THE RELATIVE AUTONOMY OF SPACE LAW

By

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I. THE FUNCTIONAL REGULATION OF SPACE LAW

Space Law is generally defined as the entirety of legal rules governing the human relations resulting from the exploration and different kinds of utilization of outer space. The particularity of these relations, which are primarily social relations among states and of states with other subjects of international law, is to originate in, and develop with, the conquest of extra-atmospheric space and celestial bodies. It is recognized by the international law doctrine that not outer space and celestial bodies as an environment but rather their exploration and utilization constitute the vantage point of the international space law order. This opinion finds a strong support in Art. 13 par. 1 of the 1967 Outer Space Treaty which applies the provisions of the Treaty "to the activities of States, Parties to the Treaty, in the exploration and use of outer space, including the Moon and other celestial bodies."

Space exporation or utilization activities may obviously be of a dual nature with regard to the outer space environment: There are, firstly, activities to be carried out in outer space (space-originating activities), which may be either space-oriented or earth-oriented. They may systematically be opposed to activities carried out on the earth surface or in the atmospheric space but which refer to the outer space environment (earth-originating activities.)[1] According to some authors, the dividing line between space exploration activities, on the one hand, and space utilization activities, on the other, should just be drawn along this line: whereas space exploration activities prove to be essentially earth-originating and space-oriented, actual space utilization activities are essentially space-originating and earth-oriented.[2] It is the latter type of activities which increasingly gains in financial volume and importance and on which the interests of both space-travelling and non space-travelling nations concentrate.

Since space activities, not outer space itself constitute the basic point of departure of today's space law, a functional approach to the definition of space law seems to be more appropriate than a mere spatial or topographic one. The former doctrinal dispute between so-called "spatialists" and "functionalists" has, no doubt, so far been decided in favor of the functional theory according to which air law and space law, airspace and outer space cannot be considered as topographically definable realities, but must be conceived of as functional reference units for certain types of activities. Not outer space as such--quo spatium--enjoys a certain legal régime, but rather space objects operating in it. As Rolando Quadri wrote: "The problem of admissibility or inadmissibility of cosmic missions involves no problem of locality but is to be resolved as a question of admissibility or inadmissibility of the activity considered in itself." The author suggests to refrain in cosmic law from any kind of "localization" and to regard as cosmic not the

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locality as such but any "medium to which the elements and particularities of the terrestrial environment are indifferent."[3]

Similarly, other writers proposed, in view of a definition of space law and outer space, respectively a "functional parameter"[4] or "dynamical limitations of the freedom of space,"[5] according to which the jurisdictional qualification of particular flight objects would depend on the type of activity, notably the type of flight trajectory, rather than on a given topographic position. Partly, it had been suggested to forgo any legal distinction whatsoever between airspace and outer space qua environments.[6]

It should be admitted that a proper definition of space law will, in the first instance, proceed from a local, i.e. topographic element: In this sense space law encompasses the entirety of legal rules applicable to outer space and celestial bodies. This purely local element of definition must, however, be completed by a functional element in application of which space law governs both space-originating and space-oriented activities. The legal rules of the former type may be qualified as the spatial or topographic order of space law, the latter as its functional order. It should be noted that only the former is, in the true meaning of the term, to be qualified as a law of outer space whereas the latter, which is "essentially not of an outer space but a terrestrial nature," is less governed by the guiding principles of outer space, notably its non-appropriation rule, than by the classical maxims of international law such as national soveriegnty and equality of states.[7]

II. SOME SPECIFIC FEATURES OF SPACE LAW

It results from the primarily functional order of space law as a law governing outer space activities rather than the legal régime of outer space itself that it is not only a special branch of law ratione loci but also ratione materiae. It shows several peculiar juridico-dogmatic and juridico-systematic features which clearly distinguish it from other legal fields such as air law or sea law. Some of its dominant features may be recalled hereafter:

a) The Universality of Space Law:

The universality of space law regulation is a basic postulate of legal reason to be derived from the factual particularities of space exploration and utilization which activities are, to a much higher extent than most other scientific and technical activities, of a truly global character. Thus, the internationalist Joseph Kroell calls it "the intrinsic essence of space law to be universal"; he points out that space law can neither be national nor international but only world-wide, according to the universal nature of outer space itself.[8] In fact, the exiguity of a particular state territory would constitute a serious obstacle to the development of space technology if the flight of space objects, the trajectory of which crosses the territories of an ample number of states, were governed by the same principles of national jurisdiction as the international relations of air traffic.

Rudiments of a universal international law go back to the years after World War I when the League of Nations was called into being to coordinate and intensify the economic, technical and cultural cooperation among nations on a global level. The Organization of the United Nations, established after World War II by the Conference of San Francisco, has revived the idea of universalism and inspired new hopes for world-wide integration.

International space law has strengthened and enhanced this idea: More than any other legal discipline it is the fruit of the advisory and coordinating activity of global international organizations, in the first place the United Nations. The three most important space law conventions, namely the Outer Space Treaty of 1967, the Rescue Agreement of 1968 and the Liability Agreement of 1972,[9] agreements of the new type of so-called "open" agreements, have been signed by a large majority of nations. Furthermore, principles of customary international space law, among which there are, according to a doctrine more and more generally accepted, the freedom-of-space concept and the postulates of international cooperation, solidarity and peaceful uses, are binding upon all members of the family of nations regardless of their having adopted the law-creating practice themselves. It suffices for the creation of rules of international customary law that the great majority of states adopts the law-creating usage while the remaining minority does not oppose it.[10]

b) The Non-Appropriation Principle:

The international law order is traditionally characterized by a permanent antinomy between the sovereign powers of individual states and the need for subsistance of the international community. The solutions provided by the international practice and doctrine vary with the ages and constellations of power. Although individual states will in the next future continue to be the main actors on the scene of international politics, a clear dwindling of the sovereign rights of states makes itself increasingly felt in a dual respect: firstly, the imperative requirements of growing international interdependence curtail states' freedom of action de facto; secondly, the resulting delegation of sovereign powers to international and supranational organizations entails new decision-making processes de jure which are, in return, at least rudimentarily reflected in the actual changes of world politics.

Space law has put new priorities in this antagonism. Art. 2 of the 1967 Outer Space Treaty sanctions the basic principle of cosmic freedom (spatium liberum) in the following terms: "Outer Space, including the Moon and other celestial bodies, is not subject to national appropriation by claim of sovereignty, by means of use or occupation, or by any other means."

The weight and importance of this provision raise it to the rank of key-rule of the Magna Charta of outer space and, moreover, to that of international constitutional law. It proves to be a clear victory of the unanimous opinio juris, expressed from the very outset of space law, that any claim of territorial rights whatsoever to the exclusion of others should be regarded as unlawful. While the term "claim of sovereignty" would refer to sovereign rights vindicated by geocentrical projection of the air law principle of territorial sovereignty beyond the limits of atmospheric space, the term "occupation" would mean, on the analogy of terrestrial occupation, the acquisition de novo of a res nullius by a sovereign state acting with the animus domini, i.e. cosmocentrical exercise of sovereignty. The term "appropriation by means of use" may be interpreted as the establishment of exclusive rights over certain uses of particular segments of space or celestial bodies, such as exclusionary rights of way or the monopolistic exploitation of cosmic resources.[11]

The well-known maxim "res nullius cedit occupanti" has been substantiated for centuries in classical international law with respect to territorial occupation. Effectiveness

of the exercise of power is the pivotal requirement of the act of occupation in classical international law: this act creates sovereign rights and enjoys the protection by the international law order only insofar as it displays at least a potential power structure which would be in a position to internally provide a certain minimum standard of legal order and externally to fulfill international obligations with respect to the territory claimed and to exclude the interference by third states.[12] The maxim "res nullius cedit occupanti" equally plays a role in the extension of the territorial sea toward the high seas, the yardstick of which extension was for centuries provided by van Bynkershoek's classical rule "imperium terrae finitur ubi finitur armorum potestas." International maritime law does, however, not go so far as to include in its mare-liberum-rule that of the freedom if islands which have always been considered as occupable res nullius.

