining the issue in the light of further development.

U.N. Doc. A AC.105 PV.249 at 16 (1983). The U.S. representative, for his part, clearly rejected the idea of considering the 1982 Principles "as the basis for negotiating a treaty on the subject." at 34-35.

Similarly, as regards the 1986 Principles Relating to Remote Sensing, the Soviet representative expressed the opinion that the approval of the Principles by the UN General Assembly "should be followed by the formulation of an appropriate international agreement." 25 U.N. GAOR Comm. on the Peaceful Uses of Outer Space (449th mtg.) at 3, U.N. Doc. A AC.105 C.2 SR.449 at 3 (1986). 41 U.N. GAOR Special Political Comm. (38th mtg.) at 5, U.N. Doc. A SPC 41 SR.38 (1986). This view is not shared, however, by other states. Thus, the representative of the U.S. stated that the embodiment of the Principles in "a new legal instrument was neither necessary nor desirable." at 4. at 3 (statement of the representative of Japan).

31 Moon Treaty, note 15, art. 11, para. 5.

32 art. 18.

33 Outer Space Treaty, note 2, Preamble.

34 notes 93-99 and accompanying text.

35 For background information on the UNCOPUOS and its Legal, and Scientific and Technical Sub-Committees, see REVIEW OF THE MULTILATERAL TREATY-MAKING PROCESS, note 1, at 341-348.

36 For details, see Galloway, 7 J. SPACE L. 3 (1979). For an excellent presentation of general problems relating to the notion and practice of consensus techniques in multilateral law-making, see Zemanek, in THE STRUCTURE AND PROCESS OF INTERNATIONAL LAW: ESSAYS IN LEGAL PHILOSOPHY, DOCTRINE AND THEORY 857, 871-80 (R. Macdonald, D. Johnston eds. 1983).

37 notes 2, 12-15 and accompanying text.

38 REVIEW OF THE MULTILATERAL TREATY-MAKING PROCESS, note 1, at 19 (statement of the UN Secretary General).

39 Jasentuliyana, 11 ANNALS AIR & SPACE L. 219, 223 (1986).

40 Lee, , in CONTEMPORARY PROBLEMS OF INTERNATIONAL LAW: ESSAYS IN HONOUR OF GEORGE SCHWARZENBERGER 157, 167 (1988). U.N. Doc. A AC.105 PV.203 at 21 (1979) (statement of the U.S. representative made in connection with the adoption of the text of the Moon Treaty: "Consensus may not be the speediest method of work, but it is a method which best ensures that the results achieved by the Outer Space Committee are meaningful and will be generally accepted.").

41 The predecessor of UNCOPUOS, the Committee on the Peaceful Uses of Outer Space, had eighteen members, G.A. Res. 1348, 13 U.N. GAOR Supp. (No. 18) at 5, U.N. Doc. A 4090 (1958), the first permanent UNCOPUOS had twenty-four members, G.A. Res. 1472, 14 U.N. GAOR Supp. (No. 16) at 5, U.N. Doc. A 4354 (1959), and the present UNCOPUOS has a membership of fifty-three nations, G.A. Res. 35 16, 35 U.N. GAOR Supp. (No. 48) at 88, U.N. Doc. A 35 48 (1980). At present the UNCOPUOS is composed of the following member states: Albania, Argentina, Australia, Austria, Belgium, Benin, Brazil, Bulgaria, Burkina Faso, Cameroon, Canada, Chad, Chile, China, Colombia, Czechoslovakia, Ecuador, Egypt, France, German Democratic Republic, Federal Republic of Germany, Greece, Hungary, India, Indonesia, Iran (Islamic Republic of), Iraq, Italy, Japan, Kenya, Lebanon, Mexico, Mongolia, Morocco, Netherlands, Niger, Nigeria, Pakistan, Philippines, Poland, Romania, Sierra Leone, Spain, Sudan, Sweden, Syrian Arab Republic, USSR, UK, USA, Uruguay, Venezuela, Viet Nam and Yugoslavia. 43 U.N. GAOR Supp. (No. 20) at 2, U.N. Doc. A 43 20 (1988).

