THE SEARCH FOR AGREEMENT ON THE RULE OF LAW IN OUTER SPACE

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INTRODUCTION

The social and economic activities of man throughout the ages have created in every nation and, even in primitive communities, customs and laws. The customary rules created by merchants and traders created the law merchant which led to the development of private international law. The law of nations has developed, throughout the centuries, as a natural consequence of the contacts and mutual exchanges which, of necessity, occur between nations in times of peace and of war. It is, therefore, certain that the activities and experiments of mankind in outer space are imperceptibly creating customs and even rules of conduct which will eventually be imposed on the weaker by the stronger nations or become generally accepted by active or tacit agreement. This situation is probably more disturbing to the civilian than it is to the common law lawyers. Common law lawyers are more inclined to accept day to day solutions of problems and less inclined to insist upon an agreement, between the nations concerned, on a comprehensive code containing what are considered to be fundamental principles of law. This article contains a plea that negotiations on the terms of international agreements on technological and administrative problems relating to activities in outer space should be encouraged in areas where a consensus may exist. Loftus Becker, legal adviser to the Department of State of the United States, made the following statement to the Special Committee of the Senate on May 14th, 1958:[1]

> "As you know, the development or the tendency of development of the common law as it is applied in the United Kingdom and the United States and a number of other countries has been on a case-to-case basis. Speaking very generally, it has been felt that the soundest way to progress in the extremely complex field of the law is by means of specific decisions on specific questions presented by specific-fact situations. Even in those states which applied the principles of the civil law, it is recognized that a body of law can only be created upon a broader body of ascertained fact.

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[1] *Space Law, A Symposium*, printed for the Special Committee of the United States Senate on Space and Astronautics, 1958, 367, at p. 373.

> "Moreover, there are very great risks in attempting to transmute a body of law based upon one determined set of facts into a body of law with respect to which the basic facts have not been determined.
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> "Accordingly, we are inclined to view with great reserve any such suggestions as that the principles of the law of space should be codified now or that the principles of the law of the sea should be applied in space, until we ascertain many more facts with respect to conditions in space."

In the intervening three years, since Mr. Becker made the above statement, many developments have occurred in man's penetration of outer space. We are still, however, not in possession of sufficient facts and experience to draft a code of law for outer space and instructions from governments are lacking.

Following the launching of Sputnik I in October, 1957, there has occurred a veritable deluge of articles, pamphlets and books on the legal implications arising out of man's penetration of outer space. This is a healthy situation, since it is the duty of the members of our profession to keep abreast of the facts and to suggest solutions to the legal problems arising out of space penetration.

The launching of missiles, satellites and space vehicles involves the expenditure of huge sums of money. So much is this the situation that the actual launchings have, for the most part, been confined to two world powers, the United States and Russia. The scientists of all the advanced nations have also been of assistance in the fields of mathematics and pure science but most nations, including Canada, do not possess the wealth necessary to engage in space activities other than in their respective laboratories or on a co-operative basis.[2] Those of us who make up the audience, which is witnessing the rivalries between the great powers in outer space projects, may be pardoned when we state categorically that the legal problems respecting outer space could be solved very readily if the gladiators themselves would agree on the rules of the game. It is certain we cannot make the rules for them.

The scientists of the world have, in recent times, unlocked secrets of nature which place at the disposal of political and military leaders the power to destroy, not only whole peoples, but all human life upon the earth. The rapid advance in the penetration of outer space was made possible by the invention of powerful rockets which are used to launch intercontinental ballistic missiles as well as satellites. The military possibilities of using outer space for offensive and defensive purposes have the result of linking international agreements on activities in outer space with the wider subject of disarmament. The failure to agree on a disarmament treaty is the real obstacle the nations are encountering in reaching an accord on the proposition that outer space should only be used for peaceful purposes.

[2]Steps are being taken in Europe towards the establishment of a European research organization which is to carry out projects in outer space on a co-operative basis (West European Organization for Space Research). A similar organization will conduct outer space activities in South America.

