

38th. International Colloquium on the Law of Outer Space at Oslo, 1995.

IISL Session 1. Legal Aspects of Commercial Space Activities

Chairman: Prof. Raymond Fife (Norway)

Rapporteur: Martha Mejía-Kaiser (Mexico)

This Colloquium started with the presentation of the paper of Mrs. Traa-Engelman (Netherlands) on "Legal Requirements Constituting a Basic Initiative for Private Enterprise Involvement in the Commercialization of Space Activities". Mrs. Traa-Engelman concluded that in order to encourage and increase the participation of private enterprises in space activities, the following requirements must be fulfilled: 1) transparency of risks and liabilities, where levels of financial protection by risk allocation must be established; 2) full liberalization of the market through less government participation and deregulation; and 3) appropriate dispute settlement procedures, to respond to the increasing participation of several private companies in space activities.

The following presentation was given by Mr. Bradford Smith (US) with "An Industry Perspective on Space-Related IPR". Mr. Smith identified current tendencies in the space market, such as the non-application of market rules, due to the strong governmental subsidies and political decisions, and agglomeration of industry players, as a result of the reduced number of programs and participants. Mr. Smith foresaw increasing international cooperation and global competition for supplying hardware and services, where the participation of private industry is decisive. Mr. Smith pointed out that private investments should be protected through well established IPR legislation. Therefore different IPR national rules need to be harmonized. Although still utopic, he proposed that outer space access (launching sites, vehicles) in a given territory be governed by a single uniform law and be enforced by a single, universal body.

Mrs. Martha Mejía-Kaiser (Mexico) presented the paper "Proprietary Rights in Remote Sensing Images". Mrs. Mejía outlined that governmental institutions like the CNES of France, and regional organizations as EUMETSAT and ESA claim intellectual property rights on the basis of contract law. She commented that new categories of copyright law cannot be created by private contracts. The EU Council Directive Proposal on the Legal Protection of Databases (1993) distinguishes between two alternative rights: copyright, based in originality, and the right to prevent unfair extraction, applicable to databases without human creativity. She concluded that the right to prevent unfair extraction is more suitable to protect satellite raw and processed data and that the Directive, once being implemented, will help to prevent the incorrect use of the copyright label to protect remote sensing satellite data (raw and processed) by institutions like the CNES of France, ESA and EUMETSAT.

Mr. Von der Dunk (Netherlands) discussed in his paper "Two National Space Laws: Russia and South Africa", the implementation of the paramount rules of International Space Law in these

countries, especially in respect to the recent inclusion of private entities participation. Mr. Von der Dunk focused on the way the international State responsibility and liability takes tangible shape under these national space laws. A related aspect is the licensing system whereunder private entities are legally bound, for complying with the international obligations of their licensor States. Although further legislation need to come, it seems that licenses would basically require the private operator to provide full compensation for damages. The author concluded that these two domestic legislations serve as two important expressions of *opinio juris* regarding to the interpretation of Art. VI of the Outer Space Treaty, as well as the definition of "peaceful space activities" and "protection of the environment".

Another paper was presented by Mr. O'Connor (US) on "Risk Allocation in Commercial Launch Services". After presenting the typical structure of launch services agreements, Mr. O'Connor made a detailed description of the legal mechanisms used for the satellite ground delivery and delivery in-orbit, where risk of loss, liability and insurance are the main aspects. The author made a comparative approach to the key provisions of the launch services agreements in the US, Europe, Russian Federation and China. Also the different risk levels of the launch process were discussed and the different contractual provisions to cover them. These key provisions include inter-party waivers of liability, "best efforts" principles, etc. Also special risks of launching in China, Russia and Ukraine, excusable delays, repatriation of deposits and launch fees were discussed..

