

The initial speaker was Mr. Stanley R. Sadin, Deputy Director for Program Development, Space Systems Division of NASA's Office of Aeronautics and Space Technology. Mr. Sadin, with Vu-graph illustrations, discussed exploitation of natural resources of the moon. He explained the resources available, how they would be extracted and the use to be made of them in outer space activities, such as construction of a solar powered space station. Dr. Stephen R. Bond, Ass't. Legal Adviser for United Nations Affairs, Department of State and Chairman of the U.S. delegation to the 1979 meeting of the Legal Subcommittee of the UN Committee on the Peaceful Uses of Outer Space, gave the history of the Moon Treaty—which was a product of the Legal Subcommittee—with particular explanation of the origin of provisions which are under active discussion in the consideration of the Treaty's acceptance. Professor Stanley B. Rosenfield, New England School of Law, Boston, spoke against U.S. acceptance of the Treaty as not in the national interest. Arguing for the Treaty's acceptance was Dr. Delbert D. Smith, of Madison, Wisconsin, who is Editor of *Satellite Communications* magazine and among other recent space law writings has authored "Space Stations: International Law and Policy (1979).

Floor discussants included Professor Stephen Gorove and Dr. Edward R. Finch, Jr. Martin Menter served as Moderator of the Program.

Martin Menter
President, Association of the U.S. Members
of the Int'l Inst. of Space Law (IAF)

3. *Symposium on "Space Law in Perspective", University of Mississippi Law Center, April 21, 1980.*

Organized and chaired by Professor Stephen Gorove, the Symposium on "Space Law in Perspective" brought together a number of leading authorities both from the United States and abroad for a one-day conference at the University of Mississippi Law Center on April 21, 1980.

Speakers and their topics of discussion included: Aldo Armando Cocca, "The Advances in International Law Through the Law of Outer Space" (paper read *in absentia*); Eilene M. Galloway, "Perspectives of Space Law"; Stephen E. Doyle, "Significant Developments in Space Law: A Projection for the Next Decade"; Hamilton DeSaussure, "Maritime and Space Law Comparisons and Contrasts"; Carl Q. Christol, "The Moon Treaty in Perspective"; Martin Menter, "Commercial Participation in Space Activities"; David M. Leive, "Essential Features of INTELSAT: Applications for the Future"; S. Houston Lay, "Direct Broadcast Satellites: A Look at the Future"; Jean-Louis Magdelénat, "Legal Aspects of Remote Sensing"; Arthur M. Dula, "Draft Share-Shuttle Contract from a Business Perspective"; George S. Robinson, "Space Law As It Was, As It Is and As It Ought To Be"; and S. Neil Hosenball, "The Space Shuttle in Perspective: Commercial Aspects". Edward R. Finch, Jr. acted as moderator of the Symposium.

The presentations were followed by questions and a lively discussion developed around some of the controversial provisions of the proposed Moon Treaty.

The Symposium was co-sponsored by the American Society of International Law, the International Institute of Space Law, the Lamar Society and the University of Mississippi Law Center. The papers are expected to be published by the L.Q.C. Lamar Society of International Law at the University of Mississippi Law Center.

Stephen Gorove
Vice-President for Programs
Ass'n of the U.S. Members of the
Int'l Inst. of Space Law (IAF)

4. Program on International and Domestic Aerospace Law at the AIAA Global Technology 2000 Meeting, Baltimore, May 8, 1980.

Gerald J. Mossinghoff, Deputy General Counsel of NASA and Chairman of the American Institute of Aeronautics and Astronautics (AIAA), Technical Committee on the Legal Aspects of Astronautics and Aeronautics, was the chairman and organizer of the AIAA program on current legal matters of interest to aerospace scientists, engineers, and managers. This program was presented during the AIAA Global Technology 2000 meeting in Baltimore in May.