42 For a more detailed discussion of relevant problems, see, e.g., Johnson, , 10 THESAURUS ACROASIUM, AIR & OUTER SPACE L. 379 (1981); Vicas, , in SPACE ACTIVITIES AND IMPLICATIONS: WHERE FROM AND WHERE TO AT THE THRESHOLD OF THE 80'S 293 (1981); Danilenko, in SPACE LAW: VIEWS OF THE FUTURE 100, 100-105 (1988).

43 During the negotiations on the legal regime for exploitation of lunar resources on the basis of the common heritage of mankind concept, a number of developing countries expressly stated that they regarded these negotiations as a important step in the establishment of a NIEO. U.N. Doc. A AC.105 PV.171 at 68 (1977) (statement of the representative of Venezuela), U.N. Doc. A AC.105 PV.172 at 26 (1977) (statement of the representative of Brazil); U.N. Doc. A AC.105 C.2 SR.291 at 6 (1978) (statement of the representative of Colombia).

44 note 29.

45 Thus, according to Principle XII, the sensed state shall have access to the available analyzed remote sensing information concerning the territory under its jurisdiction in the possession of any state participating in remote sensing activities on "reasonable cost terms" but "taking particularly into account the needs and interests of the developing countries." at 116. Principles II, IX, XIII.

46 It is significant to note that Art. 33 of the 1982 ITU Convention, note 20, provides that all countries should have equitable access to radio frequencies and the geostationary satellite orbit, "taking into account the special needs of the developing countries." This language is also used in different proposals relating to the definition of the notion of equitable access to the geostationary orbit currently under discussion in the UNCOPUOS. U.N. Doc. A AC.105 430 at 33-37 (1989).

47 43 U.N. GAOR Supp. (No. 20) at 16, U.N. Doc. A 43 20 (1988). The new item for the UNCOPUOS agenda deals with "[c]onsideration of the legal aspects related to the application of the principle that the exploration and utilization of outer space should be carried out for the benefit and in the interests of all states, taking into particular account the needs of developing countries."

48 U.N. Doc. A AC.105 430 at 11 (1989).

49 G.A. Res. 3201, __ U.N. GAOR Supp. (No. 1) at 3, U.N. Doc. A19559 (1974).

50 G.A. Res. 3281, 29 U.N. GAOR Supp. (No. 31) at 50, U.N. Doc. A19631 (1974).

51 note 15. According to art. 11, para. 1 of the Moon Treaty, "the Moon and its natural resources are the common heritage of mankind." Art. 11, para. 5 provides that "States Parties to this Agreement hereby undertake to establish an international régime,

including appropriate procedures, to govern the exploitation of the natural resources of the Moon as such exploitation is about to become feasible." The radically opposed interpretations of these provisions indicate the absence of common intent. The major controversy relates to the question of whether art. 11 establishes a moratorium on lunar mining. During the negotiations on the Moon Treaty, a claim was put forward that the obligation to establish an international regime amounts to recognition of the moratorium. U.N. Doc. A AC.105 C.2 SR.249 at 8 (1976) (statement of the representative of Mexico). U.N. Doc. A AC.105 PV.123 at 6 (1973) (statement of the representative of India), U.N. Doc. A AC.105 C.2 SR.211 at 26 (1974) (statement of the representative of Iran). Later on this interpretation was supported by a number of writers from the developing countries. Rao, 21 *INDIAN J. INT'L L.* 275 (1981); Sehgal, 26 *INDIAN J. INT'L L.* 106, 112 (1986). This interpretation of art. 11 was rejected, however, by the space powers, particularly the U.S. U.N. Doc. A AC.105 PV.203 at 22 (1979) (statement of the representative of the U.S.). For conflicting interpretations of the relevant provisions of the Moon Treaty during the Senate hearings, see 96th Cong., 2nd Sess. (1980). For doctrinal discussions, see, e. g., Dula, 2 *HOUSTON INT'L L.J.* 3 (1979); Griffin, 46 *J. AIR L. & COM.* 729 (1981).

