INTERNATIONAL LAW ASSOCIATION

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SPACE LAW COMMITTEE

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FINAL REPORT ON THE REVIEW OF SPACE LAW TREATIES IN VIEW OF COMMERCIAL SPACE ACTIVITIES – CONCRETE PROPOSALS

By Professor Maureen Williams
General Rapporteur

SUMMARY: I. Introduction. II. The 1967 Outer Space Treaty. III. The 1972 Liability Convention. IV. The 1975 Registration Convention. V. The 1979 Moon Agreements. VI. Proposals from Committee members. VII. The UN Principles. VIII. Matters under permanent review by the Space Law Committee. IX. New topics for future work of the Committee. A vote of thanks.

I. INTRODUCTION

On 27 July 2000 the Plenary Session of the 69th Conference of the International Law Association, having adopted the Report of the Space Law Committee entitled "Review of Space Law Treaties in View of Commercial Space Activities", requested its Space Law Committee to

> **elaborate concrete proposals regarding possible amendments of, as well as possible supplements to, the UN space law instruments in view of commercial space activities, to be presented to the next ILA Conference in 2002[1].**

Over the span of two years which elapsed between the 68th (Taipei 1998) and 69th (London 2000) Conferences, the Space Law Committee was involved in the revision of four of the five Space Treaties in force[2]. For this purpose four Special Rapporteurs were appointed as follows:

[1] ILA Resolution 13/2000, Part 1.(Review of the UN SpaceLaw Instruments in View of Commercial Space Activities).
[2] The Space Law Committee considered that, for the time being at least, the Astronauts Agreement should not be the object of revision.

- **Professor Dr. Stephan Hobe** (1967 Space Treaty)
- **The present General Rapporteur** (1972 Liability Convention)
- **Professor Dr. Vladimir Kopal** (1975 Registration Convention)
- **Dr. Frans von der Dunk** (1979 Moon Agreement)

The findings of the four Special Rapporteurs were discussed at length during the drafting of the London Report where a summary thereof was included. The emerging proposals were thoroughly analysed at the working session of the Committee during the London Conference in July 2000 which, as quoted above, instructed our Committee to "submit concrete proposals" on the subject.

A great part of the essence and central questions of the London Report -in which the **General Rapporteur** examined the various positions and commented upon the Special Reports- still stands in the present text. Therefore, for further detail on these issues the reader is referred to the Report of the Space Law Committee to the London Conference and proceedings of the working session[3].

Briefly, the underlying idea was that efforts should be made to keep the Space Treaties untouched and that, rather than introducing amendments to meet the requirements of the present state of the art, separate instruments should be adopted where necessary so as to give a more precise meaning to certain provisions of the reviewed Treaties. The general view was that these - potential - instruments should be in the form of principles and guidelines, codes of conduct or UNGA Resolutions given the reluctance of States to move towards binding international instruments in todays's world.

The foregoing thinking, per contra, does not apply to the Moon Agreement. This question to which attention will be drawn later, calls for a separate treatment.

Let us now take a look at the steps taken in pursuance of the mandate of the ILA London Conference.

At the end of 2000 the Chairman of the Space Law Committee, **Professor Böckstiegel,** requested the four Special Rapporteurs to elaborate further on their London proposals and invited the Committee members to send in their own views and suggestions in accordance with the terms of reference of the London Conference. To this end the Committee chairman suggested special reference be given to

1. A clarification of certain terms in the Space Law Treaties to make them more consistent with the commercial aspects of space activities, *inter alia*

(a) space object
(b) damage
(c) launching state

2. A more detailed ruling on international responsibility of states for all national space activities, including those by non-governmental entities, after an analysis on present related rulings in Article VI of the OST, the Liability Convention and the Registration Convention and other fields of international law.

3. Options for an improved wording of Article 11 and other relevant provisions of the Moon Agreement after an analysis of the reasons for the poor ratification record of that Agreement.

4. Further suggestions regarding certain details, as they may be found in the Report of our Committee to the London Conference, some of which were discussed during the Space Law Working Session of that Conference.

[3] See REPORT OF THE SIXTY-NINTH CONFERENCE, London 2000, pp.571/595 (Report of the Space Law Committee) and pp. 596/603 (Working Session).

In the first quarter of 2001 answers and proposals were received from the Special Rapporteurs as well as from Committee members. In this sense **Judge Guillaume, Professor Christol** and **Professor Perek** provided valuable ideas. To all of them our sincere thanks.

What follows is, therefore, the **General Rapporteur's** summary of these ideas and proposals coupled with some comments and suggestions of her own.

II. The 1967 Space Treaty

There is general agreement on the flexible nature of this Treaty, rightly referred to as the Treaty on General Principles. It is valid to say that its provisions, today, cover most of the assumptions of commercialisation and privatisation of space activities. Yet, as observed by the Special Rapporteur on this topic, **Professor Hobe,** a few adjustments would, in fact, be advisable having in mind that this Treaty entered into force at a time when the commercial implications of space activities were hardly present in the minds of its drafters.