Outer space law has neither adopted the analogy of terrestrial land law nor that of international maritime law. While declaring outer space and celestial bodies a res omnium communis it has, for the first time in the history of law, not only removed a fluid but also a terra from the workings of effective occupation rules.

c) The Peaceful-Uses Principle:

The banning of military force except in the event of individual or collective self-defense is one of the cornerstones of today's international law order, the dominant goals of which prove to be the maintenance of international peace and security.

World War I had first evoked the hope for durable world peace. This hope was expressed in the community of nations' unanimous opposition to the formerly inherent right of waging war, i.e. the classical jus ad bellum which Hugo Grotius in his famous dissertation "De jure belli ac pacis libri tres" had terminologically opposed to the jus in bello, i.e. the law applicable in the event of war. The profound mutation of the nature of war during and subsequent to World War II, combined with the increasing risk of the use of weapons of mass destruction in a military as well as psychological and ideological all-out war, strengthened the conviction that a new international law was needed which should be aimed at the maintenance of international peace and the ban of military force.[13]

The international space law doctrine has, from the very outset, essentially for well-founded fear of the devastating effects of cosmic destruction, expressed the unanimous opinion that outer space as a whole should be kept free of non-peaceful activities. It claimed the complete pacification a priori of extra-atmospheric space as mankind's great chance of rendering, for the first time in history, an entire law branch a genuine law of peace. It was, however, controversial at the outset whether mere military manoeuvres for peaceful purposes or measures of individual or collective self-defense--the latter with regard to Art. 51 of the United Nations Charter--would come under the ban of prohibited bellicose activities.[14]

Art. 4 of the Outer Space Treaty codifies the international doctrine's unanimous opinion that outer space in its totality should be barred to any kind of non-peaceful uses (Art. 4 par. 2) and, moreover, generally to any stationing of nuclear and other weapons of mass destruction (Art. 4 par. 1). Born as a result of compromises between an American and a Soviet alternative draft, this clause did, however, not put an end to old doctrinal dispute concerning the very scope of the terms "non-peaceful" and "military." Whereas Soviet government officials and the Soviet doctrine consider peaceful uses and

non-military uses as synonymous, the great majority of the Western doctrine interprets peaceful activities so as to comprise both peaceful non-military and peaceful military, i.e. non-aggressive non-military and non-aggressive military activities.[15]

It would be most desirable that the evolution of international law, commenced in the last decades, from a law of peaceful coexistence into a law of peaceful cooperation and international solidarity steadily continue across political and ideological frontier-lines. Space law has made a hopeful contribution to this development insofar as it has opened up, for the first time in legal history, the opportunity of creating a categorical law of peace in a given segment of international relations, which law would not only be a corrective and regulatory one a posteriori but, in the true meaning of the term, a law of prophylaxis and prevention a priori.

d) The Common-Interests Clause:

It is generally admitted that the rapidity of actual scientific and technological progress, and growing interdependence of nations require not only the strengthening of social thinking in the domestic law field but also a wholehearted intensification of collective spirit in the international order. Classical international law had for almost too long authorized states to pursue their political goals to the detriment of other members of the international community. Especially in the field of international economy, the interests of individual states were constantly prevailing over those of the family of nations in the maintenance of the international order, political détente and rapprochement.[16] As late as the period between World War I and World War II and notably the post-war period, international cooperation began to make itself growingly felt in the field of politics as well as that of economy and technology.

