

January 1971

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Recommended Citation

Stephen Gorove, Freedom of Exploration and Use in the Outer Space Treaty: A Textual Analysis and Interpretation, 1 Denv. J. Int'l L. & Pol'y 93 (1971).

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FREEDOM OF EXPLORATION AND USE IN THE OUTER SPACE TREATY: A TEXTUAL ANALYSIS AND INTERPRETATION*

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The principle of freedom of exploration and use is a fundamental principle of the law of outer space.¹ It was enunciated and unanimously approved by the United Nations² and has become a key provision in the Outer Space Treaty.³ Even a cursory glance at this vital freedom suggests a number of significant questions. Who may exercise this freedom? What is its scope and meaning? What does exploration and use involve? What limitations are placed upon this freedom? Who must observe its limitations?

I. WHO MAY EXERCISE THE FREEDOM?

The Outer Space Treaty provides that outer space, including the moon and other celestial bodies, shall be free for exploration and use.⁴ One of the initial questions that comes to

* This article is an elaboration of the author's remarks before the XXI Congress of the International Astronautical Federation on October 8, 1970, in Constance, Germany.

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¹ There has been a steadily growing literature on the law of outer space. The leading book on the subject is M. McDOUGAL, H. LASSWELL & I. VLASIC, *LAW AND PUBLIC ORDER IN SPACE* (1963). See also Christol, *The International Law of Outer Space*, in 55 *NAVAL WAR COLLEGE, INTERNATIONAL LAW STUDIES* 1962 (1966); G. GAL, *SPACE LAW* (1969); C. JENKS, *SPACE LAW* (1965); S. LAY, H. TAUBENFELD, *THE LAW RELATING TO ACTIVITIES OF MAN IN SPACE* (1970).

² G.A. Res. 1962, 18 U.N. GAOR 15, U.N. Doc. A/C.1/L.331 and Corr. 1 (1963); see also G.A. Res. 1721, 16 U.N. GAOR 6, U.N. Doc. A/1500 (1961).

³ The Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies (hereinafter referred to as "Outer Space Treaty" or, simply "Treaty") January 27, 1967, [1967] 18 U.S.T. 2410, T.I.A.S. No. 6347 (effective October 10, 1967). For discussions of the Treaty, see for instance, Adams, *The Outer Space Treaty: An Interpretation in Light of the No-Sovereignty Provision* 9 *HARV. INT'L L. J.* 140 (1968); Dembling and Arons, *The Evolution of the Outer Space Treaty*, 32 *J. AIR L. & COM.* 419 (1967); Gorove, *Interpreting Article II of the Outer Space Treaty*, 37 *FORDHAM L. REV.* 349 (1969); Vlasic, *The Space Treaty: A Preliminary Evaluation*, 55 *CALIF. L. REV.* 507 (1967).

⁴ The full text of Article I of the Treaty which *inter alia* refers to free exploration and use reads as follows:

The exploration and use of outer space, including the moon and other celestial bodies, shall be carried out for the benefits and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind.

Outer space, including the moon and other celestial bodies, shall be free for exploration and use by all States without discrimination of any kind, on a basis of equality and in accordance with international law, and there shall be free access to all areas of celestial bodies.

mind relates to the right to exercise this freedom. Who is entitled to it: the signatory states or other states as well? The language of the provision refers to "all" states and, for this reason, there can be little doubt concerning the intention of the parties.⁵

A further question concerns entities other than states, such as international governmental organizations, nongovernmental organizations and individuals. Does the reference to all "states" preclude the exercise of this circumscribed freedom by international organizations? The answer to this question appears to be in the negative. Had it been the intention of the drafters to preclude entities other than states they could have inserted the word "only" to make the phrase read "only by states." Even then the effect of such stipulation would remain somewhat uncertain unless international governmental organizations were also made parties to the Treaty. The conclusion, that international governmental organizations are not precluded from the exercise of this limited freedom is also reinforced by the Treaty provision that when activities are carried on in outer space, including the moon and celestial bodies, by an international organization, responsibility for compliance with the Treaty is to be borne both by the international organization and by the states parties to the Treaty participating in such organization.⁶