No doubt, as **Professor Hobe** indicates, the 1996 UNGA Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interests of all States, Taking into Particular Account the Needs of the Developing Countries, is of utmost interest where the commercial uses of outer space are concerned. In his view this Declaration proclaims an authoritative interpretation of the position of the States Parties concerning the permissible economic uses of Outer Space.

Indeed, the creation of the WTO and the adoption of the General Agreement on Trade and Services (GATS) as well as the Trade Related International Property Agreeement (TRIPs) may be seen as consistent with the wording and spirit of the 1967 Treaty. On this basis, the Special Rapporteur recommends only slight changes for the 1967 Treaty by means of a separate Protocol which, in addition to reinforcing its provisions, should provide some clarification on the meaning of certain terms, viz., the common benefit clause, the obligation of registration and the establishment of binding mechanisms for dispute settlement.

In brief, the proposal on the Outer Space Treaty, based on **Professor Hobe's** Special Report to the London Conference and subsequent elaboration, introduces minor changes to articles VI and VIII of the 1967 Treaty by means of a Protocol composed of four articles. The proposed instrument, however, does not affect the general principles upon which the 1967 Space Treaty is built. Hereunder the suggested Protocol.

Proposal for a Protocol to the 1967 Outer Space Treaty

CONSIDERING the merits of the Outer Space Treaty in providing guidance for space activities since 1967,
NOTING the growth, in recent years, of the commercial uses of outer space by states, international organisations and private enterprises,
NOTING FURTHER the change within the international economic order since the adoption of the WTO Agreement, and the GATS and TRIPS Agreements, as well as the entry into force of the Law of the Sea Convention and the 1994 Agreement on the Implementation of Part XI of that Convention,
HAVING IN MIND the 1996 UNGA Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of all States, Taking into Particular Account the Needs of the Developing Countries,
The Contracting Parties have adopted the following ***Protocol on Commercial Space Activities*** to give a more precise meaning to the principles embodied in Articles I.3, VI and VII of the 1967 Outer Space Treaty.

Article 1 (Addition to Article I, para. 3 OST)

1. States Parties hereby agree that the use of outer space and celestial bodies is inclusive of all commercial uses.
2. States Parties are free to define the way in which they shall implement the principle of international cooperation. All commercial uses of outer space and celestial bodies shall be carried out for the benefit and in the interest of all states, irrespective of their degree of economic or scientific development, and

shall be the province of all mankind. Particular account shall be taken of the needs of developing countries.

Article 2 (Addition to Article VI OST) [4]
States Parties undertake to enact national legislation concerning authorisation and continuing supervision of space activities carried out by non-governmental entities.

Article 3 (Addition to Article VIII OST)
States Parties are under the obligation to register any object launched into outer space both on their national registers and on the international register maintained by the Secretary-General of the United Nations in accordance with the Convention on the Registration of Objects launched into Outer Space.

Article 4 (New rules concerning the peaceful settlement of disputes)
States Parties undertake to adopt an international legal instrument on the peaceful settlement of disputes which should include provisions for binding mechanisms. In this sense, the 1998 ILA Convention on the Settlement of Disputes related to Space Activities is referred to as a model.

Comments by the General Rapporteur to the suggested changes (OST)

It is believed that Article 4 of the suggested Protocol is ideal from a strictly legal angle but perhaps too stringent to impose in the present international scenario where, as indicated at the outset of this Report, States and other subjects of public international law do not see with favour the adoption of binding international instruments. Thus, as has been the practice within this Space Law Committee, it is recommended to start at a low level of compulsion. Alternatively, the following drafting is suggested by the **General Rapporteur**:

"States Parties undertake to give serious consideration to the possibility of adopting an international instrument on dispute settlement relating to space activities containing options for binding and non-binding procedures. To this end, the 1998 ILA Convention on the Settlement of Disputes related to Space Activities is hereby referred to as a model".

III. The 1972 Liability Convention

The present writer was in charge of the review of this Convention for the London Conference. Therefore this topic shall be addressed in the first person.

What I considered to be outstanding issues within this Convention was discussed and analysed within the London Report to which reference is made hereby. In the last months not many changes have occurred in the international arena in connection with international responsibility and liability for space activities except, of course, their continuous growth[5]. The outstanding questions, extensively debated during the preparation of the London Report and at the London Conference, were focused on :
- the definition of damage (Article I)
- the applicable law (Article XII)
- dispute settlement (Article XIX)

In the following lines I shall summarise the major issues involved and ensuing concrete proposals.

