37th Colloquium on the Law of Outer Space, Jerusalem, Israel, 9-14 October 1994

INTRODUCTION

The 37th Colloquium on the Law of Outer Space was opened by the President, *Dr. N. Jasentuliyana,* on Tuesday 11 October 1994. The colloquium was attended by some fifty persons throughout the week, and the overall quality of the papers was good. Also, a new-set-up consisting of a separate session for discussion on all Colloquium topics at the end of the week allowed ample time for discussions, and all authors were able to present their papers in detail.

This colloquium hosted the finals of the Third Manfred Lachs Space Law Moot Court Competition. The competition had been made possible with the help of the Hebrew University of Jerusalem, Martin Marietta Inc., and KLM Royal Dutch Airlines. Preliminary competitions had been organized in Europe (by ECSL) and in the US (by AUSMIISL), and the winners of those preliminaries met in the final round in Jerusalem. The University of Helsinki (Finland) and the John Marshall University of Chicago (USA) competed in a case concerning an international space station, intellectual property rights and liability for damage. The honourable court was composed of *Judge G. Guillaume, Judge G. Herczegh* and *Judge Chr. Weeramantry* of the International Court of Justice. The team of the John Marshall University of Chicago won the competition. Its members were *Daniel Groth* and *Jollene Kime*. The members of the University of Helsinki team were *Peter Iiskola* and *Craig Thompson,* with *Kari Vallonen* serving as alternate. The case and the written briefs will be published in the IISL Proceedings. Each team also served as rapporteur for one of the sessions of the Colloquium. The final of the fourth Competition will be held in Oslo, October 1995, after preliminaries in Europe and the US. The case, which deals with satellite broadcasting, has been distributed to numerous universities .

SESSION 1: New Legal Developments in Satellite Communications

Chairman *Prof. Lyall* (UK); rapporteur *P.H. Tuinder* (NL)

The first presentation was given by *Mr. Potter* (USA) on "The Outer Space Cyberspace Nexus: Satellite Crimes", dealing with legal questions raised by the expansion and collision of two modern frontiers: outer space and cyberspace. According to Mr. Potter space law has a vacuum in this fast moving field. Cyberspace is the process of transmitting, receiving, storing and manipulating information through telecommunications. A problem arises when cyberspace collides with outer space, for example when a telecommunication satellite is used in an unauthorized manner. The author proposes a new analytical framework, which captures the entire communications process, to understand satellite crimes. The framework consists of four conceptual categories: Origination, Transportation, Termination, and Content. The author's conclusion was that as cyberspace and outer space become increasingly internationalized, there will be a need for treaty law in the area of satellite crimes.

The next presentation was by *Mr. Henaku* (NL) on "The Satellite-based air navigation systems and approaches to the concepts of state sovereignty". Mr. Henaku discussed the ICAO CNS/ATM concept and the legal regimes it has to deal with, viz. space law, telecommunications law, and air law, especially the problems raised because the three disciplines have different perceptions of state sovereignty. The author concluded that the search for an appropriate regulatory framework will involve unorthodox, global based, anti-formalistic and functional measures. A solution could be to establish global rule making as has been done in the ICAO framework through SARPs, and make these enforceable within all states.

Mr. Kaiser (Germany) dealt with another focus of this issue in his paper "Aeronautical satellite navigation: civil aviation's needs and institutional alternatives". The GPS and GLONASS systems were very positively received by the aircraft operators and pilots, but on the political side the situation was totally different, and ICAO reacted reluctantly to the offer from the US and the (then) USSR to provide GPS and GLONASS systems to the civil aviation community free of charge for a certain period. The reason for this reluctance was that the two systems are military, offered unilaterally by a single state, the services can be interrupted or down-graded, and when terrestrial systems

come to be abandoned it will give these states an enormous bargaining power upon the expiry of the period of free use. Mr. Kaiser then discussed institutional alternatives and thought it unlikely that a fully operational civil system would emerge in the near future due to financial constraints, although the prospects for a civil GNSS of a number of rudimentary systems may not look so dim.