52 note 29. The statements of a number of delegations at the final stage of the negotiations on the 1986 Principles Relating to Remote Sensing clearly indicate that despite the fact that formal consensus was reached, serious differences remained in national approaches to a number of fundamental provisions. Thus, although the Principles do not require prior permission of sensed states for remote sensing of their territories, a number of countries continued to maintain that "[s]ensing states should notify and seek the permission of sensed states before undertaking such activities Carrying out remote sensing activities without permission [run] counter to the ideas of international co-operation." U.N. Doc. A AC.105 SR.290 at 6 (1986) (statement of the representative of Nigeria). 41 U.N. GAOR Special Political Comm. (37th mtg.) at 14, U.N. Doc. A SPC 41 SR.37 (1986) (statement of the representative of Venezuela), 41 U.N. GAOR Special Political Comm. (38th mtg.) at 2, U.N. Doc. A SPC 41 SR.38 (1986) (statement of the representative of Turkey); at 7 (statement of the representative of Algeria). Other states have joined the consensus with serious reservations. Thus, the representative of Yugoslavia stated that "Yugoslavia had joined the consensus, although it had certain reservations concerning the provisions of some principles, particularly those that could be construed as allowing for the possibility of limiting the sovereignty of countries over their natural resources." 41 U.N. GAOR Special Political Comm. (38th mtg.), at 10.

53 note 15.

54 By 1988 the Moon Treaty had been ratified by Australia, Austria, Chile, the Netherlands, Pakistan, the Philippines and Uruguay. , U.N. Doc. ST LEG SER.E 7 at 801 (1989).

55 notes 38-40 and accompanying text.

56 The developing countries initiated the consideration of a number of key agenda items of the UNCOPUOS. Thus, the first proposal relating to remote sensing was introduced by Argentina. U.N. Doc. A AC.105 C.2 L.73 (1970). Argentina was also the first country to raise the question of the common heritage of mankind as regards the moon in a 1970 proposal containing a "draft agreement on the principles governing activities in the use of the natural resources of the Moon and other celestial bodies." U.N. Doc. A AC.105 C.2 L.71 (1970). The new item on the agenda of the UNCOPUOS relating to the distribution of the benefits derived from space activities, note 47, was adopted on the basis of the proposal submitted by the Group of 77. U.N. Doc. A AC.105 C.2 L.162 (1987) (U.N. documents denoted "L." are issued in restricted distribution. These documents are only available at the U.N. libraries in New York City, New York and Geneva, Switzerland.).

57 The Principles Governing Direct Television Broadcasting, note 28, were adopted in the UN General Assembly by 107 votes to 13, with 13 abstentions. The U.S. and a number of other Western countries voted against the Principles. 37 U.N. GAOR (100th plen. mtg.) at 1661, U.N. Doc. A 37 PV.100 (1982).

58 Thus, in referring to the continued use of the consensus rule-making techniques by the UNCOPUOS, the representative of Pakistan stated that if there is no tangible progress in the disposal of the pending agenda items the UNCOPUOS may be forced to "consider revising its current working procedures." U.N. Doc. A AC.105 PV.225 at 6-7 (1981). During the 1989 session of the UNCOPUOS, the representative of Ecuador stated that Ecuador "deplores the fact that the principle of consensus has been turned into the equivalent of the veto." U.N. Doc. A AC.105 PV.335 at 18-20 (1989).

59 *SPACE ACTIVITIES AND EMERGING INTERNATIONAL LAW*, note 25, at 202. Jasentuliyana, note 39, at 224.

60 *North Sea Continental Shelf (W. Ger. v. Den.; W. Ger. v. Neth.)*, 1969 I.C.J. 3, 42-43 (Feb. 20, 1969).