The program included the following papers: "Space-Related Aspects of the General World Administrative Radio Conference" by Ronald Stowe, Assistant General Counsel, Satellite Business Systems; "Indemnification of Aerospace Contractors for Catastrophic Accidents" by Thomas Williamson, with the law firm of Morgan, Lewis & Bockius; "Legal Issues in Instituting an Operational Remote Sensing Program" by Eldon Greenberg, General Counsel, National Oceanic and Atmospheric Administration; "The Moon Treaty: A Legal Perspective" by Delbert D. Smith, Editor, Satellite Communications; "Legal Preparations for the Space Shuttle Era" by Gerald J. Mossinghoff.

At the Global Technology 2000 meeting, the AIAA Board of Directors formally established the Committee on the Legal Aspects of Astronautics and Aeronautics as a standing Technical Committee of the Institute.

Gerald J. Mossinghoff
Deputy General Counsel of NASA
Chairman of the AIAA Technical Committee
on the Legal Aspects of Astronautics and
Aeronautics

5. *Conference on "World Communications: Decisions for the Eighties". The Annenberg School of Communications, University of Pennsylvania, May 12-14, 1980.*

An extremely informative and challenging conference on "World Communications: Decisions for the Eighties" was held, with several hundred participants from all over the world, at the University of Pennsylvania's Annenberg School of Communications on May 12-14, 1980. While the conference had a very broad base covering all aspects of communications, one of the sessions entitled "After WARC '79", chaired by Wilson P. Dizard of the Department of State, Vice Chairman of the U.S. delegation to WARC, dealt with the recent World Administrative Radio Conference and its aftermath. Topics discussed included: "Third World Countries at WARC: Positions and Achievements" (Nolan A. Bowie); "Communication and Computing in The 1980's" (John deMarcado); "WARC 1979: Some Legal and Political Implications" (Stephen Gorove); "Are U.S. Policies at Home and Abroad Consistent?" (Harvey J. Levin); "Changing Ground Rules for Spectrum Policy" (William H. Melody); "A Post-WARC View. U.S. Achievements, Problems, and Issues yet to be Faced" (Kalmann Schaefer).

The conference papers and proceedings are expected to be published.

Stephen Gorove
Vice-President for Programs
Ass'n of the U.S. Members of the
Int'l Inst. of Space Law (IAF)

6. *Other Events*

A Session on Air and Outer Space Law, consisting of courses and seminars, was conducted by a group of eminent professors of different countries and officials of international organizations at the University of Thessaloniki from August 13 to 31, 1979.

During the Annual Meeting of the Association of American Law Schools held in Phoenix, Arizona the newly formed Committee on Aviation and Space Law held its first meeting on January 5, 1980 at which S. Neil Hosenball, General Counsel of NASA spoke extensively about some of the commercial and legal aspects of the Space Shuttle.

A Conference on Pacific Telecommunications was held in Honolulu on January 7-9, 1980 in order to provide a forum for a discussion of technical, economic, social and regulatory aspects of communications throughout the Pacific area.

During the Eighteenth Goddard Memorial Symposium on "Commercial Operations in Space 1980-2000", which was held in Washington, D.C. on March 27-28, 1980, one of the sessions focused on "International Opportunities", while another session, chaired by Dr. Eugene Emme was organized as the Second Annual

Space History Symposium at which Stephen E. Doyle reviewed the "Evolution and Problems of Space Law." At a third session on "Lunar Agreement (Public Debate)", S. Neil Hosenball presented the "Pro" side while Leigh Ratiner argued the "Con" side of the Moon Treaty. Lively questions and discussions ensued. Yet another session, chaired by James W. Barrett, was devoted to "Commercial Launch Operations" and discussants and their topics included: James W. Barrett, "Insuring the Risks of Commercial Space Operations"; Daniel E. Cassidy, "The Space Industrialization Act and the Government's Role in the Commercialization of Space"; and Delbert D. Smith, "The NASA Launch Services Agreement and Commercial Operations in Space."