Mrs. Meredith (US) discussed the paper "Spacecraft-Related Litigation in the United States: Many Failures, but Few Lawsuits". Mrs. Meredith highlighted the disparity between the number of spacecraft malfunctions and the few number of lawsuits filed in US courts. Under US law, reciprocal waivers of liability are mandatory between commercial launch providers, satellite customers and subcontractors. Mrs. Meredith analyzed the tendencies in the solution of a dozen of lawsuits which were settled during the court proceedings. Factors such as expenses, cross party linkages (customers of same insurance, subcontractors in other projects, merging companies) and harmful publicity were discussed. The author concluded that tighter contracts will lead to diminish the possibility of claims and liability and that the consolidation of the aerospace industry may reduce law suits that may jeopardize relationships among sections of same companies.

Mr. Morgan de Rivery (Belgium) examined the "Community Legal Framework for Satellite Communications: Certain Issues of Concern to the Industry". Mr. Rivery analyzed several decisions and measures of the Commission of the European Communities and the European Council, for the liberalization and harmonization of satellite communications. Mr. Rivery proposed to amend the existing EU legislation, to allow the European Union to cope with the fast development of the technology and to compete with the US and Japan in this field. These

amendments must help to improve the speed of the legislative process and give more enforcement powers to the EU Commission. He also stressed the need to create a European regulatory authority that can act as the central point in the licensing or interconnection operations. Mr. Rivery concluded that reciprocal restrictions between US and EU States are not in the business interests, and it is necessary to abolish such barriers.

On behalf of Mr. Howell (UK), Mr. Rivery presented the paper "Satellite Communications Legislation, Europe-The Reality". Based on the European Union Commissions' Green Paper on satellite communications of 1990, Mr. Howell analyzed the implementation of measures for the opening of telecommunications market through the liberalization of satellite services.

The next presentation was "Legal Issues of Direct Broadcasting Via Satellites in Converging Technologies of Communication and Broadcasting, in Case of Asia-Pacific Region" by Mr. Kosuge (Japan). Mr. Kosuge described several satellite systems in the Asia-Pacific region and emphasized the conflicts that have arisen with the geostationary orbital slots. Mr. Kosuge mentioned that the leasing of slots and the sale of transponders is becoming a lucrative business for some States and private satellite services providers, although slots can not be sold. The orbital overcrowding and the risk of harmful interference rapidly increase. The author highlighted the participation of private companies involved in the slot and frequency space race. Mr. Kosuge concluded that the unethical practices can be avoided through amendments to the ITU mechanisms. The nine-year period for the right to use an orbital slot needs to be reduced and it must be prevented that reserved slots remain vacant for the entire period.

The last speaker was Mr. Poulantzas (Greece) with the paper "Legal Aspects of INMARSAT-B and EUTELSAT services". Mr. Poulantzas made reference to several measures of the EU Commission in respect to the satellite communications. At the end Mr. Poulantzas asked the rhetoric question: is the EU is leading the way towards liberalization of satellite communications and promoting a lawful and open competition between international organizations in this field?

SESSION 2: Legal Issues Arising From Recent Technical Studies Relating to Space Debris

Chairman Prof. Lubos Perek (Czech)

Rapporteurs Sara L. Hall and John M. Clerici (USA)

Chairman Perek introduced the session and welcomed the participants. Prof. L. Perek (Czech Rep) then presented his paper regarding the legal aspects of space debris. Prof. Perek discussed the various definitions of space debris and addressed the difficulty of determining an universal definition. Prof. Perek pointed out that no matter what definition of space debris is accepted, more debris exists than what has been catalogued by any current study. The developments of the

computer internet and other cyber-space avenues for research, according to Prof. Perek, will likely assist efforts to determine the extent of existing space debris. Prof. Perek then discussed various solutions for the removal of known space debris and offered prevention as the best solution. UNCOPUOS has taken up consideration of space debris on its agenda and has implemented a work plan which will discuss all important scientific and technical areas of space debris. National agencies from the space powers have also considered the issue, as has the ITU. Prof. Perek concluded by reiterating the importance of addressing the space debris issue as essential to the continued exploration and peaceful use of outer space.