The next question is whether or not nongovernmental organizations and individuals could invoke and benefit from the principle and whether the restrictive connotations which are spelled out in relation to states would be binding on them. The fact that there is no "right of adventure" assured in the Treaty for individuals is perhaps a negative expression of the intention of the drafters. The inclusion of such a right would likely have gone well beyond the desires of those who regard private initiative and enterprise as an important potential contributor to the exploration and development of celestial bodies. While some of the restrictions which limit the freedom of exploration and use are clearly applicable only to states, the stipulation that states bear international responsibility for national activities of nongovernmental entities underscores the idea of continued jurisdiction of states over nongovernmental entities, including individuals and organizations.⁷ Hence, the states

There shall be freedom of scientific investigation in outer space, including the moon and other celestial bodies, and states shall facilitate and encourage international cooperation in such investigation.

⁵ Treaty, Art. I.

⁶ *Id.*, Art. VI.

⁷ *Id.*

would be entitled to regulate extraterrestrial national activities and exact from individuals and private organizations such attitudes which they regard as essential and which correspond to their Treaty obligations.

II. SCOPE AND MEANING OF FREEDOM

Another initial but equally basic question which may be raised in relation to freedom of exploration and use is whether this freedom includes the option or choice not to exercise it. In other words, could any state refrain from participating in the exploration and use of outer space and thereby not avail itself of this freedom? This question is not entirely hypothetical inasmuch as the Treaty stipulates that the parties "shall carry on" activities in the exploration and use of outer space in accordance with international law.⁸ The quoted phrase "shall carry on" could be interpreted in two different ways. It may mean simply that the activities of the signatories, whenever undertaken, must be in accordance with international law, or possibly, it could mean that all parties to the Treaty pledge themselves to carry on such activities in the described manner. In the second case the parties would in fact obligate themselves to carry on such exploratory activities and would not be free not to engage in exploration and use. While the language of the Treaty could have been phrased in such a way as to exclude the second interpretation simply by stating that activities in the exploration and use of outer space must be carried on in accordance with international law, the first interpretation is to be preferred since many signatories — at least for some time to come — will not have the technological capability of engaging in extraterrestrial exploration and use.

III. EXPLORATION AND USE

A. SCOPE OF CONCEPT

The first question that comes to mind with respect to the phrase "exploration and use" relates to its coverage and scope. How broad a concept is exploration and use? Is it possible to visualize any human behavior in relation to celestial bodies or other parts of outer space which would not constitute some form of exploration or use? Could there be such a thing as discovery of some fact which would not necessarily constitute exploration and use? Perhaps not strictly speaking, because even a perfunctory glance at the stars may involve some meas-

⁸ *Id.*, Art. III.

ure of exploration, very much like dreaming about the moon may involve some indirect use in a very broad sense of the term. However, in a more legalistic vein, exploration and use would involve something more than mere gazing at the stars or dreaming about the moon since the latter could hardly be regarded as having to be carried out for the benefit of all countries. Also, such processes as thinking or dreaming would not, by reasonable interpretation, be regarded as exploration or use.

A further question relating to scope and coverage is whether or not every exploration and use necessarily involves "activities." This is important inasmuch as Article I of the Treaty speaks of "exploration and use," whereas Article IV refers to "activities in the exploration and use." Since different terms were used, the question arises whether different meanings are to be attached to the respective terms and, if so, how they are to be differentiated. If there is no difference between "exploration and use" and "activities in the exploration and use" why were different terms used? The question is of some importance since, for instance, "exploration and use" must be "for the benefit and in the interests of all countries," "without discrimination of any kind," and "on a basis of equality"⁹ whereas "activities in the exploration and use" must be carried on "in the interest of maintaining international peace and security and promoting international cooperation and understanding."¹⁰

Furthermore, does the word "activities" have both the positive and negative connotations? Is a negative "act" a negative "activity"? If negative act refers to what is commonly known as an "omission," could such a negative act be equated with negative "activity"? If Article III is interpreted as a mandatory obligation on all parties to carry on activities in exploration and use, then the question of negative meaning in relation to the word "activity" could not even arise. However, since such interpretation could not reasonably find much support, the question of interpreting activities in a negative sense would still come up.