61 Smith, in *SPACE LAW: VIEWS OF THE FUTURE* 45, 54 (1988).

- 62 de Seife, in I AMERICAN ENTERPRISE, THE LAW AND THE COMMERCIAL USE OF SPACE 73, 108 (1986).
- 63 Cheng, 39 CURRENT LEGAL PROBS. 181, 190 (1986) (Citation omitted. Smith, note 61 and accompanying text).
- 64 at 190.
- 65 Jasentuliyana, note 39, at 224.
- 66 G. ZHUKOV & Y. KOLOSOV, INTERNATIONAL SPACE LAW 17-18 (1984).
- 67 at 18.
- 68 Christol, 9 ANNUAIRE DE DROIT MARITIME ET AÉRO-SPACIAL 291, 295 (1987).
- 69 U.N. Doc. A AC.105 PV.249 at 34-35 (1983) (emphasis added).
- 70 SPACE ACTIVITIES AND EMERGING INTERNATIONAL LAW, note 25, at 202 ("Within the United Nations, the one nation - one vote system has become an almost sacrosanct principle").
- 71 AVIATION WEEK & SPACE TECH., Sept. 5, 1988, at 55; UNESCO, STATISTICAL YEARBOOK 1988 5-84 (1988) (table 5.15); ORGANISATION FOR ECONOMIC CO-OPERATION AND DEVELOPMENT, THE SPACE INDUSTRY: TRADE RELATED ISSUES 36-7 (1985).
- 72 HOUSE SUBCOMM. ON SPACE SCIENCE AND APPLICATIONS, SPACE ACTIVITIES OF THE UNITED STATES, SOVIET UNION, AND OTHER LAUNCHING COUNTRIES: 1957-1987, 100th Cong., 2nd Sess. 2 (1988) (published annually).
- 73 Outer Space Treaty, note 2, art. XIV, paras. 2-3.
- 74 Agreement on the Rescue of Astronauts, note 12, art. 7, paras. 2-3.
- 75 Partial Nuclear Test Ban Treaty, note 18, art. III, para. 2.
- 76 13 INT'L LEGAL MATERIALS 910 (1974). The 1986 UN Convention on Conditions for Registration of Ships, U.N. Doc. TD RS Conf 23 (1986).
- 77 note 54 and accompanying text.
- 78 note 2.
- 79 note 15.
- 80 Böckstiegel, note 26, at 179. . Böckstiegel, 8 ANNALS OF AIR & SPACE L. 305, 308-309 (1983); PROCEEDINGS OF THE 80TH ANNUAL MEETING OF THE AMERICAN SOCIETY OF INTERNATIONAL LAW 381 (1986) (remarks by John E. O'Brien).
- 81 Webber, 71 GEO. L.J. 1427, 1450-51 (1983).
- 82 Schachter, 55 CALIF. L. REV. 423, 425 (1967). Gotlieb, 170 RECUEIL DES COURS 115, 149, 154 (1981); Slouka, in LAW-MAKING IN THE GLOBAL COMMUNITY 131, 150 (N. Onuf ed. 1982); Charney, 76 AM. J. INT'L L. 78, 84-89 (1982).
- 83 Zwaan, in SPACE LAW: VIEWS OF THE FUTURE 33, 37 (1988).
- 84 Stressing the fact that all the rules formulated with regard to outer space have been anticipatory, the representative of Chile in the

UNCOPUOS stated: "There could be no doubt that only by a process of anticipation was it possible to draft rules of international law." U.N. Doc. A AC.105 C.2 SR.501 at 10 (1988). U.N. Doc. A AC.106 PV.332 at 43 (1989) (statement of the representative of Malaysia on behalf of the Group of 77).

85 Charney, note 82.

86 U.N. Doc. A AC.105 C.2 SR.226-245 at 8 (1975). At a later stage in the negotiations relating to the moon, the Soviet representative in the UNCOPUOS expressed a similar approach in the following manner:

[A]t this experimental stage in the conquest and exploration of the moon, when we do not have sufficient bases to affirm that indeed there are natural resources there, resources that might be used on earth, and when we do not have sufficient well-founded technical and economic calculations indicating that the mining of such minerals and their return to earth will be economically feasible and advisable in the future. Under these conditions it is a bit early for the treaty text to reflect such provisions in such striking terms.

We do not want the Committee to draft the kind of document that would for many years to come remain just a fantastic story on a legal theme.

U.N. Doc. A AC.105 PV.185 at 21 (1978).

87 U.N. Doc. A Conf.101 10 at 124 (1982).

88 U.N. Doc. A C.1 1047 (1974) [hereinafter] (submitted to the First Committee of the U.N. General Assembly by Argentina and Brazil). For details, Cocca, , in *LEGAL IMPLICATIONS OF REMOTE SENSING FROM OUTER SPACE* 63 (1976).

89 note 88, art. V.