Reverting now to the drafting of a comprehensive code of law relating to outer space, the Ad Hoc Committee of the United Nations in its report to the General Assembly referred to this problem as follows:[3]

> "It was pointed out that the rule of law is neither dependent upon, nor assured by, comprehensive codification and that premature codification might prejudice subsequent efforts to develop the law based on a more complete understanding of the practical problems involved. Although an attempt at comprehensive codification of space law was thought to be premature, the Committee also recognized the need both to take timely, constructive action and to make the law of space responsive to the facts of space.
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> "For these reasons it was agreed that the rough grouping of legal problems according to the priority hereafter suggested should itself be kept under regular review by whatever means the General Assembly should deem fitting."

It will be recalled that the Committee gave a high priority rating to the allocation of radio frequencies: this subject, in my opinion, deserves immediate serious consideration by members of the profession of the law.

AREAS IN WHICH PROGRESS MAY BE POSSIBLE

While I believe we are still far away from agreement on a comprehensive code of law for outer space, there are areas of the subject where agreement between the nations appears to be possible of attainment. For the present, our energies might best be devoted to the achievement of further progress in those areas where a certain amount of co-operation has already been achieved in obtaining agreement among the nations on the use of outer space for telecommunication services. The use of radio frequencies and their orderly allocation are essential to all activities in outer space. There is, however, great need for intelligent, international understanding of and co-operation in solving many difficult problems in this field. Because all nations stand to benefit from technological improvements in these services and in the increase of knowledge and understanding of the universe, by the use of satellites, it should be possible to agree on the allocation of frequencies and other problems relating to telecommunications. Further co-operation in this area might lead to wider agreement later respecting the fundamental problem of confining the use of outer space to peaceful purposes.

> "When evaluating the broad and less obvious implications in space telecommunications, of the control of radio frequencies, the subject matter extends well beyond elementary technological bounds alone. Even when treating the one problem of administrative control, it must be instantly recognized as having global boundaries. Moreover, in practical terms, administrative control can be effected only through harmonious agreement and jurisprudence rather than through orthodox concepts of overt discipline. Radio frequency control in space telecommunications must then be regarded as subject to international law."[4]

Some members of the profession contend that by proceeding with international agreements on technical and administrative matters before the identification of fundamental principles of space law is like putting the cart before

[3]Report of the United Nations Ad Hoc Committee, (U.N. Doc. A/4141), July 14, 1959, p. 63, paragraphs 7 and 8.

[4]Radio Frequency Control in Space Telecommunications, printed for use of the United States Senate Committee on Aeronautical and Space Sciences, 1960, at p. 93.

the horse.[5] Agreements of this nature, they argue, might cause conflicts in other and very important areas of space activities. We cannot wait in every instance to satisfy ourselves on this point.[6] Experiments in the use of outer space for telecommunications are proceeding at a rapid rate and radio frequencies are being used for communication to and from satellites and space probes. Unless international control of frequencies is established soon, there is great danger that interference with existing telecommunication services will take place, to say nothing of the injury that may be done to man's activities in outer space itself. The nations not actively engaged in outer space activities also have a right to protection against interference with their telecommunication systems.

> "Intensified demands on the radio spectrum for communication with spacecraft, coupled with the increase in radio communications generally, are certain to aggravate the already scarce supply of frequency assignments. Furthermore, insofar as additional allocations for Earthspace service are concerned, propagation characteristics, technical considerations of all kinds, and spectrum occupancy seriously limit the number of possibilities for the future.
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> "One potential consequence of any such crowding is harmful interference, interference that can range in degree of effect from being a simple nuisance plaguing reception with background noise and from intermittent loss in telemetered data, to complete loss of experiments, the possibility of an accident involving all components of a test vehicle including the launching booster, and even loss of life of human space passengers.
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> "There is also a clear hazard of loss of life or property of the general public due to a misfire or malfunction in flight occasioned by radio interference."[7]

SATELLITES TO BE USED FOR TELECOMMUNICATION SERVICES

Two types of satellite systems are possible in the development of telecommunication services. There is the passive reflector system represented by U.S. project "Echo". In this type the satellite contains no electronic devices. It

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[5]Professor Cooper, an outstanding authority, stated in a lecture at Leiden University in October, 1960, that four fundamental problems must be settled, *i.e.*:

> "Four fundamental problems have been stated, and tentative answers suggested. First, that the boundaries of outer space must be fixed and that the important lower boundary should be at a point above the surface of the earth where it is possible to put a satellite in orbit at least once round the earth.
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> "Second, that the legal status of outer space must be fixed and that this could best be done by accepting a status similar to that of the high seas, thus permitting its equal use by all and denying to any State the right to assert sovereignty over outer space or any celestial bodies therein.
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> "Third, that the international law right of a State to take action for its self-protection and self-defence must be preserved and acknowledged so far as outer space is concerned, even though no state has a right to claim sovereignty therein.
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> "Fourth, that the legal status of satellites and of other space craft used in outer space must be determined, and that this status should be that of 'nationality' of the launching State, or other agreed State, otherwise chaos will result."