Prof. Kosuge (Japan) discussed the "Legal issues of Low Earth Orbit satellites". He described the characteristics of Iridium, Inmarsat P., and Globalstar systems, the market for satellite PCN services and the regulatory issues. Prof. Kosuge foresaw problems with the enforcement of regulations when for example pocket size terminals will be usable beyond the borders of their licensing states, and the international spectrum access mechanism which can be unfairly exploited for global services. He concluded that a new legal regime and rules should be established for LEO satellite telecommunication networks within the framework of the ITU.

Prof. Lyall (UK)'s paper was entitled "The ITU: A World Communications Commission?" and raised the question whether the ITU, in view of its important task as the only agency in operational space law, should not be further revised. He described four matters of concern which indicate more problems for the ITU; 1) The Tongasat filing for 36 geostationary slots, later reduced to six slots; one may wonder whether the ITU provisions are being dealt with in good faith in conformity with Art. 26 of the Vienna Convention on the Law of Treaties; 2) The conflict between Indonesia and Tonga when a Palapa satellite was moved into a Tonga claimed slot; 3) The Apstar problem when the APSTAR 1 sponsored by the Chinese government was scheduled to operate on a position of 1 degree away from satellites owned by Japan and Tonga which were properly registered through the ITU; 4) LEO's which do not use GSO and thus to which the orbital responsibilities of the ITU do not apply. Prof. Lyall suggested that the ITU should be reconsidered and given a major role in all matters of satellite radio links, and orbital use wherever that orbit be. One possibility would be to make the ITU a World Communications Commission to deal with orbits and frequencies. Such a Commission would require both decision-making and enforcement powers.

Mr. Meyerhoff (ITU) described the way the ITU systems have been developing and emphasized that the ITU provides a mechanism for the rational use of the orbit/frequency spectrum resource and to prevent potential interference with satellite systems.

Mr. Castro Villalobas (Mexico) discussed the DBS principles and the case of American broadcasts directed to Cuba in his paper "The UN DBS Declaration: the TV Marti case". He concluded that Human Rights regulations result in the need for a change of the DBS principles.

Dr. Hoskova (Germany) was the last speaker of the session and she focussed on the "Eastern European Legal Developments in Radio and TV Broadcasting". She described the changes in the field of the mass media after the "fall of the wall" in Eastern Europe which brought about the "information revolution". The elaboration and implementation of an appropriate legal framework proved to be more difficult as state monopolies had to be overcome and a response had to be given to the technical developments of broadcasting including satellite broadcasting. Mrs. Hoskova described the developments of the legal orders of Bulgaria, the Czech Republic, Poland, Russia and Slovakia, especially taking into account their aspirations to be integrated into the relevant European framework.

During the *discussion*, *Dr. Nilson* was invited by the Chairman to give a short presentation on the Tongasat System. Currently four orbital positions of Tonga are used by satellite operators and Tongasat registered seven positions with the ITU. The original filing of Tonga was for 36 positions. Mr. Nilson shortly discussed the problems with the Indonesian occupation of a Tongasat slot and the potential APSTAR-1 interference with Japan and Russia satellite systems. The APSTAR-1 problem was solved in August this year by leasing a Tonga slot to APSTAR. Mr. Nilson wondered why the Tonga applications received such widespread criticism from the world community and compared the actions of some other states. Mr. Nilson's conclusion was that the ITU had been extremely helpful in solving the disputes which did arise with Tongasat but that in view of the non-enforceability of ITU decisions, interested parties have to resolve their conflicts amicably.

Prof. Lyall commented that the ITU was originally established by and for states and that the priva-