90 Before the final approval of the text of the Principles Relating to Remote Sensing, the representative of Colombia in the Special Political Committee of the UN General Assembly had to admit that it was the "technological and commercial reality" which, in his words, "played a decisive influence during the final negotiations." 41 U.N. GAOR Special Political Comm. (38th mtg.) at 6, U.N. Doc. A SPC 41 SR.38 (1986).

91 note 29.

92 Rosenfield, in *1980 INT'L INST. OF SPACE L. OF THE INT'L ASTRONAUTICAL FED'N* 69, 71 (Proceedings of the Twenty-Third Colloquium on the Law of Outer Space).

93 U.N. Doc. A AC.105 109 (1973).

94 For a detailed discussion of relevant problems, see Doyle, 17 *J. SPACE L.* 13 (1989); Doyle, 15 *J. SPACE L.* 1 (1987); Smith, 83 *AM. J. INT'L L.* 596 (1989); Smith, 8 *HOUSTON J. INT'L L.* 227 (1986).

95 43 U.N. GAOR Supp. (No. 27) at 213-28, U.N. Doc. A 43 27 (1988).

96 U.N. Doc. CD 851 (1988) (submitted by Venezuela).

97 25 *INT'L LEGAL MATERIALS* 1369-1376 (1986). For details, see Terekhov, *PROCEEDINGS OF THE THIRTEENTH COLLOQUIUM ON THE LAW OF OUTER SPACE* 403 (1987).

98 In considering problems relevant to this topic, the special Rapporteurs of the International Law Commission often rely on the provisions on absolute liability contained in the 1972 Convention on International Liability for Damage Caused by Space Objects. note 13, art. II. Quentin-Baxter, [1980] 2 *Y.B. INT'L L. COMM'N* 254, U.N. Doc. A CN.4 SER.A 1980; Barboza, [1986] 2 *Y.B. INT'L L. COMM'N* 156, U.N. Doc. A CN.4 SER.A 1986. See also the references to "spacecraft in outer space" and to "spaceship" in the last report on this topic, Barboza, , U.N. Doc. A CN.4 413 at 20, 22 (1988).

99 An illustration of this trend are the proposals of the Group of 77 to adopt rules regulating marine remote sensing by satellites at the Third United Nations Conference on the Law of the Sea. For details, see Danilenko, 12 MARINE POL'Y 247, 250-51 (1988).

100 Jakhu, 8 ANNALS AIR & SPACE L. 381 (1983).

101 U.N. Doc. A AC.105 360 (1985) (letter from the Secretary General of the ITU to the Secretary General of the United Nations, Oct. 16, 1985).

102 Countries favoring the prior consent rule contended, in particular, that the ITU regulations "reflect broad international recognition that direct television broadcasting should be based solely on prior agreements between the interested states, and thus confirm the necessity for a principle on consultation and agreements." U.N. Doc. A AC.105 196, Annex II at 1 (1977) (report of the Chairman of Working Group II). For a similar argument on the doctrinal level, Chapman & Warren, 4 ANNALS AIR & SPACE L. 413-432 (1979). For a contrary view, see the statement of the U.S. representative to the Legal Sub-Committee of the Committee on the Peaceful Uses of Outer Space (14 March 1979), U.N. Doc. A AC.105 C.2 SR.304 at 8 (1979).

103 For a detailed analysis of relevant problems, see, e.g., K.M. QUEENEY, DIRECT BROADCAST SATELLITES AND THE UNITED NATIONS (1978); S.F. LUTHER, THE UNITED STATES AND THE DIRECT BROADCAST SATELLITE (1988); G. ZHUKOV & Y. KOLOSOV, note 66, at 127-136.

104 For details, see U.N. Doc. A AC.105 213 at 6-7 (1977). For a description of the ITU regulations, , U.N. Doc. A AC.105 196, Annex IV (1977) (working paper submitted by the United Kingdom to the UNCOPUOS).