I agree with Professor Cooper, except perhaps, with his suggestion for the delimitation of air space and outer space. I believe, however, that we cannot afford to delay agreement on technological problems until agreement is reached on Professor Cooper's fundamental points of law.

[6]See R. H. Mankiewicz, "De L'Ordre Juridique Dans L'Espace Extra-Aéronautique", [1959] Annuaire Français de Droit International, p. 103.

[7]See Radio Frequency Control, note 4, *supra*, at p. 86, and report of the United Nations Ad Hoc Committee, note 3, *supra*, at p. 45. See also, reference to use of frequencies by U.S.S.R. from Sputnik I, Haley, Law of Outer Space — Radio Controls Urgently Needed, note 1, *supra*, Space Law — A Symposium, at p. 458 *et seq.*

reflects or bounces off the signal to ground receiver antennas. The other type of system uses an active repeater satellite which contains its own receiver, transmitter, antenna and power supply for the unit. It is activated by messages from the ground. It is not my purpose to discuss the advantages and disadvantages of each type but it is obvious that the success of either type for international telecommunication services depends upon international co-operation and agreement on the use to be made of the satellites and on the allocation of frequencies. Each system will have problems of law peculiar to itself.

THE LAUNCHING OF SATELLITES AND THE OWNERSHIP AND OPERATION OF THEM AND OF INTERNATIONAL TELECOMMUNICATION SERVICES

In my opinion, it will be necessary to determine the legal status, in international law, of satellites launched into outer space for telecommunication purposes and to regulate and control world-wide telecommunication services. There are at least three principles involved. First, there is the principle of ownership of such satellites. Will they remain the property of those who launched them, including the nationals of a state, or will they become international property which may be used by anyone for telecommunication purposes? Secondly, if such satellites are to assume an international character, agreements between the nations making use of them on the sharing of the costs of their manufacture and launching become necessary. Thirdly, political principles come into play. What use is to be made of the telecommunication services which depend on the use of satellites? Should an international body be established having the authority to regulate and control radio and television programmes? How should such a body be constituted, who should be eligible for membership and on what basis?

> "If potential global needs are to be met, such problems as the following must be resolved; frequency allocation and/or sharing; equipment compatability; satellite use privileges and priorities and means of cost sharing; receiver antenna control and sharing, and, in some cases, transmitter antenna; access to audience; control of program content; *e.g.*, amount and type of propaganda or advertising, entertainment, and education.
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> "Basically, a nation's philosophy concerning the purpose and proper use of radio and television defines the structure of its operational procedures and organization for telecommunications. The differences between national philosophies will have substantial implications for the way a satellite communication system might be used. Meshing the philosophies with each other and, further, with other competing national and international interests will involve a multitude of economic and organizational problems."[8]

The foregoing is a summary of some of the problems which exist in the establishment of telecommunication services by the use of satellites for the benefit of all mankind.

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[8]Proposed Studies on the Implications of Peaceful Space Activities for Human Affairs, report of the Committee of Space and Astronautics, 1961, at p. 55. See The Economist, London, for June 10, 1961, at p. 1112, respecting the active interest, in the United States, of the American Telephone and Telegraph Company and the General Electric Company in the use of satellites. See also, a Washington news story which appeared in the "Montreal Star", on July 6, 1961, at p. 24, to the effect that NASA had let a contract to Douglas Aircraft Corporation to experiment in the production of six outer space balloons to be used as passive reflectors in international radio transmissions to serve all nations.