Existing space law codifies the postulate of global international cooperation in the preamble, Art. 1 par. 3 and Arts. 9-11 of the Outer Space Treaty. This postulate proves to be enhanced by a specific humanistic objective embodied in Art. 1 par. 1, namely the guiding principle of common interest of all mankind (bonum commune humanitatis) which raises space law to a new, higher level of international relations. As it has been rightly stated, for the first time in legal history, international law imposes on states the obligation of carrying out the exploration and uses of a newly opened-up space area for the benefit and in the interests of all states, irrespective of their degree of economic and scientific development.[17] The rationale of this provision is the international community's firm conviction that the success of the peaceful exploration and utilization of outer space will essentially depend on the extent to which mankind happens to overcome existing power rivalries and let itself to be guided by the moral and legal necessity of cosmic law the basic elements of which are its universality and reasonableness of regulation.[18]

A proper interpretation of the common-interests clause is no doubt one of the pivotal juridical issues of international space law; the gap yawning between the different interpretations of this provision admittedly risks not only to leave a lacuna within the entire framework of international space law but also to denature the dominant maxim of cosmic freedom into a sanction of the de facto monopoly of space-travelling nations. According to its contractual nature, it has binding effect even if it is, as a generic and, hence, implementable principle, not self-executory in itself.[19]

Some concretizations of this clause may be found in Art. 5 par. 1 of the Outer Space Treaty as well as the 1968 Rescue Agreement which declare "astronauts as envoys of mankind

in space" and call upon states to cooperate in providing them any assistance necessary and appropriate. Moreover, the common-interests-clause is not only a useful instrument for the interpretation, implementation and execution of existing legal rules but also a most appreciable guideline for the codification of novel law norms, e.g. in the fields of direct television broadcasting and teledetection of earth resources by satellites.[20]

III. SPACE LAW WITHIN THE SETTING OF GENERAL LAW

The doctrine deals with the question of subdivision of law into several branches in different ways. Space law is mostly considered as a special branch of international law which encompasses the entirety of legal rules referring to outer space and celestial bodies.[21] In effect, public international space law ("Weltraumvölkerrecht")[22] is generally recognized to be space law's core and very essence on which the primary interest of both legislation and doctrine has concentrated from the very beginning.

It would, however, be misleading to identify space law with mere public international law. In proportion as today's space law develops from a doctrine-drafted law of general principles to a practically-minded law discipline governing specific outer space activities, it stands to reason that its various ramifications overlap and interpenetrate with related law fields such as constitutional, administrative, civil, criminal, patent or copyright law. Some of the most conspicuous instances may be cited by way of example:

a) Liability Law:

Arts. 6 and 7 of the Outer Space Treaty as well as the 1972 Liability Convention raise third party liability for certain space-related activities to the level of government liability. They make at the same time an appreciable contribution to the development of general law as they consolidate the principle, sanctioned in the domestic law order of numerous states, of strict or objective liability for activities involving risks of an exceptional character ("ultra-hazardous activities"). Under the Liability Convention strict liability is to apply in the event of damage caused by space objects on the earth surface or to aircraft in flight (Art. 2), whereas traditional liability for negligence is to apply if the damage was caused by one space object to another space object in flight (Art. 3).

b) Copyright Law:

The new technological possibilities opened up by the epochal progress of space telecommunication technology and notably staellite-transmitted direct television broadcasts require the expeditious creation of legal rules de novo in order to effectively protect the copyrights of interpreting and performing artists across national borderlines. A committee of experts of UNESCO and the World Organization for Intellectual Property (Organisation Mondiale de la Propriété Intellectuelle) has elaborated as early as 1971 a draft convention for the prohibition of unauthroized distribution of programme-carrying signals transmitted by satellite which became existing law in the form of the "Convention Relating to the Distribution of Programme-Carrying Signals Transmitted by Satellite" of May 21, 1974. This Convention calls upon contracting states "to take adequate measures to prevent the distribution on or from its territory of any programme-carrying signal by any distributor for whom the signal emitted to or passing through the staellite is not intended." (Art. 2 par. 1).[23]

c) Patent Law:

It is the objective of specific rules of astronautical patent law to make inventions, useful in the exploration and utilization of outer space, to the greatest extent

possible available to the general public. Pertinent legal provisions, which underline the importance of space technology for human progress and welfare, have been adopted by the United States National Aeronautics and Space Act of 1958. The Act calls upon the United States space agency NASA, in the interest of better availability and exploitation of aeronautical and astronautical patents and in contrast to the practice of most other American research and development agencies, to regularly acquire the patent rights resulting from its contracts with private enterprise.[24]

d) Human Rights:

The main issue arising in the context of satellite-transmitted broadcasts is that of the relationship between the sovereign rights of states and the individuals' right to the free flow of information. The United Nations has as early as 1969 established a Working Group on Direct Broadcast Satellites--in pursuance of General Assembly resolution 2453 B (XIII)--which has so far held several sessions. The two most-discussed and most highly controversial subjects were those of prior consent and program contents which can only be properly resolved in light of the basic human rights among which numbers the freedom of information incorporated in Art. 19 of the Universal Declaration of Human Rights of December 10, 1948, as well as in Art. 10 of the European Convention for the Protection of Human Rights and Fundamental Freedoms of November 4, 1950, and in the Draft Convention on Freedom of Information which has been on the agenda of the United Nations General Assembly since its 14th session.[25]

In spite of overlappings and interpenetrations with related law fields, the principal question which arises in the context of space law and general law is that of the systematic place of international space law within the framework of general international law. The issue may be put in the pregnant formula as to what extent international space law is a separate, dogmatically autonomous law branch enunciating specific legal principles different from those of other international law branches. Doubtless, the right answer will be that international space law enjoys some, although only relative, juridico-dogmatic and -systematic autonomy and independence: It is essentially a part of public international law but it has its own distinctive features which, as leges speciales, complement compatible and derogate from incompatible rules of general law.

The autonomy of international space law has partly been overestimated, partly been understated. An overestimation of the specific features of space law would, however, be as inappropriate as an overstatement of the role of general principles of international law in the formation of the novel law field. Whereas the former would tend to neglect the influence of general international law, especially that of contemporary "new" international law, the latter would incline to overlook the essential contribution of space law to the formation of new principles of general international law. In reality, there is perfect interdependence and interpenetration between general international law and outer space law: on the one hand, the sphere of application of general international law extends with scientific, technological and economic progress; progress, on the other hand, spurs the creation de novo of specific outer space rules which, in return, influence the evolutionary process of general international law.

The concept that international law applies to outer space activities is positively enshrined in Art. 3 of the Outer Space Treaty which reads:

> States, Parties to the Treaty, shall carry on activities in the exploration and use of outer space, including the Moon and other celestial bodies, in accordance with international law, including the Charter of the United Nations, in the interest of maintaining international peace and security and promoting international cooperation and understanding.

This contractual provision goes back to the basic resolution 1721 (XVI) of the United Nations General Assembly of December 20, 1961, entitled "International Cooperation in the Peaceful Uses of Outer Space," which clarifies that "international law, including the Charter of the United Nations, applies to outer space and celestial bodies."

It should, however, be admitted that at least classical international law is not in toto applicable to space-related activities. Art. 3 of the Outer Space Treaty refers to the general principles of international law rather than to special rules; there is unanimity that rules governing specific types of activities or specific localities, such as sea law or air law, are neither eo ipso directly nor, for the most part, per analogiam applicable to outer space and space-related activities. Furthermore, there are important rules of general international law which are derogated from by divergent special rules of space law, in the first place the rules of occupation and exclusive territorial state control.