7. Brief News

Austria became an associate member of the European Space Agency. . . The first Ariane test flight in December 1979 was successful. . . The President designated the Commerce Department's National Oceanic and Atmospheric Administration (NOAA) to manage all operational civilian remote sensing activities from space. . . The Senate Committee on Commerce, Science, and Transportation has requested four reports in connection with the pending ratification of the Moon Treaty. Among them are: an analytical report to be prepared by Eilene Galloway, an interdisciplinary study of the treaty by the Congressional Research Service, and an assessment by the Congressional Office of Technology Assessment of the impact of the treaty upon the capability of the United States to exploit extraterrestrial materials. . . The Subcommittee on Science, Technology, and Space of the Committee on Commerce, Science, and Transportation of the U.S. Senate is scheduled to hold hearings on June 26 and July 24, 1980 on the planning by the Executive branch of an operational land remote sensing satellite system. . . Brazil plans to launch a satellite some time in the mid-1980's.

B. Forthcoming Events

An International Symposium on Solar Power Satellites is being held in Toulouse, France at the Centre d'Etudes et de Recherches de Toulouse on June 25-27, 1980.

"The Industrialization and Settlement of Space" is the title of a Summer Program organized by California State University in Northridge, July 14-August 22, 1980. Some of the scheduled speakers include: Krafft Ehrlicke, Charles Sheffield, Eilene Galloway and Jerry Grey.

As reported in our previous issue, the 23rd Colloquium on the Law of Outer Space will be held during the XXXI Congress of the International Astronautical Federation in Tokyo, Japan, September 21-28, 1980. Subjects to be discussed include: (a) Implications of the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies; (b) Implications of the World Administrative Radio Conference (WARC) 1979; (c) Protection of the Environment: Earth, Celestial Bodies and Outer Space; (d) Patterns of International Space Cooperation (international regimes applicable to space activities, regime for international manned flight, etc.).

International Cooperation in Outer Space: Legal Problems, by V. S. Vereshchetin ("Science" Publishing House, Moscow, 1977). 264 pages.

The author is Vice-President of the Intercosmos Council of the Academy of Sciences of the USSR. This fact is very significant as the Council plays in the Soviet Union the role of the organ which coordinates cooperation in the exploration and use of outer space. Also in accordance with Article 7 of the Agreement of July 13, 1976 on Cooperation in the Exploration and Use of Outer Space for Peaceful Purposes, the aforementioned Council coordinates the activities of analogous organs of the remaining States which participate in the performance of the Intercosmos program. Therefore Vereshchetin's book concerning the legal problems of States arising from their mutual scientific and technical activities in outer space is of specific value.

This book contains an introduction and 13 chapters grouped in two parts. Part One presents the legal mechanism of international space programs. Part Two covers the analysis of legal problems concerning the practical applications of international space systems. Furthermore, the book provides a bibliography of Soviet literature on international space law up to January 1, 1977, which was made by E. P. Kamenetskaya.

In Chapter One, Vereshchetin analyzes the treaty as the basic legal instrument of international cooperation in the domination of outer space. He foresees with reason that scientific and technical cooperation in outer space will become of civil law character in the future (p. 18). Presently this joint space activity is generally regulated by treaties signed in States' or Governments' names and also by interdepartmental international agreements. The author points out that the Academy of Sciences of the USSR is a national organ which has special competencies in international relations concerning the exploration and use of outer space (pp. 13-14). The Intercosmos Council has similar authorizations to enter into interdepartmental agreements.

Chapter Two presents the issue of multilateral cooperation of socialist states in the Intercosmos program. Vereshchetin emphasizes that the performance of this program does not mean the creation of an intergovernmental international organization *sensu stricto*, because it lacks certain attributes of an organization such as a special founder's act, an international secretariat, and a common budget. More arguments are provided by the Intercosmos Agreement of July 13, 1976, which in Article 6 establishes a rule that each State itself covers the costs of the participation of its organizations in the performance of the planned experiments and space explorations, if not otherwise decided in separate agreements.