Upon reflection, it would appear that exploration and use could hardly be visualized in terms of negative activities. If the term "activity" has only positive connotations, can exploration and use take place without such positive activity? It would seem that all exploration and use, by the very meaning of

⁹ *Id.*, Art. I.

¹⁰ *Id.*, Art. III.

these terms, carries with it the implication of some activity or activities. This line of reasoning would suggest a lack of precision by the drafters or a distinction almost without meaning. However, it could possibly be argued that exploration and use intended to cover the total human effort, or outcome involved, whereas "activities" was referring more to the individual sequences of acts making up the total results. Thus the drafters may have intended to refer not to the whole broad area of exploration but to the independent components. Should this line of thought be correct, it could be argued that the independent components described by the word "activities" would not necessarily have to be for the benefit and in the interests of all countries and that the requirement of nondiscrimination and equality would not be applicable to them. While this construction is admittedly somewhat artificial it may serve to explain the use of a nomenclature which otherwise would be hard to justify.

Does exploration and use constitute a singular concept or does it mean to convey two separate ideas, distinct from one another? Must use be preceded by exploration or must exploration be followed by use to be subject to the limitation that it must be for the benefit of all countries? If exploration and use denotes a single concept, then exploration without use, or use without exploration would not have to be carried out for the benefit and in the interests of all countries. However, by reasonable interpretation, it does not appear that the Treaty intended to create a single concept. Therefore, both "exploration" and "use," even if they do not go hand in hand, must be carried out for the benefit and in the interests of all countries.

B. MEANING OF EXPLORATION AND USE

Does "exploration" mean the same thing as the word "use"? If exploration and use were to mean the same thing, their joint use in the given context would be redundant. If exploration and use mean two different things it would be possible to engage in exploration without use or in use without exploration. The manner and way in which this can be done must be clarified further with respect to the meanings of exploration and use.

What does exploration mean? Does a casual sighting and observation constitute exploration? Does anything else apart from sighting constitute exploration? Does exploration refer to

exploration by men or to exploration by instruments? In answer to these questions it would seem that exploration covers a wide range of human activities irrespective of whether such activities are carried out directly by man or indirectly through the use of his instruments. Exploration includes any purposeful inquiry or observation whether by seeing, hearing, or by other senses whether done directly by a person or through the use of his instruments, or by a combination of both.

In addition to the question of the meaning of exploration, there is also the question of the meaning of the term "use." The term "use" in the legal sense refers to the enjoyment of property which usually results from the occupancy, employment, or exercise of such property. Usually also there is an element of profit, benefit, or some other measure of advantage accompanying the use. It may be assumed that the word "use" in the Treaty denotes a legal concept rather than an everyday expression and should be interpreted in that light.

Does the term "use" mean any type of use, including a temporary or casual use, or does it only refer to use of a more permanent nature? It is reasonable to assume that there will be many types of uses of the moon and other celestial bodies and other parts of outer space much the same as there are many different uses of the earthly environment. Such uses may cover a wide range of activities including economic, scientific, military, propaganda, and other political activities. Some of these activities or uses are specifically outlawed, while others are specifically "not prohibited."¹¹

Does use mean direct or indirect use? If, for instance, the rays of the sun are used to illuminate a celestial body, does this mean a use of outer space in the sense that the sunrays are used for the purpose of seeing? The same question could also be asked with respect to the use of the void for purposes of travel and communications. Would it be too much of an insistence on literal interpretation of the Treaty to say that radio messages sent

¹¹ Thus, for instance, any use amounting to national appropriation or the establishment of military bases, installations and fortifications on the moon and other celestial bodies is prohibited. Also, there is a pledge by the parties not to place in orbit around the earth any objects carrying nuclear weapons or any other kind of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner.

On the other hand, the use of military personnel for scientific research or for any other peaceful purposes is not prohibited. The use of any equipment or facility necessary for peaceful exploration of the moon and other celestial bodies is also not prohibited. *Id.*, Arts. II and IV.