105 According to art. 33 of the ITU Convention, note 20, "radio frequencies and the geostationary satellite orbit are limited natural resources" which must be "used efficiently and economically, in conformity with the provisions of the Radio Regulations, so that countries or group of countries may have equitable access to both, taking into account the special needs of the developing countries and the geographical situation of particular countries." In 1988 "friends of the Chairman" of the Working Group on the geostationary orbit of the Legal Sub-Committee of the UNCOPUOS proposed the following definition of the concept of equitable access to the geostationary orbit:

All states should be guaranteed in practice equitable access to the geostationary orbit in accordance with articles 10 and 33 of the Nairobi ITU Convention. The geostationary orbit should be used most efficiently and economically. Special needs of the developing countries and the geographical situation of particular countries should be taken into account when guaranteeing in practice equitable access to the geostationary orbit.

U.N. Doc. A AC.105 411 at 33 (1988).

In 1989 a number of countries, members of the Group of 77, submitted at the meeting of the Working Group a "working non-paper" which contained the following provision:

All states should be guaranteed in practice equitable access to the geostationary orbit in accordance with articles 10 and 33 of the Nairobi ITU Convention. The geostationary orbit should be used most efficiently and economically. Special needs of the developing countries and the geographical situation of particular countries, such as the equatorial countries, should be taken into account when guaranteeing in practice the equitable access to the geostationary orbit.

U.N. Doc. A AC.105 430, Annex II at 34 (1989).

The subsequent exchange of views on this provision has indicated that many delegations used the wording of Art. 33 of the ITU Convention as a major argument in assessing the acceptability of the proposed general definition. In particular, it was stated that "although the above formulation was evidently based on article 33 of the ITU Convention, it deviated without adequate justification from the language used in that article," at 34, that "the above formulation went far beyond article 33 of the ITU Convention," or that "this formulation departed significantly from the relevant wording of article 33" by using, in particular, such expressions as "in practice" and "such as the equatorial countries," at 34, 36.

106 It is clear now that, as S. Danielsson put it, "governments wishing to formulate a coherent policy for the regulation of outer space

activities have to follow developments in different places." Danielsson, in *SPACE ACTIVITIES AND IMPLICATIONS: WHERE FROM AND WHERE TO AT THE THRESHOLD OF THE 80'S* 99, 117 (1981). Experience indicates, however, that this is not always the case. Thus, in commenting on the negotiations concerning direct broadcast satellites (DBS), J.H. Chapman and G.I. Warren write, "recent history has shown that officials dealing with DBS in one forum have been only superficially aware of DBS developments in other foa [sic]." Chapman & Warren, note 103, at 416.

107 note 97.

108 For details, see Terekhov, note 97, at 403-410.

109 During the discussions on the Draft Principles Relevant to the Use of Nuclear Power Sources in Outer Space in the UNCOPUOS, the representative of China referred to suggestions in the previous session to conduct "a comparative study" of the Draft Principles with the IAEA Conventions. U.N. Doc. A AC.105 C.2 SR.482 at 2 (1988).

110 During the 1988 session of the UNCOPUOS, the Soviet representative drew "attention to the need for the principles we are drafting to accord with the provisions of the two IAEA Conventions of 1986." U.N. Doc. A AC.105 PV.318 at 58 (1988). In 1989 the Soviet representative stated again:

The draft principles needed to be brought into line with the Convention on Early Notification of a Nuclear Accident and the Convention on Assistance in the Case of a Nuclear Accident or Radiological Emergency, which were adopted by IAEA in 1986. Those conventions fully applied to situations involving the use of nuclear power sources in outer space.

U.N. Doc. A AC.105 C.2 SR.507 at 5 (1989). In evaluating the proposed principles on notification and assistance, the representative of Canada emphasized that his delegation has not "lost sight of the problem of the relationship between them and the relevant IAEA conventions. . . ." U.N. Doc. A AC.105 C.2 SR.481 at 3 (1988). U.N. Doc. A AC.105 C.2 SR.484 at 2 (1988) (statements of the representative of Czechoslovakia); U.N. Doc. A AC.105 C.2 SR.485 at 3 (1988) (statements of the representative of Bulgaria).

111 REVIEW OF THE MULTILATERAL TREATY-MAKING PROCESS, note 1.

112 note 2.

113 note 15.