Prof. K.H. Böckstiegel (Germany) began the next presentation by briefly summarizing the paper of Prof. M. Williams (Argentina), which explored two main questions. The first question concerned the interdisciplinary approach to space debris. The legalistic approach requires that the launching state remove its debris from orbit. Prof. Williams noted that this requirement was not included in the ILA's draft convention on space debris. The second question concerned the need to have any rules to deal with the dangers of space debris. Technical consultants did not want the issue of debris liability addressed at all while the legal community did. She concluded by noting that prevention should be seen as the golden rule.

The background of the Draft of the International Law Association for a Convention on Space Debris was then provided by Prof. Böckstiegel's own presentation. While the legal aspects of space debris is the focus of growing discussion, Prof. Bockstiegel noted that it remains a relatively new topic. The presentation focussed on the developments leading up to the draft Convention. Various meetings of scientific fora since 1986 resulted in a formal report to the 1990 ILA Conference in Australia in 1990 and the preparation of three drafts for the 1992 Cairo Conference of the ILA. The 1994 ILA Resolution in Buenos Aires was passed by around 300 delegates representing 37 branches from around the world and reflected the working draft of the Convention. The obligations included in the draft require states to cooperate, prevent, inform, consult, and negotiate in good faith to deal with the risks of space debris. Prof. Böckstiegel concluded by pointing out that methods of dispute resolution, including provisions on compulsory third party settlement, are contained within the draft.

Prof. G. Catalano Sgrosso (Italy) discussed existing legal instruments which address liability for damage caused by space debris. These documents include the 1967 Outer Space Treaty, the 1975 Registration Convention, and the 1972 Liability Convention. She pointed out that these instruments are evidence that there is ample support for a policy of identification of the debris and for prevention and reduction of the dangers. International cooperation is moving to the most appropriate technical measures to solve the problem of the pollution of outer space, but, according to Prof. Sgrosso, agreement is being found especially in the identification of those measures for the prevention of the formation of the debris. The ILA draft Convention on Space

Debris reflects this cooperation and coincides with the definitions and obligations concerning responsibility and liability for space debris. She concluded by stating that it is necessary for States to adopt compulsory measures preventing the pollution of outer space which, although expensive, would offer greater security in the future.

Prof. H. Almond (USA) presented his paper addressing global regulation of space debris. He noted that law operates through authority and control and the purpose of regulation of any activity is to impose control. He pointed out that our control over space debris is twofold: the development of the best science and technologies possible to undertake the tasks involved and the adoption and implementation of human action and regulatory programs to operate the regulatory scheme. Prof. Almond compared by analogy the problem of the control of space debris to schemes developed for the control of arms and the tension between peacekeeping, disarmament, and inspection. Prof. Almond recognized that both state municipal responsibility and international alternative dispute settlement procedures, including GATT, must be utilized for any regulatory scheme to succeed. Finally, Prof. Almond pointed to the ABM and SALT Treaties as providing a precedent for this type of international cooperation.

Amb. E. Finch (USA) acknowledged that the United States is looking at the problem of space debris more seriously each year. He noted that it remains the important work of lawyers and scientists to address the issues of absolute liability and determining exactly who should be held liable. Amb. Finch reminded us that there are important ethical and moral considerations which are to be addressed within the space debris issue, in particular, the use of deep space and the sun as solutions for disposing of nuclear debris. It is important to look at space debris in the future, especially for the United Nations. In doing so, Amb. Finch suggested that the three Ms – Modeling, Measurements, and Mitigation – should be kept in mind.

The final presentation was made by Prof. G. Gàl (Hungary) and discussed the role of non-governmental organizations in Space Law, particularly, the ILA. Prof. Gàl discussed the difficulty for the Space Law Committee of the ILA in establishing a definition of space debris and noted that other documents such as the Space Treaty of 1967 and the Liability Convention mention, but fail to define, space debris and pollution. He accepted the statement by Prof. Christol that "debris" is a popular rather than a legal term. Given the scope of the application of term in the Draft Convention of ILA on Space Debris, "space debris" is confined to a narrow category of the debris population in outer space, namely, debris which causes or is likely to cause direct or indirect instant or delayed damage to the environment, or to persons or objects. Prof. Gàl stressed the importance of cooperation, prevention, and consultations in good faith in determining both the responsibility and liability for space debris. Prof. Gàl concluded that the ILA Draft Convention is a major step to the solution in the law making of an urgent problem connected with the intensification of space activities.