tization of telecommunication operators requires a reorientation of this concept. *Dr. Nilson* agreed that operators are now typically private companies. *Dr. Meyerhoff* again explained the mission of the ITU, i.e. to prevent radio interference and to fulfil the need for international coordination procedures. He added that at this moment there is no scarcity of capacity for satellite communications.
Prof. Lyall wondered how APSTAR acquired its licence to operate a satellite system, if it is a Hong Kong based company that normally should have applied for a licence under the UK Space Act of 1986. He also wondered whether a situation was evolving comparable to flags of convenience as states might license use of orbital positions but be unable properly to supervise what was done by licensees.
Dr. Doyle then considered that today the basic shortcoming of the telecommunications administration is the lack of planning. In his view, planning must involve the following aspects: (1) ITU roles in allocating, signalling codes, operational standards etc., and (2) national administrations assign frequencies to specific users, grant licenses and police the users.* *Dr. Meyerhoff* stated that planning of paper systems causes problems and that registration should happen on a first come first serve base. This, however, may raise accommodation problems for the systems that will come afterwards. *Dr. Doyle* proposed to use MPM's to solve these problems and put a time limit on paper registrations. *Dr. Nilson* added that MSS and FSS frequencies are not planned by the WARCs.
Dr. Meyerhoff concluded the discussion by saying that the frequency spectrum should be considered a resource and that the ITU mechanism is a means of attributing this resource, which can certainly be used commercially.

SESSION 2: Definitional Issues in Space Law
Chairman *Prof. S. Gorove* (USA); rapporteurs *P. Iiskola* and *C. Thompson* (Finland)

Prof. Gorove was the first to present his paper. His topic was "Definitional Issues Pertaining to 'Space Object'". Primarily, he discussed whether there should be a distinction between component parts and parts of a space object. His conclusion was that such a distinction was unnecessary. On a subject that was to receive a lot of attention during the session, i.e., space debris, Prof. Gorove stated that the term space debris should not be legally separated from the term fragments of space objects. Prof. Gorove also brought up the question of whether or not launching is prerequisite for the classification of a space object. This question has often been raised in discussions concerning aerospace planes. In Prof. Gorove's definition of a space object, emphasis was placed on when an object becomes a space object and when it ceases to be a space object. The point of embarkation and disembarkation of a space object is crucial to this definition. Prof. Gorove stressed that the intention of launch is important for determining liability. As a final point, Prof. Gorove raised the question of whether the material status of an "object" is relevant. He offered as food for thought such "space objects" as electromagnetic pulses, radiation, and marketable energy. In his closing remarks, Prof. Gorove stressed that no fool-proof definition of a space object could be drafted, but, in order to reduce disputes, an attempt was in order.

Next, *Prof. Kopal* (Czech Rep) introduced his paper "Issues relating to legal definitions of 'space object', 'space debris' and 'astronaut'", which included many of the same issues covered by Prof. Gorove. As to a definition for space object, Prof. Kopal stated that a definition should include the expression 'man-made'. He also pointed out that there is a difference in the definition of space object when discussing registration and liability. As to the question of space debris and Article VIII of the Outer Space Treaty, Prof. Kopal stressed that either a definition for space debris should be clarified or a separate instrument should be drafted. According to his paper, the difference between "parts" of a space object and "space debris" should also be clearly established. At least unidentifiable space debris can no longer be considered as part of a space object.

Prof. Böckstiegel (Germany) presented two papers at the session; one concerning the term 'appropriate state' and the other concerning 'launching state'. His paper on the appropriate state recommended that a functional approach be used when Article VI of the Outer Space Treaty leaves room for a different number of interpretations. As to the launching state, the Registration Convention and the Liability Convention are binding and give sufficient guidance in most cases.

Mr. Wirin (USA) discussed the practical implications of the definition of 'launching state'. Paramount to the topic of his paper was the distinction between state responsibility and liability. In this context, Mr. Wirin stressed that the term 'appropriate state' should be narrowly construed.

Mr. Wirin also presented *Prof. Gàl'*s paper on Space Objects - "While in Outer Space" in his absence, and Prof. Gorove summarized the papers of the Russian scholars *Zhukova* and *Kamenetskaya* on space debris and the terms astronaut, personnel, crew, and passenger.

Finally, *Dr. Doyle* (USA) presented an unannounced paper concerning the concept of peaceful uses of outer space. His approach primarily concentrated on the historical development of the concept, tracing the definition of peaceful use from its inception in international space law to today.

In the discussion, *Dr. He Qizhi* (China) noted in response to Prof. Böckstiegel's papers that the key term "procure" had not been interpreted when speaking of a definition of the launching state. He proposed a hypothetical situation and said that he preferred a broad interpretation of the term "procure".