For a comprehensive discussion of these provisions, see Gorove, *Interpreting Article II of the Outer Space Treaty*, 37 *FORDHAM L. REV.* 349 (1969); Gorove, *Arms Control Provisions in the Outer Space Treaty: A Scrutinizing Reappraisal*, 1 *GEORGIA J. OF INT'L AND COMP. L.* 259 (1971).

through outer space or the movements of man-made objects must be for the benefit and in the interest of all countries?

It is doubtful that the outer space Treaty's reference to "use" was intended to include the use of the sunrays for everyday seeing. However, it is likely that the more specific or direct use of the sun's energy in outer space, especially in spatial travel or experiments, such as for propulsion, heating, etc. would constitute use in the sense of the Treaty.

A further question with respect to the meaning of exploration and use is whether or not the concept involves exploration and use of outer space only in outer space or also on earth. In other words should the location of the investigator or the investigating instrument make a difference? Does the manufacture of space rockets on earth or a telescopic exploration of outer space from the earth constitute activities in the exploration and use of outer space under the Treaty?

If one looked at the purpose of the activity, it would not be illogical to say that such activities may refer to activities either in outer space or on earth. However, inasmuch as the Treaty speaks of activities "in" and not "for" the exploration and use of outer space, it seems reasonable to conclude that the manufacture of space rockets on earth is not within the meaning of the discussed provision. But, what if the rocket is sent into outer space but explodes in the airspace? Is this such an activity? From Article VII which provides for international liability of the state that launches or procures the launching of an object into outer space for damage to another party to the Treaty by such object on the earth, in the airspace, or in outer space, it could be argued that once an object is launched, it is considered an activity in the exploration and use of outer space.

The question whether or not the activities in the exploration and use would have to be conducted in outer space is also significant inasmuch as a negative answer to it would impose a duty on all telescopic investigations and studies conducted here on the earth to be in the interests of all countries. It is doubtful that such a result was either intended or envisioned by the Treaty. This is not to say, however, that observation from the earth is of no relevance in the context of the Treaty. In fact, the Treaty stipulates that the signatories must consider on a basis of equality any requests by other parties to be afforded an opportunity to observe the flight of their space objects.¹² The nature of such an opportunity for observation

¹² *Id.*, Art. X, Para. 1.

and the conditions under which it could be afforded must be determined by agreement between the states concerned.¹³

IV. LIMITATIONS ON FREEDOM OF EXPLORATION AND USE

The principal of freedom of exploration and use in the Outer Space Treaty is a general principle, the application of which is limited by a number of both general as well as specific provisions. The former include the requirements that the exploration and use must be carried out "for the benefit and in the interests of all countries," "without discrimination of any kind," "on a basis of equality," "in accordance with international law" and that it shall be "the province of all mankind."¹⁴ The latter involve, for instance, the prohibition of national appropriation,¹⁵ limitations on military uses¹⁶ and avoidance of harmful contamination.¹⁷ Within the context of our inquiry and by way of example we shall now scrutinize the first and perhaps most importation limitation, namely the requirement that the exploration and use of outer space must be carried out "for the benefit and in the interests of all countries."

A. BENEFIT AND INTERESTS

1. SINGLENES V. DUALITY

The exploration and use of the moon and other celestial bodies, much as that of outer space, must be carried out "for the benefit and in the interests of all countries."¹⁸ The Treaty contains no clue as to what constitutes "benefit" and "interest." Presumably the two terms are not identical in their meanings. If they were, a repeated reference to the same term would be clearly redundant. Also, it is unlikely that a joint concept of "benefit and interest" was meant, that is, that "benefit and interest" would mean something different from either "benefit" or "interest" alone. This is apparent from the fact that the word "interest" is used in the plural and from the additional fact that it is separated from the word "benefit" by the words "and in the." If the terms "benefit" and "interests" mean two different things, what connotations can be assigned to each of these phrases?

¹³ *Id.*, Art. X. Para. 2.

¹⁴ *Id.*, Art. I.

¹⁵ *Id.*, Art. II.