THE FIRST STEP MUST BE TAKEN BY THE NATIONS

The mere mention of these problems is sufficient to indicate the difficulties which must be overcome to reach an accord on the terms of an international multilateral agreement. Nevertheless, if mankind is to obtain the full benefit of a world-wide telecommunications system it will be necessary to make such an agreement. Whether or not the International Telecommunications Union (ITU) is the proper forum for conducting negotiations on these important problems is a moot point.[9] It is certain, however, that a forum is required. Existing international organizations and agencies should be used, not only as a forum for discussion, but also for the formulation and settlement of technical problems and they might, where appropriate, be charged with some regulatory duties. International affairs are already complicated and the creation of new bodies should be avoided wherever possible. In this connection it is interesting to note that the ITU is to hold an extraordinary administrative conference on space communications in 1963.[10]

Telecommunications is only one of the useful purposes to which satellites and space probes may be put. Legal problems of great moment arise respecting a world-wide system of weather prediction by means of satellites and much can be done in agreements to exchange scientific information respecting our planet, Earth, and probes into outer space.

SIMILAR PROBLEMS IN INTERNATIONAL AIR LAW

It seems to me that the apparently insoluble problems which confront us, in our attempts to bring about the rule of law in outer space, resemble to a marked degree the great differences of opinion which existed among the members of our profession, when they were formulating doctrines of law relating to aerial navigation. The great controversy over the freedom of the air resembles the problem of freedom in the peaceful use of outer space for the benefit of all mankind. The doctrine of freedom of the air was not accepted but the International Civil Aviation Organization was established. While its greatest achievements have been in the technical field, who can deny that it has helped greatly to promote co-operation among the nations of the world in the whole field of air transport?

In air law, general agreement on the legal status of an aircraft has not been attained nor has the legal status in international law of the aircraft commander been defined. Furthermore, the important definition of "air carrier" was omitted from the Warsaw Convention which is, nevertheless, the most widely accepted convention in private international air law and, generally

[9]See note 8 proposed studies etc., *supra*, at p. 74, footnote 21. See also, Space Law — A Symposium, note 1, *supra*, at p. 279.

[10]In this connection see Haley A. G., Paper 20, IXth International Astronautical Congress, Stockholm, 1960, "A Basic Program for the 1963 Extraordinary Administrative Conference on Space Communications".

speaking, its terms have been considered fair and just. The difficulties to which I have referred have not prevented the development of world air transport.

AND IN MARITIME LAW

In the long story of mankind it was not so long ago that the Kings of Spain and of Portugal claimed sovereignty over a large part of the Atlantic Ocean and the Kings of England asserted a similar claim over the seas contiguous to their island kingdom and even beyond.[11] We should be thankful that, thus far, no state has made claims of this nature in outer space.

We should recall that even today, in Maritime Law, the high seas, which are said to be free to all ships and upon which even wars may be waged, are not clearly defined, because the nations of the world have failed to agree on the extent of their respective territorial seas. This failure to agree has not prevented the peaceful use of the seas for world commerce. The principal reason is, of course, that the doctrine of innocent passage through territorial waters has been generally accepted. The waging of war in outer space is far more dangerous to all mankind than it is on the high seas and for this reason outer space, unlike the high seas, should only be used for peaceful purposes. It is possible, nevertheless, that the right of innocent passage for space vehicles, through the air space, and the freedom of all mankind to use outer space for peaceful purposes may become generally acknowledged by usage.

CONCLUSION

The experiences in other fields of law, to which I have referred, indicate that we should press forward in every area where we find the possibility of reaching a consensus in the solution of legal problems relating to outer space.[12] The difficulties are great but the future of mankind upon the earth if, indeed, there is a future, depends upon every effort being made to remove the causes of international strife in every area where agreement seems possible of attainment. International technological agreements will probably be completed long before we see the successful conclusion of a general agreement on the rule of law in outer space. It may be that the scientific and technical sides of astronautics will become the magic key to open the door to peace in outer space. At the very least, I would urge that we, as lawyers, should advocate continuous research for the purpose of discovering, if possible, the chances of success in arriving at international agreements on technological projects for the benefit of mankind, and a high priority should be given to projects relating to international telecommunication services based upon the use of satellites.

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[11]For a ready reference see Colombos, *International Law of the Sea*, (4th Ed. 1959), pp. 44 *et seq.*

[12]We must not, however, be misled into thinking that the problems of the past and present in air law and maritime law are the same as those which exist in the formulation of the rule of law in outer space. "Le droit astronautique doit être autonome", Babinski, *Droit Astronautique, Revue Générale de l'Air* (1961) 59 at p. 60.

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*It will be noted that many of the references are to existing bibliographies.