Mr. von der Dunk (NL) inquired whether the launch vehicle [in reference to aerospace planes] could be considered to be part of a space object. *Prof. Gorove* answered that such a launch vehicle would be considered to be a space object only in the case of an attempted launch.

Mr. Meyerhoff (ITU) inquired whether the ownership of a satellite had any relevance to the definition of space object. *Prof. Gorove* replied that ownership has no relevance since the satellite is classified as a space object as long as it is in outer space. Additionally, an object is considered to be a space object during temporary stopovers on the moon that are not indefinite in duration.

Mr. Kaplan (UK), when called upon by Dr. Jasentuliyana to present his views on the progress made since the sixties in these sessions, expressed his consternation that no progress had been made on the establishment of an international space organization equivalent to the ICAO in air law. Additionally, he supported Prof. Kopal's distinction between unidentifiable and other debris. In conjunction with this opinion, he supported special legislation on space debris. As a final note, he stated that space activities simply took off without any mention of peaceful use and that it is senseless that a similar situation be repeated or allowed to continue with regard to space debris.

Prof. Gorove commented on Prof. Kopal's distinction regarding unidentifiable space objects. He conceded that with technology developments, the ability to determine the origins of space debris will be greatly enhanced. In this context, it is important that the law keep abreast of this development, lest it fall behind and thus complicate liability issues.

Mr. Smith (UK) asked whether an object ceases to be a space object when abandoned on the moon. *Mr von der Dunk* took up the question by stating that the appropriate state is responsible for the activity in accordance with its control duties. *Mr Wirin* added that there appears to be some confusion as to the application of the Liability Convention in these matters.

SESSION 3: Liability in Commercial Space Activities

Chairman *Prof. Böckstiegel* (Germany); rapporteurs *D. Groth and J. Kime* (USA)

Mr. von der Dunk (NL) presented the first paper, entitled "Commercial Space Activities: An Inventory of Liability - An Inventory of Problems." He noted that there is an overlap between questions of liability and commercial space activities, and identified eight key aspects of liability: 1) a definition of liability as a form of accountability triggered by damage; 2) the consequence of liability as a duty to compensate such damage; 3) the identity of the party responsible for compensation; 4) the identity of the party victimized by the damage; 5) the mechanism of dealing with claims for damage; 6) the relationship, contractual or tortuous, between the party causing the damage and the victimized party; 7) the type of liability, absolute or fault-based; and 8) the amount of compensation, limited or unlimited. A survey of these aspects of liability reveals a common thread relating to (a) the conceptual relationship between commercial and private space activities and (b) the peculiar focus on the launching state in liability. When a public entity undertakes commercial space activities, the same liability regime that applies to private space activities should apply to it in view of the concept of "level playing field". While the area of liability at first glance seems to

provide this level playing field, this is not so. As a result, the current way of handling liability leaves much to be desired.

Mrs Meredith (USA) dealt with "Liability Issues Raised by Commercial Space Activities: A Hypothetical Case Scenario". The hypothetical involved liability for a failed satellite launch. The satellite owners brought suit against the launching corporation alleging negligence and gross negligence for failing to carry out collision avoidance procedures for the launching rocket body and other related claims. The defense of the suit raised issues involving a launch contract as well as the Commercial Space Launch Act of 1984.

"Preventive Liability for Space Activities" was the topic of *Mr. Reibel*'s (USA) paper. The paper examines current trends in preventive liability to determine the feasibility of applying preventive liability principles to outer space activities. The four current trends identified by Mr. Reibel were the use of whistle blowers to prevent waste and fraud, acquisition reform or contractor incentive programs which would ensure quality design and manufacturing, risk spreading through insurance, and the merger of specialized space manufacturing industries allowing for the internationalization of risks and costs. In conclusion, further issues of preventive liability were identified and a revaluation of fundamental principles of liability urged.