¹⁶ *Id.*, Art. IV.

¹⁷ *Id.*, Art. IX.

¹⁸ *Id.*, Art. I.

2. MEANING

“Benefit” normally refers to some advantage or indulgence, as opposed to detriment or deprivation. While the word “interest” has similar connotations, it has been defined as a pattern of demands and its supporting expectations.¹⁹ Normally, something that is in line with a nation’s demands and expectations would be expected to convey some benefit to that nation. Such benefit may involve not only actual but also potential benefit, that is, a chance for some future benefit.

The quantity of benefit required may give rise to certain questions. Would an infinitesimal benefit be sufficient? It could be argued that the word “benefit” means something more than the words “some benefit.” Perhaps it does not require as much, however, as the words “full benefit.” So long as there is some tangible or substantial benefit, it appears that the requirement has been satisfied. There is no indication that the benefit must be either material or direct. An indirect benefit may be sufficient.

The phrase “for the benefit” does not have the same meaning as “not for the detriment.” The latter phrase carries a negative implication, whereas the former phrase has definitely positive connotations. Therefore, it is insufficient that the particular exploration and use be not for the detriment of other peoples. On the contrary, such exploration and use must be constructively beneficial.

Furthermore, the exploration and use must be in the “interests” of all countries. The plural term “interests” seem to indicate that more may be involved than just the vague, general “interest” of all countries. In a sense the plural phrase may perhaps be regarded as a victory for the less developed countries which entertained strong hopes of receiving benefits from man’s exploration and use of outer space.

What is or is not to the benefit and in the interests of all countries may not always lend itself to an easy determination. Something which is thought to be of benefit to a country on the basis of available information and criteria today, may be regarded on the basis of new information and criteria detrimental tomorrow. Also, who is going to determine whether or not a particular exploration and use is in a given case for the benefit of all nations? Since there is no provision in the Treaty for the settlement of disputes, it is likely that each state — short of an amicable disposition of the issue — would insist on its

¹⁹ H. LASSWELL & A. KAPLAN, *POWER AND SOCIETY* 23 (1950).

own interpretation with respect to the question of whether or not the exploration and use is for the benefit and in the interests of all countries.

The Treaty does not specify the types of benefit that must inure to all countries from the exploration and use of outer space but it seems safe to assume that they may include material, political, psychological, propaganda, military and other benefits and interests. A related question is what kinds of exploration and use or results derived therefrom would be beneficial to all countries? It could be pointed out that if the exploration and use furthers the maintenance of international peace and security and promoted international cooperation and understanding — something which the signatories are pledged to do anyway in all their spatial activities²⁰ — it would be for the benefit and in the interests of all countries. Perhaps another way in which the exploration and use could be carried out for the benefit of all countries would be to release information regarding such exploration and use. However, it may not be easy to determine what constitutes a benefit in any given situation. Does the keeping of a fact as a secret from the rest of the world constitute a benefit to all countries or would the disclosure of any fact be beneficial to all nations? It may depend on the facts and circumstances of the particular case.

Whether or not only the “exploration and use” must be beneficial to all countries or also the “results,” that is, the benefits derived from such exploration and use, is a further very important question. While this distinction may seem somewhat artificial, it points up the fact that such a distinction is possible. If so, the results of exploration and use would not necessarily have to be for the benefit of all countries, inasmuch as the Treaty speaks only about “exploration and use.”²¹ On the other hand, how exploration and use, in and by itself (without the results of such exploration and use), could be of benefit, is rather difficult to see.

Assuming then for a moment that the “results” of exploration and use were meant, the question arises whether or not “all” such results or benefits were intended and, if so, must all such results be “shared” in order to constitute a benefit to all countries? Thus, for instance, could a nation derive exclusive propaganda benefits from landing a man on Mars or another celestial body? Furthermore, how could the actual benefits be measured? Could propaganda and prestige benefits

²⁰ Treaty, Art. VI.