Finally, even insofar as the applicability of general international law is not excluded either by the specificity of the norm itself or by divergent rules of space law, it stands to reason that traditional, i.e. classical international law would be less applicable than the so-called "new" international law. This new international law, a creation of notably the post-war period, has arisen out of the international doctrine's growing conviction that the slow evolutionary process of the traditional international law order--characterized by the maxims of unlimited state sovereignty and political and economic liberalism--was no longer sufficient to guarantee durable world peace and increasing international cooperation and understanding. Accordingly, its cornerstones are the postulates of international cooperation and understanding, the strengthening of friendly relations and international solidarity, the maintenance of international peace and security, the recognition of the fundamental human rights, and the right of self-determination of peoples.

To quote the language of resolution 1802 (XVII) of the United Nations General Assembly of December 14, 1962, entitled "International Cooperation in the Peaceful Uses of Outer Space," the elaboration of fundamental legal principles governing the exploration and use of outer space would require a progressive, dynamic development of international law. Manfred Lachs put this consideration in the following words:[26]

> Thus the new branch known as the law of outer space must reflect the most progressive tendencies of international law. It must be directed towards the future, not a world that has been left behind. Hence, when resorting to analogies, account must be taken of the most recent developments in international law as a whole.

Space law, notoriously a most highly technical and complex law matter, is eo ipso more than other legal disciplines oriented toward the future, which implies that one of its touchstones would be keeping abreast of today's vertiginous progress of science and technology. Unfortunately, the normative role of international law was in the past frequently and profoundly misunderstood; the backlog of legal rules in relation to factual evolutions has been a subject of both serious criticism and vain regret.

In this perspective, the recent developments of international space law--in advance of space science and technology--give rise to justified hopes since, as it has been rightly stated, the true task of law cannot only consist in regulation a posteriori, mere retrospection, but must also be aimed at regulation a priori, far-sighted looking ahead, in order to make facts move toward law, not law toward facts. For, if law happened to be denatured into a function of power-stamped facts, the world order would prove to pervert the guiding principle of legal realism "ex factis jus oritur" into that of Machiavellism "ex factis injuria oritur."

Footnotes

[1]Cf. Eilene Galloway, Should the United Nations Draft a Treaty on Earth Resources Satellites? -- A Pro and Con Analysis, Journal of Space Law, vol. 1, 1973, pp. 72 et seq., at 78-79. The author logically distinguishes four different types of space law norms, all four being covered by the scope of the Outer Space Treaty: (a) law which applies solely to outer space; (b) law which applies to the earth, airspace and outer space as an environment; (c) law which applies to functions performed in outer space and occasionally including airspace; (c) law which applies essentially to activities performed on the earth as a consequence of the exploration and particularly the uses of outer space.

[2]Wulf von Kries, Zur Fortentwicklung des Weltraumrechts, Zeitschrift für Luftrecht und Weltraumrechtsfragen, vol. 23, 1974, pp. 89 et seq., at 91-92.

[3]Rolando Quadri, Introduzione al diritto cosmico, Atti del primo Convegno Nazionale di Diritto Cosmico, pp. 13 et seq., at 21-22.

[4]Leopold and Scafuri, cited Andrew G. Haley, Space Law and Government, 1963, at 112-113.

[5]Eurico Fonseca, Dynamical Limitations of the Freedom of Space, 2nd Colloquium on the Law of Outer Space, 1959, pp. 24 et seq., at 25-26.

[6]William S. Strauss, Air Law and Space Law, unpublished paper, cited Manfred A. Dauses, Die Grenze des Staatsgebietes im Raum, 1972, at 67.

[7]Wulf von Kries, op. cit., at 99.

[8]Joseph Korell, Einem Weltraumrecht entgegen, Zeitschrift für Luftrecht, vol. 1, 1952, pp. 246 et seq., at 249.

[9]Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, UN GAOR Doc. A/Res. 2222 (XXI), December 19, 1966; Agreement on the Rescue of Astronauts, The Return of Astronauts and the Return of Objects Launched into Outer Space, UN GAOR Doc. A/Res. 2345 (XXII), December 19, 1967; Convention on International Liability for Damage Caused by the Launching of Objects into Outer Space, UN GAOR Doc. A/Res. 2777 (XXVI), November 29, 1971.