Chapter Three concerns cooperative bilateral programs between the Soviet Union and other states in the exploration and use of outer space. The author analyzes separate treaties with the United States, France, and India, with emphasis on Soviet-American cooperation.

The following two chapters present international space programs of West European States and the United States. Part One of the book is ended by Chapter Four which is dedicated to the role of the United Nations and specialized agencies as well as the role of

nongovernmental international organizations in the elaboration and performance of space programs.

Special attention should be paid to Chapter One, Part Two, which concerns the connections between the principle of State sovereignty and the use of outer space for practical purposes on Earth. The author criticizes such ideas which deny the importance of this principle in the regulation of States' activities in outer space. As a conclusion, V. S. Vereshchetin states that the concordance between the law and any concrete kind of use of space technics for the solution of practical problems on Earth should be specified according to whether the given activity fulfils the generally accepted principles of international law (including space law), and especially the principles of the observance of State sovereignty and the sovereign equality of States (p. 145).

In the following chapters of this part of the book, the above described point of view is elaborated. Chapter Two contains the comparative analysis of international communication-satellite systems: Intersputnik and Intelsat. In Chapter Three, which concerns direct broadcast satellites, the author declares his belief in the necessity to regulate this issue by space law, assuming that the previous consent of a State in the establishment of a regime for DTBS is indispensable. In this issue, the adduction of the lack of generally accepted principle of freedom of information creates controversies (pp. 177-8). The author takes no account of the limitations of this principle which are expressed, for example, in Article 19, paragraph 3 of the International Covenant of Civil and Political Rights.

In Chapter Four, concerning outer space navigation, Vereshchetin emphasizes that satellites used for these purposes do not demand a special legal status, as they do not directly influence the performance of sovereign rights by States. The statement that the compromise solution of the problem of the voting procedure in the organs of Inmarsat cannot serve as a precedent in the further regulation of principles of international cooperation in outer space is (p. 193) controversial.

Chapter Five covers the problems of the practical use of space technology in meteorology. The author presents the significant achievements of international cooperation in this domain. In the following chapter on the remote sensing of the Earth from outer space, Vereshchetin expresses his opinion that there exists a need to determine the principles of use of informations about the natural resources of other States (pp. 212-3). He also states that the equatorial States' claims to their sovereign rights over the geostationary orbit cannot be considered as being in concordance with international law, although this problem is not developed in the book.

Chapter Seven concerns the legal status of international orbital stations. The definition of such space objects as quoted in this book states that it is "a constructed or used by two or more States outer space complex which can work for a pretty long time on Earth orbit with a piloted or automatic system, and intended for fulfilment of scientific, technical and national economy's task" (pp. 228-9). This definition casts some

doubt at the present stage of constructing experimental stations on Earth orbits. This may point to the reason why joint flights of astronauts from socialist States in accordance with the Intercosmos program do not exceed a few days. Also the planned Spacelab orbital missions are to last only 7 to 30 days. It seems that nowadays it is impossible to speak about an international orbital station functioning automatically, as it is the international crew itself which gives the orbital station an international character.

Dr. Vereshchetin's book is a permanent contribution to the studies of outer space law. This very interesting legal study is the creative extension of problems presented in a prior book by V. S. Vereshchetin, *Outer Space. Cooperation. Law* ("Sciences" Publishing House, Moscow, 1974).

Dr. Jerzy Gospodarek
Vice-President, Commission of Space Law,
Polish Astronautics Society

E. G. Vasilevskaja: *Pravovyy status prirodnykh resursov luny i planiet (Legal Status of the Natural Resources of the Moon and Other Planets)*, Nauka, Moscow, 1978, 142 pages.