²¹ *Id.*, Art. I.

be equated with material benefits, or on what basis should the conversion take place? Assuming that a nation shares more than fifty percent of the benefits derived from its exploration and use of outer space, would this satisfy the requirement that such exploration and use must be for the benefit of all countries? Suppose a nation takes 500 close-up pictures of a celestial body in the course of its exploration, the release of which would benefit all nations. If the exploring nation releases only 50 pictures, would such release satisfy the requirement?

In connection with the sharing of information the Treaty specifically requires that all signatories conducting activities in outer space inform the Secretary-General of the United Nations as well as the public and the international scientific community, to the greatest extent feasible and practicable, of the nature, conduct, locations, and results of such activities.²² While this provision requires that such information be given to the "greatest extent," it qualifies this by the words "feasible" and "practicable." Thus the obligation to provide information seems broad enough to be open for circumvention. For one thing, there is no indication in the Treaty who would determine the feasibility and practicability of providing information, that is whose standards of practicability and feasibility would apply. Will the standards be applied by the United Nations, a few powerful countries or the exploring nation? Most likely by the last one. In this connection, it should be borne in mind that feasibility and practicability may involve questions of cost. Also, political and security considerations may enter the picture, if interpreted by the body which is required to submit the information.

Furthermore, it is not entirely clear from the text whether the phrase "to the greatest extent feasible and practicable" refers to the degree of dissemination of information or to the degree to which the information has to be detailed. Thus, for instance, an exploring nation may report that it engaged in a human exploration of the far side of the moon conducted by three of its astronauts and report that the results of the exploring activities were successful. Would such a brief report without giving details regarding the more precise nature, conduct, locations, and results of exploratory activities or other activities involving use be regarded as sufficient to satisfy the above requirements? Under a reasonable interpretation, the phrase "to the greatest extent feasible and practicable" should not be permitted to be circumvented by providing scanty in-

²² *Id.*, Art. XI.

formation regarding the nature, conduct, location and results of space activities. At the same time, it would also appear that — even under a strict interpretation — the exploring states would not be obligated to release all information and results of their space activities for the simple reason that the Treaty does not specifically require them to do so. Under the current practice of the space powers there has been no full sharing or exchange of information and it is unlikely that this situation will change in the foreseeable future.²³ Furthermore, it may be pointed out that a state could take the position that release of certain information resulting from its spatial exploration would not be to its benefit, in which case it would not have to share the results of its exploration since such sharing would not be then for the benefit of “all” countries. Also, it would seem impossible to share propaganda benefits with all nations, unless all nations have participated or contributed in some form to the particular space exploration. Even then the nations which contributed the smallest effort to the success would likely gain the least propaganda benefits. In other words, an equal sharing of such benefits would more or less presuppose equal effort and participation on the part of all nations, an eventuality which is hard to visualize under present world conditions. In sum, it does not appear that a strict interpretation could be given to the effect that propaganda or prestige benefits derived from spatial exploration and use must inure to all nations.

The problem of distribution of benefits and implementation of a “share and share alike” policy will become particularly troublesome if valuable minerals and other natural resources are found on the moon and other celestial bodies. Thus it would appear that appropriate international agreements would have to be concluded before equal enjoyment of benefits could be regarded as more than a broad statement of general policy.

B. “ALL” COUNTRIES

The exploration and use of the moon and other celestial bodies for the benefit and in the interests of “all” countries — making it a “province of all mankind” — in a sense presupposes the ideological if not also the political unity of mankind, a condition which is likely to remain an all too distant goal for some time to come. Undoubtedly, the drafters of the Treaty were motivated by the lofty desire to move from the rift which sep-

²³ On the limited nature of US-USSR cooperation in space activities, see *Hearings before the Senate Committee on Aeronautical and Space Sciences*, 92nd Cong., 1st Sess., 30 (1971).

arates one corner of the earth from another toward unity in the spatial arena.