Discussion on Space Debris.

Some opinions about the definitions contained in the International Law Association Draft "International Instrument on the Protection of the Environment from Damage Caused by Space Debris" were discussed. Commenting on the terms to define "space debris", Ambassador Finch considered that the words "non-functional" does not mean necessary "debris", because they may mean the back-up system of an operating satellite. He proposed the use of the term "malfunction". Dr. Perek also commented that the term "non-functional" in the Draft needs to be defined. He commented that the term "abandoned satellites" is also uncertain, because parts of them may be used for other purposes. Prof. Wassenbergh proposed the term "non-operable".

In respect to the provisions regarding responsibility and liability, Prof. Bückstiegel mentioned that a distinction between liability and responsibility exists, although in the Draft Instrument there is no explicit mentioning of explicit and absolute liability. Prof. Bückstiegel commented about the difficulties in identifying the launching State or the State which procured the launching as the originator of space debris which may cause damage. He stated that without any liability provision, there will be no motivation for States to sign such an instrument. In the discussion it was also commented that the burden of the responsibility and liability should not only be on the States that launches or procures the launching, but be shared with the owners of satellites, transponders leasers, and other subjects which directly benefit from artificial satellites.

66 About Standards and Recommended Practices.

Prof. Bückstiegel outlined the difficulties to establish a Convention to regulate specific aspects of space activities, and thus concluded that the codification of standards and recommended practices is the most suitable way to legislate along the fast technological changes. Prof. Wassenbergh, however, considered that the non-enforcement of ICAO standards is a problem and that such a problem must be avoided in the area of space activities. Finally Dr. Jasentuliyana remarked that the non-enforceability is obviously, but he stressed that it was necessary to introduce such mechanisms.

SESSION 3 Thursday, 5 October 1995

RECENT DEVELOPMENTS IN THE LAW OF INTERGOVERNMENTAL ORGANISATIONS DEALING WITH OUTER SPACE MATTERS

Chairman: Dr. Michel Bourély

Rapporteur: Mr. Rafaël Roelandt

This session, for which ten representatives of eight different intergovernmental organisations dealing with outer space matters had gathered, started with a presentation by *Mr. David Melzer*

of a paper written by *Mr. Donald D. Wear*, General Counsel of INTELSAT, entitled: 'INTELSAT: Evolving to Meet the Challenges of a New International Telecommunications Marketplace'. Given the changes in the marketplace of telecommunications, such as growth in competition, de-regulation and privatization of national telecommunications industries, INTELSAT has undertaken efforts to adapt to these changes. One of these efforts is 'direct access' which provides additional flexibility to INTELSAT Signatories in determining methods of access to the INTELSAT system by users within their territories. In an effort to increase productivity and promote greater customer responsiveness under INTELSAT's current organisational structure, INTELSAT has also initiated a 'Business Processes Re-Engineering' Project to revolutionize INTELSAT's way of doing business. A longer term restructuring effort is the 'subsidiary model'. This option contemplates the creation of a subsidiary or affiliate to at least initially be owned by INTELSAT, but allowing for the subsequent introduction of external capital.

The second presentation was given by *Mr. Alan Auckenthaler* of the International Mobile Satellite Organization (INMARSAT) on the latest developments in this Organisation. In May 1994, INMARSAT's Council decided to create the INMARSAT-P Affiliate which will operate a system of twelve satellites for mobile communications. The creation of this Affiliate raised the issue whether an inter-governmental organization may create an affiliate under national law and transfer a business opportunity to that affiliate. INMARSAT's Assembly interpreted the Convention in a dynamic way to enable the Council to go forward with its plans after having considered the policy implications of such a decision such as: the long-term future of INMARSAT if S-PCS services were provided through the Affiliate and whether the linkages with INMARSAT would give the Affiliate any unfair advantages over competitors. He also spoke of the current restructuring of INMARSAT. Full privatisation of the organisation seems unlikely because of its special role and responsibility of public services. Also, the Council must resolve whether INMARSAT should continue to operate as a cooperative with internal competition.