The rapid development of cosmonautics has caused the exploitation of the Moon's natural resources as well as those of the other planets to become more probable. At the same time, the accelerated development of cosmonautics is accompanied by a change in the approach to the solving of legal problems connected with it: in the first stage, activities in the outer space outstripped legal regulations, whereas now it is becoming more frequent that legal regulations are made in advance for some activities. Negotiations held before the forum of the U.N. on the legal principles of direct broadcast satellites and also on the legal aspects of the exploitation of the natural resources of the Moon and other planets of the solar system may serve as examples. E. G. Vasilevskaja's book is mainly dedicated to this specific problem.

The reviewed book consists of an introduction and two parts. The first part considers the legal status of the natural resources of the Moon and other planets, while the second one considers the legal regulation of the exploration and exploitation of these resources.

Thanks to the deliberations contained in the introduction, the reader becomes familiar with the main achievements of the 20-years of space activities as well as with the actual stage of development of outer space law. This introduction enables the understanding of the importance of establishing legal norms regulating the exploitation of the natural resources of the Moon and other planets. Otherwise, this necessity would seem to be only a theoretical problem for a person loosely connected with outer space law.

In the first part the author tried to explain and establish definitions of "natural resources", "exploration" and "exploitation". In the relevant discussions the author uses abundant literature from the domain of international law concerning the principle of Earth's natural resources and their division into those, which are on a state's territory and the international ones, or in other words, those which lay beyond the boundaries of a state's jurisdiction. The vast definition of natural resources of the Moon and planets accepted by the author (p. 25) is of great benefit to outer space law where the establishment of a definition is a troublesome assignment. It is sufficient just to recall the fact that in spite of the 22 years of man's activities in space, we lack legal definition of "outer space" and "space object" although these two terms appear in all of the multilateral agreements concerning outer space.

In the discussed part, the critical analysis of the views of outer space law doctrine concerning the legal status of the natural resources of the Moon and other planets is also of great interest. The author refers to the abundant literature on the natural resources of the high sea and the Antarctic, though warning us not to apply analogies in this domain too eagerly (p. 44). The author presents a wide range of views and conceptions of lawyers from the whole world based on speeches and discussions held on the yearly colloquiums of outer space law organized by the International Institute of Space Law. E. G. Vasilevskaja undertakes an interesting polemic with the opinions widespread mainly in the Latin American doctrine, proving that the idea of "the common heritage of mankind" in outer space law is not identical with the analogous statement in the law of the sea. This eventually leads to the criticism of the idea of creating an agency for the purpose of exploiting the natural resources of the Moon and other planets. (pg. 45-65). Therefore it should be stressed that the acceptance of the natural resources of the Moon and other celestial bodies as the common heritage of mankind expressed in the Moon Agreement does not imply acceptance of principles governing their exploitation. For it was accepted that these principles will be established directly before the initiation of the exploitation. Therefore this problem will remain an object of dispute to which the author makes a valuable contribution.

The second part of the book deals with the documents of international law concerning the exploration and exploitation of the natural resources of the Moon and planets, beginning with the U.N. General Assembly's resolution of 1961 and ending with the undertaking of attempts of creating a project of a Treaty concerning the Moon. It is worth mentioning that the Soviet Union, before the U.N. forum in 1971, put forward the proposal of working out such an agreement, presenting at the same time the draft of the Moon Agreement. According to the accepted procedure, the Soviet draft was submitted to the U.N. Outer Space Committee where it was an object of negotiations lasting 8 years.

In this section there are discussed some of the main provisions of the draft Agreement on the Moon, concerning the exploitation of natural resources and the notification about missions to the Moon. As the author righteously points out (pp. 113-114), the principles of the Moon Agreement should be treated as a logical continuation and specification of the provisions contained in the Outer Space Treaty of

1967 and of the general principles of international law concerning outer space activities. The analysis by the author of the main provisions of the draft Agreement in which the changes made in them during the negotiations are pointed out, facilitates both acquaintance with the viewpoints of particular states and understanding the essence of the divergence of opinions as to the Moon Agreement, the notification about missions to the Moon, and most of all, the legal status of the Moon's natural resources. The above represents an interesting illustration of the process of elaborating principles of outer space law.