Strictly interpreted, the phrase "all" countries would include all states irrespective of whether such territory is recognized by another nation or is a member of the United Nations or is involved in a war, including the Korean or Vietnamese conflicts and the Cold War. Furthermore, the phrase would seem to include not only a state party to the Treaty but also any other nation. While universality appears clearly the aim, the reference to "all" countries should be viewed as a general statement of policy rather than a specifically enforceable obligation. Similarly, the phrase referring to the "province of all mankind" is presently more of an expression of hope than that of actual content. The provision as it stands seems to be a compromise between the interests of the underdeveloped nations and those of the space powers. The phrase "for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development" seems to have been in line with the aspirations of underdeveloped nations because of its specificity, while reference to the "province of all mankind" appears to have suited the space powers because of its vagueness. The initial reading of the phrase "irrespective of their degree of economic scientific development" may convey the idea that the benefits must accrue to the undeveloped or underdeveloped countries who otherwise may not reap any benefits. The wording may also suggest that other nations would have to bear no part of the expense and that such benefits are free for the asking, even though some states may well be able to bear part of the expense of spatial exploration and use. However, the word "irrespective" of the "degree of economic or scientific development" would exclude no countries, not even a highly developed country which would be as much entitled to the benefits as the most underdeveloped nation.

Of course, one may wonder the wisdom of including the phrase as an indirect qualifying sentence, following the general obligation that the exploration and use of outer space must be for the benefit and in the interests of all nations. Specifically, one may ask the question whether the phrase should also have included a reference to "political or military development," in addition to "scientific and economic development"? Furthermore, one could also have referred to friendliness or cooperation and a number of other criteria. Does the singling out of "economic or scientific development" mean to imply that

in relation to such development there can be no differentiation with respect to the benefits to be derived, whereas in relation to other types of development such differentiation can be made? It is doubtful that the Treaty intended such a result and the inclusion of the reference to "economic or scientific development" should in no applicable way alter the general obligation that the exploration and use of outer space must be carried out for the benefit and in the interests of all countries.

V. WHO IS OBLIGATED?

If an astronaut or future space traveler lands on the moon or another celestial body, is he required to use it for the benefit and interests of all countries? Could John Doe, A.T.&T. or an international organization use them in any manner which would not necessarily be beneficial to all countries? In other words, does the limitation that the exploration and use must be for the benefit of all countries apply only to states or to private and public organizations other than states and to individuals as well? The sweeping language of the Treaty appears to make this obligation a general duty. However, it is somewhat difficult to see how the Treaty could impose obligations on international organizations without their consent. Also, with respect to individuals it is difficult to see how any individual exploration or use could be required to be for the benefit of all countries. While the Outer Space Treaty does not make any exceptions in relation to certain types of uses, the stipulation that the exploration and use must be carried out for the benefit of all countries appears to be a limitation primarily on states and only secondarily on private individuals, corporations or international organizations. Were the provisions interpreted and enforced more strictly, it could seriously undercut individual incentive and hamper further space explorations. On the other hand, since the states parties bear international responsibility for all national activities in outer space, including the activities of nongovernmental entities and for assuring that such activities are carried out in conformity with the Treaty provisions and inasmuch as such activities require authorization and continuing supervision by the state concerned, it could be argued that the states would be required to enforce the provision with respect to individuals.²⁴

By the same logic, since the Treaty provisions are applicable to the activities of all states parties to the Treaty even if they are carried on within the framework of international inter-

²⁴ Treaty, Art. VI.

governmental organizations and since responsibility for compliance with the Treaty is borne both by the international organization and by the states parties to the Treaty participating in such organization,²⁵ it could be argued that both would be required to enforce the provision in question. While this argument is sound, it does not necessarily resolve the question of whether the provision was meant to be applied to individuals and international organizations.

VI. CONCLUSION

The purpose of the preceding analysis of the principle of freedom of exploration and use in the Outer Space Treaty has been to subject it to a rather close scrutiny in an attempt to clarify its meaning and focus on some of its legal implications. Obviously, a great deal more could be added in further refinement of some of the comment and ideas incorporated in this inquiry, particularly as they relate to the whole gamut of international and national decision making in the emerging earth-space arena. But enough has been said in a brief article to indicate the great many questions which may arise out of the implementation of what at first sight appears to be a relatively simple, though admittedly cardinal principle. It is hoped that the present reappraisal will be of some assistance toward further clarification of the concept and its meaningful and rational interpretation.

²⁵ *Id.*