Dr. Wirin (USA) presented a paper entitled "Policy Considerations of Launching US-Origin Satellites in the People's Republic of China." The author noted that while China has significant launch capabilities, it may not be in the best interests of the USA to allow commercial use of these capabilities. After briefly outlining the various mechanisms for limiting commercial launches in China, Dr. Wirin noted that non-space matters have an impact on launch decisions. The crux of the problem in dealing in this area, according to Dr. Wirin, is that trade gains are contingent on meeting American policy interests. However, curtailing trade to meet those policy objectives may have the opposite effect of causing China to turn inward and deny not only trade, but also ideas and information from entering its borders.

Dr. Balsano (Italy/France) presented a paper entitled "Technology Transfers in the Public International Research Organizations; the Example of the European Space Agency." The author noted that there has been a great increase in cooperation in outer space brought on by changes in politics and economics. She provided a definition of the transfer of technology as the "systematic transfer of know-how which should enable the receiver to manufacture a product, enforce a process or render a service". Dr. Balsano then discussed the ways in which ESA transfers technology among its members. She outlined the guidelines for ESA staffers and contractors, and then discussed the provisions governing technology transfer to third parties. These transfers are done on an ad hoc basis and are guided by the International Cooperation Agreements of ESA. These operations range from general cooperation programs to specific experiments. Dr. Balsano then discussed the Trade Related Intellectual Property rights (TRIP) as it relates to the protection of Intellectual Property Rights (IPR). Dr. Balsano noted that although the GATT Treaty solved a problem by defining patentable matters, its effect cannot be gauged until more countries ratify GATT. She did observe that TRIP and GATT will provide a more stable environment that is conducive to the transfer of technology. Dr. Balsano concluded by noting that ESA has recently adopted a resolution reaffirming the need for international cooperation. However, ESA's quid pro quo approach to the transfer of technology with developing countries should be adapted to increase the benefits of ESA technology.

Dr. G. Catalano Sgrosso (Italy) presented a paper entitled "Copyright and Intellectual Property in Outer Space". Dr. Sgrosso first noted that in performing outer space research, much time will be devoted to terrestrial preparation of experiments and hypothesis in order to minimize the time used for experiments in outer space. Therefore inventions will be carried out in outer space, but more often will inventions result from further research carried out on Earth. Also, the costly investment required to perform such research requires adequate economic return for the investors available through the protection of intellectual property. Dr. Sgrosso noted that the creation of a "space patent" would be beneficial but also that it is unrealistic at the present time to hope for any international consent for the creation of a specific convention. The immediate solution seems to be the principle of "almost territoriality" utilized in the Inter Governmental Agreement for the International Space

Station.

In the *discussion*, *Dr. He Qizhi* (China) mentioned that he welcomed the trend toward greater trade on the part of the US. He noted the view of the author that the vacillation of US policy concerning launches by China is tied to the US policies on the MTCR and human rights concerns, and pointed out a legal instrument on the MTCR was recently signed by the US and China, so that this issue is solved. On the matter of human rights, Dr. He stated that although this was not the proper forum to deal with this issue, he wanted top stress that the development of cooperation between the two states will bring great benefit not only to the relations between the two powers but also to the peace and security of the world.

SESSION 4: Other Legal Matters

Chairman*Dr. V.Kopal* (Czech Rep.); rapporteur *Martha Mejía-Kaiser* (Germany)

In the paper presented by *Dr. Courteix* (France) "Towards the Legal Recognition of a New Method of Proof for the Defence of the Environment: Satellite Images", remote sensing images as evidence for the control of armament and surveillance of the environment were discussed. International practice is evolving to use satellite images as a legally recognised method of proof which will progressively be codified. Remote sensing images may be used as a tool by the International Atomic Energy Agency and by the International Environmental Court to be established. Prof. Courteix stressed that the creation of an international satellite control agency with responsibility for armament control and environmental surveillance is necessary.

Drs. Sterns and Tennen (USA) examined in their paper "Space and the Environment: Public Perceptions and Policy Considerations" the dividing line between scientific certainty and social factors as it has emerged in US environmental litigation. After the adoption of the National Environment Protection Act which grants the right to the public to review the federal agencies' environmental considerations, space missions using nuclear power sources are also placed under the microscope of the public opinion. US public opinion is thus taking a significant role in the definition of the environmental aspects of space policy and jurisprudence.