Dr. Gennady P. Zhokov gave a presentation on a paper written by him and *Victor S. Veshchunov* entitled: 'Fundamental Agreements of INTERSPUTNIK: Towards Consensus'. INTERSPUTNIK is on its way to become a commercial organisation. In order to achieve this, a number of legal problems had to be resolved. First of all, drafting of the Operating Agreement made it necessary to adequately modify and amend the Basic Agreement on the establishment of INTERSPUTNIK which has to be done simultaneously. 'Dual membership' was provided for those states which did not want to approve amendments to the Basic Agreement nor sign the Operating Agreement. All INTERSPUTNIK's Members will be confronted with new legal problems after the Basic Agreement will be amended. These problems are typical for INTERSPUTNIK, although the experiences of other organisations were taken into account.

Dr Mahulena Ho_ková of the Max Planck Institute for Comparative Public Law and International Law gave a presentation on new legal developments in INTERSPUTNIK. After an

explanation of the current legal basis of INTERSPUTNIK and a comparison with other international communications organizations she presented possible steps for the restructuring of INTERSPUTNIK. A new set of legal rules should not only be provisions regulating the position of and relation between the Signatories, but it is to be hoped they also add more transparency to relations among member states. The Basic INTERSPUTNIK Agreement will be supplemented by an Operating Agreement which should define the crucial terms in the Basic Agreement, the financing of the Organisation and Article 4 of the Basic Agreement. Another issue to be dealt with is the question as to guarantee the proportional representation of the Signatories in INTERSPUTNIK and its decision-making process.

Mr. Christian Roisse, Legal Advisor of EUTELSAT presented the recent developments in this organization. The Green Paper on Satellite Communications of 20 November 1990 of the European Commission proposed to "work towards a review of the EUTELSAT Convention and its Operating Agreement". EUTELSAT has since endeavoured to ensure that the procedures of the organization, and the way in which it functions, evolve, particularly with respect to the two points deemed fundamental for EUTELSAT in the Green Paper: firstly relaxation of the consultation procedures relating to economic harm in the case of a space segment separate from that of EUTELSAT being established or used to provide international public telecommunications services in Europe and, secondly, improved access to the space segment. Modifications under way in the short and medium term to meet these points are a broader interpretation of the Agreements between EUTELSAT and the Signatories and appropriate amendments to the Convention and Operating Agreement so that more than one Signatory per country will be allowed. Long term prospects for evolution are, for example, the creation of an affiliate or the creation of a purely private company.

The latest developments in EUMETSAT were presented by *Dr Volker Thiem*, Head of Administration of this organisation. One of the main legal developments in EUMETSAT is the amended Convention, enlarging the scope of its activities with operational climate monitoring and the detection of climate change. The new Convention also allows for 'optional' programmes instead of programmes unanimously agreed by all Member States, has changed the voting rules and has introduced 'ownership' by EUMETSAT of all data generated by its satellites. A new detailed set of procurement rules based on the principle of open international tender has been developed by EUMETSAT.

Prof. Francis Lyall of the University of Aberdeen presented a paper entitled 'Privatisation and International Telecommunications Organisations'. He compared the reaction of the major international bodies dealing with telecommunications to the trends towards privatisation and continued by asking if these trends comply with the 'interest for all' principle as laid down in Article I of the Outer Space Treaty. Other points that would need to be looked after in any development towards privatisation are: what will happen to the intellectual property rights that have been gained by or licensed to the international organisation in its activities to date and

which legal system will have jurisdiction over any new creation. Might they try and exercise an unwelcome influence or even control over the new companies ?