[10]Manfred A. Dauses, Bestehen und Inhalt von Weltraumgewohnheitsrecht, Zeitschrift für Luftrecht und Weltraumrechtsfragen, vol. 20, 1971, pp. 267 et seq., at 269.

[11]Manfred A. Dauses, Der gegenwärtige Stand des Weltraumrechts, Neue Juristische Wochenschrift, 1973, pp. 172 et seq., at 173.

[12]Friedrich-August Freiherr von der Heydte, Discovery, Symbolic Annexation and Virtual Effectiveness in International Law, American Journal of International Law, 1935, pp. 448 et seq., at 463.

[13]Josef L. Kunz, Völkerrecht, allgemein, Teil II, Das "neue" Völkerrecht, Strupp/Schlochauer (Ed.), Wörterbuch des Völkerrechts, vol. III, 1962; pp. 619 et seq., at 620.

[14]Cf. Alex Meyer, Die Auslegung des Begriffes "friedlich" im Lichte des Weltraumvertrages, Zeitschrift für Luftrecht und Weltraumrechtsfragen, vol. 18, 1969, pp. 28 et seq.

[15]Op. cit., at 28 and 39; dissenting opinion Marco G. Marcoff, Sur l'interprétation juridique de l'article 4 du Traité régissant les activités spatiales des Etats, Revue Générale de l'Air et de l'Espace, 1968, pp. 30 et seq., at 43; Julian G. Verplaetse, Autour de l'article IV du Traité de droit cosmique du 27 janvier 1967, Revue Générale de l'Air et de l'Espace, 1968, pp. 45 et seq., at 47.

[16]Cf. Alfred Verdross, Völkerrecht, 5th ed., 1964, at 128.

[17]Marco G. Marcoff, Traité de droit international public de l'espace, 1973, at 14.

[18]Carl Q. Christol, The International Law of Outer Space, 1966, at 258. The author speaks of a "principle of reasonableness" as a kind of source of outer space law.

[19]Marko G. Markov, Implementing the Contractual Obligation of Art. 1, par. 1 of the Outer Space Treaty 1967, paper, 17th Colloquium on the Law of Outer Space, Amsterdam 1974, at 3.

[20]Cf. Manfred A. Dauses, National Sovereignty and Remote Sensing of Earth Resources by Satellites, Proceedings of the 16th Colloquium on the Law of Outer Space, Baku 1973, pp. 121 et seq., at 127.

[21]Marco G. Marcoff, Traité de droit international public de l'espace, op. cit., at 5.

[22]Peter Creola, Raumfahrt und Völkerrecht - ausgewählte Probleme, 1967, at 16 et seq. and 35-36.

[23]Adrian Bückling, Satellitensignal-Schutzabkommen unterzeichnet, Zeitschrift für Luftrecht und Weltraumrechtsfragen, vol. 24, 1975, pp. 411 et seq.

[24]§ 305 of the National Aeronautics and Space Act of 1958, 42 U.S.C. § 2457; 72 Stat. 436. See Manfred A. Dauses, Die Rechtslage von Luft- und Raumfahrtpatenten in den Vereinigten Staaten, Gewerblicher Rechtsschutz und Urheberrecht, Internationaler Teil 1974, pp. 10 et seq., at 17 et seq.

[25]Reprinted in UN Publication OPI/15-16348, July 1967 - 100 M; Council of Europe Special Print No. I 12528; UN Doc. A/7164 of August 7, 1968, with reference to UN Doc. A/4341, UN Doc. A/4636 and UN Doc. A/5041; UN Doc. A/AC. 105/WG. 3/L.2.

[26]Manfred Lachs, The Law of Outer Space, 1972, at 21-22.