The book is concluded by a chapter dedicated to the perspectives of legal regulation of states' activities on the Moon and other celestial bodies. The author righteously underlines the significance of negotiations on the Agreement in the further development of outer space law and peaceful cooperation in outer space. Therefore it is also worth stressing that in December 1979 the final text of the Moon Agreement was accepted by XXXIVth session of the U.N. General Assembly.

As a conclusion it should be stated that the interesting research done by E. G. Vasilevaskaja concerning the difficult problem of the legal status of the natural resources of the Moon and other planets constitutes a permanent contribution to outer space law. In this context also should be stressed the exceptional competence of the author, who—as a member of the Soviet Union's delegation to the sessions of the Outer Space Committee and its Legal Subcommittee—personally contributed to the elaboration of the Moon Agreement.

Dr. Krystyna Wiewiórowska
Polish Institute of International Affairs.

The Partnership: A History of the Apollo-Soyuz Test Project by Edward Clinton Ezell and Linda Neuman Ezell. (NASA History Series, Washington, D.C., 1978). 560 pages.

The history of the Apollo-Soyuz Test Project marked the first joint adventure between the United States and the Soviet Union. Beginning with events in the 1950's the *Partnership* retraces the political maneuvering and the various aspects of negotiations which have led to the signing on May 24, 1972, of the "Agreement Concerning Cooperation in the Exploration and Use of Outer Space For Peaceful Purposes."

The text is not targeted to space lawyers, but scholars interested in a case study of an international joint adventure shedding light on politics, diplomacy as well as the organizational and engineering aspects, will find this book a thoroughgoing, readable and well-documented treatise.

Space Shuttle: Dawn of an Era. (Volume 41, Parts I and II, The Advances in the Astronautical Sciences), edited by William F. Rector III and Paul A. Penzo, Published for the American Astronautical Society by Univelt, Inc., San Diego, Calif. (1980), 948 pages.

This book is a compilation of the proceedings of the 26th American Astronautical Society Annual Conference held October 29-November, 1979 in Los Angeles. Fourteen sessions were conducted representing Shuttle Technology, payloads and operations.

Part I contains the sessions on the Shuttle elements and operations. Part II contains sessions on payloads and one session on space medicine. Government and industry leaders of the space program participated as session chairmen and co-chairmen.

The first article, written by Brig. Gen. Robert A. Rosenberg, USAF, of the National Security Council, and Lt. Col. Wayne L. O'Hern, USAF, of the Industrial College of the Armed Forces, contains a discussion of current domestic space policies and challenges to the international legal regime. Although none of the later sessions included discussions of space law as applied to the Shuttle, several of the papers presented at the conference will help persons interested in the area of space law to enlarge their perspective of the opportunities provided for international cooperation through the development and operation of the Shuttle.

Space Stations: International Law and Policy. by Delbert D. Smith (Westview Press, 1979). 246 pages.

The concept of space stations, once confined to science fiction, now is approaching reality, and the legal problems associated with space stations are analyzed in this volume.

The author defines the term "space station" as "a man-made object or facility in outer space established with a purpose, such as to provide goods or services." The station will be larger than the typical satellite, remain in use for a long period of time, and may be either manned or unmanned. The present plans generally center around space information systems, but earth sensing services space stations, space power stations, and space manufacturing stations have been designed also.

The legal discussion begins with the work institutions such NASA are currently performing in the area, the alternatives to the institutional approach, and the component ownership possibility. The existing international treaties affecting space stations are detailed in their application. The legal issues discussed include the "peaceful uses" of space, the military implications of space stations, the protection of space stations, and the role space stations serve in the common heritage of mankind.

The most original part of the book is the plan for a general space station model, Starbase, in which the concepts of component ownership of space stations dovetail with the latest concepts in space use.

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