Drs. Williamson and Obermann (USA) presented the paper "New Challenges in International Orbital Debris Policy". The authors stated that in recent years, US Government has been hesitant to impose satellite design and mission standards relating to debris avoidance on its private sector or governmental agencies, because such steps would reduce competitiveness. They emphasised that politicians and policy makers do not perceive the space debris problem as a high priority, because there is technical uncertainty about the extent of the debris threat. However, a proposal will be submitted to Congress containing technical standards on launch systems, spacecraft design and operational procedures to be applied to all civilian and military space activities. This proposal includes a schedule for the development of an international accord on the control of orbital debris.

Dr. Hashimoto (Japan) proposed in his paper "Verification Systems from Outer Space. Revival of International Satellite Monitoring Agency" the reactivating of the international Satellite Monitoring Agency (ISMA) as proposed by France in 1978, because of the new political order and the recent technical developments. He outlined the rapid increase of small-scale disputes after the cold war era and the increased responsibility of the UN. The examples of the Open Skies Treaty of 1992 and the satellite centre of the West European Union (WEU) founded in 1993 show how satellite monitoring is accepted as a mechanism to contribute to international security. He called for co-operation in order to revive the ISMA proposal.

Ms. Mejía-Kaiser (Mexico-Germany) presented the paper "Verification of European Farm Subsidies by Satellite". She analysed a European Union (EU) regulation for the verification of farm subsidies which requires member states to establish databases with information from several sources including satellite remote sensing data. German data representatives have objected to this regulation arguing that member States are obliged to interfere with the privacy rights of individuals in a systematic manner. Mrs. *Mejía*-Kaiser noted that the protection of privacy rights relating to personal data may affect the remote sensing business, when remote sensing data is combined with personal

information.

Dr. Esquivel de Cocca (Argentina) submitted the paper "SETI Draft Second Protocol" which examined two drafts on communication with extraterrestrial intelligence. Dr. Esquivel analysed the differences between the two drafts and discussed the shortcomings of the SETI Draft Second Protocol in respect of the procedures in the frame of the United Nations for the reaction and answering to a potential extraterrestrial signal.

Dr. Heidmann (France) presented the paper "What Legal Questions are raised by the Establishment of a Dedicated Lunar Far Side Specific Crater for High Sensitivity Radio Astronomy?". Dr. Heidmann indicated that crater Saha will be a good location for antennas for the SETI program and other astronomical uses. He proposed to initiate an international discussion to support the astronomic community which needs a moon far side crater site free from interference of other stations and satellites.

The following paper was entitled "The Technical Basis for Regulating the Use of Nuclear Power Systems in Near-Earth Space", presented by *Dr. Farinella* (Italy). He discussed the potential re-entry of radioactive materials into the atmosphere of satellites in low earth orbit (LEO). He referred to a proposal of creating a prohibited zone for all nuclear power sources (NPS) in LEO. As an exception, Dr. Farinella proposed that NPS for space missions with final destination outside the prohibited zone be assembled in LEO. Furthermore, he asked for safety design improvements and orbital assignment for NPS satellites in order not to interfere with gamma-ray space observatories.

Dr. Cocca (Argentina) presented the paper "Legal Aspects of Mental and Physical Workload of Astronauts". In his view the astronaut is an individual delegate of mankind as a collective subject and a representative of the human culture but not a political agent. He stressed that astronauts have rights and duties which need to be codified. Among the rights are the special protection against risky medical experiments, privacy and intellectual property for scientific research. In conclusion, Prof. Cocca asked for legal safeguards for the astronaut's basic human needs.

In his paper "The New Brazilian Space Agency (AEB); Political and Legal Analysis", *Dr. Monserrat Filho* (Brazil) described the creation of the Brazilian Space Agency in early 1994. Brazil is the most active Latin American country in space activities, although it suffered drawbacks in the development of a domestic launching system due to the interruption of technology transfer on grounds of the Missile Technology Control Regime. The author affirmed that the AEB was established in an effort to foster transfer of advanced technology. The establishment of this agency involved many irregularities, as it was established under urgency status without discussion in Congress and without consultation of the scientific community.