114 Outer Space Treaty, note 2, art. IX. The pertinent provision of art. IX reads: "States Parties to the Treaty shall pursue studies of outer space, including the Moon and other celestial bodies, and conduct exploration of them so as to avoid their harmful contamination and also adverse changes in the environment of the Earth resulting from the introduction of extraterrestrial matter"

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117 Moon Treaty, note 15, art. 7. Art. 7 reads:

In exploring and using the Moon, States Parties shall take measures to prevent the disruption of the existing balance of its environment, whether by introducing adverse changes in that environment, by its harmful contamination through the introduction of extra-environmental matter or otherwise. States Parties shall also take measures to avoid harmfully affecting the environment of the Earth through the introduction of extraterrestrial matter or otherwise.

118 Outer Space Treaty, note 2, art. I.

119 C.Q. CHRISTOL, *THE MODERN INTERNATIONAL LAW OF OUTER SPACE* 39-42 (1982).

120 note 51.

121 Moon Treaty, note 15, art. 11, para. 7.

122 art. 11, para. 5.

123 U.N. Doc. A 33 162 (1978) (The original parties to the Convention were Cuba, Czechoslovakia, the German Democratic Republic, Hungary, Mongolia, Poland, Rumania and the USSR). For details, G. ZHUKOV & Y. KOLOSOV, note 66, at 150-51.

124 note 29.

125 Principle XII.

126 U.N. Doc. A 33 162 (1978), art. IV.

127 notes 2, 12-15 and accompanying text.

128 U.N. Doc. A Conf.62 122 (1982).

129 Borgese, in *THE ADAPTATION OF STRUCTURES AND METHODS AT THE UNITED NATIONS* 373, 382-85 (D. Bardonett ed. 1986) (discussing prospects for the global international space conference, analogous to the Third U.N. Conference on the Law of the Sea, which by relying on comprehensive and systematic approaches may create "one comprehensive system" for disarmament and development in outer space); ST.FRHR. VON WELCK & R. PLATZODER, *WELTRAUMRECHT (LAW OF OUTER SPACE)* 6 (1987) ("The rapid technological development and the political interest in the exploration and use of outer space require the expansion and further development of existing space law. This may lead to the convening of an international conference in coming years -- similar to the Third U.N. Conference on the Law of the Sea -- so as to elaborate a regime covering all uses of outer space.") (Translation from German by the author.)

Plant, 36 *INT'L & COMP. L.Q.* 525, 558 (1987). It appears that a well-known Soviet expert on international law in general and on the law of outer space in particular, Y. Kolosov, could also be included among supporters of such an approach. He stated recently that in view of the need for universalization of international law it may be desirable to propose, by analogy with the drafting of the UN Convention on the Law of the Sea, "major universal conventions" setting standards of behavior for states "in every sphere of international law and international relations." 4 *INT'L AFF. (MOSCOW)* 84, 88 (1989) (remarks of Yuri Kolosov).

130 U.N. Doc. A AC.105 C.2 SR.247 at 4 (1976).

131 U.N. Doc. A AC.105 PV.312 at 6 (1988) (statement of the representative of Colombia in the UNCOPUOS). U.N. Doc. A AC.105 C.2 SR.506 at 10 (1989) (statement of the representative of Argentina: "The main aim of Argentina's policy with regard to the exploration and utilization of outer space was the progressive elaboration of an international legal code which would regulate such activities adequately, taking into account the interests of all countries and, in particular, the needs of the developing countries.").

132 note 2. It is significant to bear in mind that a number of developing countries express serious criticism of the 1967 Outer Space Treaty. Developing equatorial states claiming sovereignty over the geostationary orbit over their territories contend in the Bogotà Declaration that:

[The Outer Space Treaty] cannot be considered as a final answer to the problem of the exploration and use of outer space, particularly since the international community is now calling in question all the terms of international law which were drawn up at a time when the developing countries could not count on adequate scientific advice and were thus not able to detect and assess the omissions, contradictions and inconsistencies in the texts, which were prepared with great ability by the industrialized Powers for their own benefit.

6 *J. SPACE L.* 195 (1978) (English translation) (signed in Bogata, Columbia by Brazil, Colombia, Congo, Ecuador, Indonesia, Kenya, Uganda, and Zaire). note 84 and accompanying text (statement of the representative of Chile). There are signs that the position of the equatorial countries regarding the geostationary orbit has found at least partial support from a number of countries members of the Group of 77. note 106.