'The European Space Agency - Present and Future' was presented by *Dr Gabriel Lafferranderie*, Legal Adviser of ESA. After a short presentation of the history of ESA, the Convention of the Agency was explained. The flexibility of this Convention has helped ESA to adapt to the problems and changes with which it is confronted and to deal with, for example, the funding of its mandatory and optional programmes and the inscription levels of the member states therefore, and the funding of its operational activities. Also ESA was able to create a financial and monetary mechanism to deal with the effects of exchange rate fluctuations on the programmes themselves. The European Union is showing more interest in space activities. ESA and the EU are learning how to work together and a flexible mechanism associating all the actors (ESA, EU, industry, space agencies) towards the same objective, the European space policy, should be considered.

Mr. Cyril E.S. Horsford presented a paper in which the question is raised whether the ICAO is the model for an international space agency and whether an organisation like the ICAO is adaptable or relevant to spaceflight and the various space treaties. One of the advantages of an international space agency would be not so much to iron out economic differences between states but to deal even-handedly with all states, and administer its services and regulations without fear or favour towards any one country. Several proposals for future international co-operation in space matters have been made which would fall well within the competence of a projected space agency but ICAO in its present form would not be the organisation to deal with these matters. Spaceflight has developed independently of civil aviation and so far no conflict has arisen between the two jurisdictions. It seems desirable that this separation should continue, and adaption of ICAO and its constitution would not be the best option. If a new space agency would be created it should take over and combine certain functions of other organisations with powers to influence states that go further than those of the ICAO.

The last presentation of this session was given by *Dr Nandasiri Jasentuliyana*, Deputy to the Director-General of the United Nations Office at Vienna, Director of the Office for Outer Space Affairs and President of the International Institute of Space Law on 'Recent Developments in the United Nations activities relating to Outer Space'. The space law making process in the UN has gradually slowed down in recent years. However, some progress has been made during the last sessions of the Legal Subcommittee, especially on the definition and delimitation of outer space and on the agenda item which aims for the development of a legal regime that embodies and promotes the principle of Article I of the Outer Space Treaty. Recent developments in the UN scientific and technical activities are the space debris issue and the possible convening of a Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space (UNISPACE-III). Concerning the legal aspects of the space debris issue, it may be possible, by relying on already existing principles of space law, to have a regulatory mechanism of international standards and recommended practices which could be reviewed in COPUOS. Clear legal

guidelines for, for example, commercial use of outer space, manned space flight, global navigation satellite systems and global mobile telephone systems are also needed.

On Friday, 6 October, discussions were held on the presentations of the previous day. Ms. E. Galloway mentioned that the creation of an international space agency is not really necessary at present. An international agency already exists according to functions. To centralise these functions in one agency would cost too much and taking away mandates of, for example, ITU is not possible. A delegate at UNCOPUOS was also of the opinion that it is not yet time for an international space agency. It is not clear what its mandate should be, since other global agencies already exist and the role of governments is going down. Especially the distribution of remote sensing data will cause many problems in such an agency.

On the point of recommended standards and practices to be established by the United Nations, Prof. K.-H. Böckstiegel said that by creating 'soft law' progress could be made although we should not stop trying to achieve new conventions. Ambassador E. Finch added that the flexibility of such regulations is big and with the rapidly changing technical abilities this would be of importance. According to Prof. H. Wassenbergh, the problem with the recommended standards and practices is that there is no way of enforcing them. One should have to find a way to do this and that is difficult world-wide. Dr. N. Jasentuliyana mentioned that states should voluntarily act according to them.

SESSION 4: Other Legal Matters

Chairman: Prof. N.M. Matte (Canada);

rapporteurs: M.N. Nahuijsen and T. Kok (NL)

The first presentation was given by Mr A.A. Cocca (Argentina). He presented both his paper and that of his wife, Mrs M. de las Mercedes Esquivel de Cocca (Argentina). Her paper dealt with "Protocols to the Space Treaty". She proposed some amendments to articles IV-IX of the 1967 Outer Space Treaty. By updating the present legal regime the protocols could give a juridical framework to allow the free development of institutions and concepts such as commercial and industrial international activities, insurance for particular space operators, SETI etc., and therefore maintain their enforcement. In conclusion, the paper noted the necessity to update the Treaty with those concepts arisen after the Treaty entered into force and the urgent requirement of a legal framework for some new activities and institutions.