After a detailed analysis of facts on the use of remote sensing satellites, *Dr. Brown* (USA) warned in his paper "International Peace Through the Free Market; The Effect of Commercial Remote Sensing Satellites on International Peace" of the dangerous effects on international stability, if access to remote sensing imagery and technology were restricted. Although some specialists are of the opinion that unrestricted distribution of remote sensing images may have a potential de-stabilising effect, the author stated that evidence indicates the opposite. Even though the US Government promotes the restrictions to remote sensing data and to technology transfer during international crisis, no such restrictions could internationally be imposed. Dr. Brown concluded that the free remote sensing market is a vehicle for achieving arms control.

Dr. Terekhov (Russia) described in his paper "Space Debris and the United Nations: a Possible Modus Procedendi" the development of the agenda item on space debris in the UN Committee on Outer Space (COPUOS). Dr. Terekhov made reference to the practice of discussing first the technical aspects in the Scientific and Technical Subcommittee, before submitting the issue to the Legal Subcommittee. He stressed that the space debris problem should be discussed simultaneously in both Subcommittees. As a first step, the Legal Subcommittee could conduct a review of existing international law applicable to space debris.

Dr. Marta Gaggero (Uruguay) presented the paper "The Establishment of an International Space Organisation". Dr. Gaggero asserted that there are two new subjects of international law, humankind and people. The said organisation should manage the goods that constitute the Common

Heritage of Mankind based on the concepts of Article 11 of the Moon Agreement and the law of the sea regime.

Mr. O'Donnell (USA) presented "Metaspace: A Design for Governance in Outer Space". He proposed the creation of an independent government in outer space, "Metanation", for future space exploration. Starting with a private sector initiative, he proposed the establishment of a trusteeship council of space faring nations with UN approval. This trusteeship would exist for one hundred years, then being replaced by Metanation as an independent state. Metanation should hold title of all space territories and properties for the benefit of mankind.

In the *discussion* , *Dr. Doyle* (USA), commenting on Dr. Heidmann's proposal for a radio-quiet lunar far side observatory suggested to publish a specific, technical proposal taking into account the experience obtained by existing radio astronomy fixed facility operators. Next step would be informal consultations in the ITU and then formal application sponsored by an administration to ITU for registration and recognition. In order to establish priority of right of the far side facility, it would be necessary to activate and complete an international registration procedure with the ITU and to have the facility identified in the international radio frequency mechanism. Dr. Doyle suggested also the submission of this project proposal to ICSU/COSPAR, the IAA and the IAU. All these steps would create a historical precedence and provide for information in the near future when space activities will be undertaken on the moon.

In respect of the increase of space debris and the reluctance of some space faring nations to establish counter measures, *Dr. Jasentuliyana* proposed the establishment of a permanent group in the UN for the setting of technical standards and recommended practices as new types of regulatory instruments to supplement treaties and principles on space law. He called for international co-operation in the transfer of information for such technical standards, which are classified in some countries like the United States. *Dr. Perek* (Czech Republic) suggested that such a group should communicate with the space industry, take into account the work done by COPUOS, but be independent of its decisions. Also a UN database available to all countries should be established containing information on space object orbital parameters and space debris. *Dr. Jasentuliyana* further mentioned the IISL/ECSL symposium to be held during the 1995 COPUOS Legal Subcommittee session. In this context, Prof. Böckstiegel reminded of the ILA draft on space debris and outlined the gap between the awareness of the scientific community and the reluctance of policy makers in Germany.

Hereafter, IISL President *Dr. N. Jasentuliyana* closed the 37th Colloquium on the Law of Outer Space. The 38th Colloquium will be held during the International Astronautical Congress in Oslo, Norway, 2-6 October 1995.[*]

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[*] Information about the Colloquium, the session topics and the procedure for the submission of papers, as well as the Manfred Lachs Space Law Moot Court Competition can be obtained from the IISL Secretariat, 3-5 rue Mario Nikis, 75015 Paris, France, tel. 33-1-45674260, fax 33-1-42732120.

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