Mr A.A. Cocca then discussed his own paper on "Reservation of alunar zone for SETI purposes". He elaborated on a proposal of Dr. Jean Heidmann, an astronomer of the Paris Observatory, which has already been discussed in different scientific fora. In his proposal, Dr. Heidmann brings up the idea to reserve a crater in the Moon for SETI purposes. Mr. Cocca wants to offer an updated and wider basis for discussion on this subject, by initiating such a

discussion among international academic organisations, by focusing on the legal problems and eventually by finding a frame in which it can be elaborated. According to Mr. Cocca, the above mentioned issues may be solved if the IISL Board considers in a specific Colloquium session the Legal and Regulatory Issues Arising from the Protected Radio Astronomy Operation of the Earth with regard to legal aspects of the lunar crater proposal. The SAHA crater project would be the first concrete application of the principle of Common Heritage of Mankind.

Mr Hassan Safavi (Iran) discussed the need for a "Review of the Moon Agreement". The terms and conditions are not clear and do not safeguard the rights of the parties to the agreement. Therefore, taking into consideration article 18 of the Moon Agreement, it seems to be necessary to review the agreement. The author proposes some solutions for the establishment of a new regime to be adopted for the exploration, use and exploitation of the Moon. The method for the distribution of the mineral resources should be based on equitable shares. Dr. Safavi emphasised the fact that there would be no need to obtain prior consent of other states to explore the Moon.

The next paper was presented by Mr J. Monserrat Filho (Brazil). His topic was "On private, States' and international public interests in space law". The author deals with the need of establishing a clear structure among the aforementioned groups. The different interests must be translated into legal provisions. Therefore, international space law must be developed further by amending the 1967 Outer Space Treaty and by developing new treaties instead of declarations only.

Mr Yasuaki Hashimoto (Japan) described the purposes and tasks of the WEU Satellite Centre in his paper "Multilateral verification organisations: case of the WEU Satellite Centre". The WEU already studied the military use of space for the European defense in the 1980's. After the Gulf War, the WEU Council of Ministers decided to establish a satellite centre of its own. In 1993, the WEU Satellite Centre was established in Torr jon, Spain. Some of the purposes of the Centre are the demonstration of the application of space imagery for treaty verification, training of analysts, the development of computer techniques for image interpretation, and the supply of imagery interpretation for treaty verification and crisis monitoring.

Prof. Paul B. Larsen (USA) was the last speaker of the session and he focused on the "Use of Global Navigation Satellite System (GNSS) evidence for land surveys: legal acceptability". Being a lawyer, Mr. Larsen provides a legal view on Global Navigation Satellite Systems by examining how evidence produced by the Global Positioning System (GPS) would be used in Court by lawyers. The way lawyers use GPS-produced evidence in land surveying legal actions may be extended by analogy to other areas of the law, such as aviation litigation. Therefore, the author uses land surveying as the example. His conclusions are primarily based on the U.S. law of land surveying. GPS-generated evidence is indeed legally

acceptable in courts and other tribunals. This would tend to indicate that GPS-originated evidence would be similarly acceptable in other areas of the law, for example as evidence of the location of a ship, airplane, etc. or used for the collection of accident or weather data.

During discussions, Prof. Lyall (UK) asked to what extent GPS information is acceptable as court evidence. Prof. Larsen commented that there is an explosive development on this issue. Last summer two studies were initiated in the United States. Special agencies must be established. Prof. Rao (India) elaborated on the issue of these special agencies and stated that it was not the right time to establish international space agencies for this purpose.

Referring to this statement, Mrs. E. Galloway finally remarked by amending that it is not very practicable to have these space agencies. There are already organisations for these purposes, like the ITU, INTELSAT, etcetera. By creating new agencies their tasks will be taken away. Coordination in this field is necessary.