1. Definition of Damage

[4] Most of the members of the ILA Space Law Committee consider this commitment implicit in article VI of the 1967 OST. The proposed Article makes the obligation clearer.
[5] The reader is referred, for further details, to the REPORT OF THE SIXTY-NINTH CONFERENCE OF THE ILA, Report on "Review of the Space Treaties in View of Commercial Space Activities" by the present writer, and procedures registered at the London Working Session of the Committee.

It is believed that Article I of the Convention is wide enough to cover damage caused by all related space activities such as, for example, damage caused during launching operations or refuelling of space objects on Earth.

Having said this, I do accept the definition could be improved on and, as suggested by some publicists, be redrafted to cover damage caused by space debris. There are, no doubt, gaps in the law but none of them appears insurmountable[6].

Professor Dr. Ing. Dietriech Rex who, together with **Professors Ricciardi** * and **Perek** is a Scientific Consultant of this Committee, holds that damage caused by space debris to the space environment is not covered by the Liability Convention and sees an urgent need for a new legal instrument considering the economic implications of this risk.

I totally agree with **Professor Rex** that the Liability Convention should not be amended to include damage caused by space debris and that the adoption of an international instrument to govern the matter should take pride of place.

It should be pointed out, however, that the gaps in Article IX of the 1967 Space Treaty and Article I of the Liability Convention are conveniently covered by the 1994 ILA International Instrument on Space Debris which - it is hoped - will serve as basis for discussing the question in the Legal Subcommittee of COPUOS whenever this body decides to take up the topic. As **Professor Rex** observes, the rapidly expanding market of telecommunications, which will possibly include up to twenty satellite constellations with up to two thousand satellites together in the low orbits, is reason enough to have clear legal rules on the matter[7].

This question was also addressed at the 43rd Colloquium on the Law of Outer Space organised by the International Institute of Space Law[8] and views were voiced in the sense that the Liability Convention should be amended to include space debris in the definition of damage. However so, the present writer does not fully agree with this idea.

All of us are aware of the difficulties involved in the amendment of an international convention. This would necessarily lead to different groups of States Parties (accepting or rejecting the amendment) with the ensuing complexities arising from this situation. Furthermore, and following **Bin Cheng**[9], the moment does not appear propitious for the amendment of the Space Treaties, the political will of the space-faring countries is lacking and there does not seem to be a perceived need among them for changes in the definition of damage provided by the 1972 Liability Convention. Conversely, time seems ripe to move towards the adoption of a specific instrument on space debris. To which one of course may add, as a first step, the inclusion of this topic on the agenda of the Legal Subcommittee of COPUOS.

Conclusion on Article I of the Liability Convention: it should remain as it stands. Efforts should be conducted towards the inclusion of the legal aspects of space debris in the agenda of the Legal Subcommittee of COPUOS.

2. The applicable law

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* The passing, on 23 September 2000, of Prof. Engineer Humberto J. Ricciardi (Argentina), a constant provider of valuable thoughts and experience to the work of this Committee, is deeply regretted by all.

[6] It is sometimes difficult to prove whether certain kinds of environmental damage really fall under the definition of Article I of the Liability Convention. Bin Cheng, in his comments on the London Report, makes reference to the Cosmos 954 incident which gave way for the Soviet Union to maintain that the settlement was outside the Liability Convention. In practice, however, the issue was settled by negotiation.

[7] See REPORT OF THE SIXTY-NINTH CONFERENCE OF THE ILA, London 2000, pp.580-581.

[8] See Proceedings of the 43rd Colloquium on the Law of Outer Space, AIAA, Rio de Janeiro, October 2000, Session 4 on "Other Legal Matters", in special, pp. 359 et seq.

[9] See Bin Cheng's book STUDIES IN INTERNATIONAL SPACE LAW, Clarendon Oxford 1997, chapter on "Commercial Development of Space", p.666.

The idea that Article XII of the Liability Convention is exclusively related to public international law and that it does not raise a conflict of laws has gradually gained ground. Moreover, the principles of "justice and equity" to which this Article refers are not as vague and abstract as part of the doctrine has contended in the past.

Conclusion on Article XII of the Liability Convention: this Article should not be amended.

3. Dispute Settlement

A move towards compulsory procedures through the amendment of the Liability Convention does not appear a realistic course of action in the international context of today. The attitude of States is clearly against the adoption of binding commitments so, as observed earlier, the moment is not the best to propose rules of the kind. From an exclusively legal standpoint it would be desirable to have compulsory mechanisms within this text; however, the harsh facts of politics make it impossible for the moment.

A mid-way solution may be found in Article XIX, second paragraph of the Liability Convention which contains an optional clause opening the door to the possibility of having binding awards. It provides

> The decision of the Commission shall be final and binding if the parties have so agreed; otherwise the Commission shall render a final and recommendatory award, which the parties shall consider in good faith. The Commission shall state the reasons for its decision or award.

If this provision is read together with paragraph 3 of UNGA Resolution 2777 (XXVI) relating to the binding effect of the Claims Commission's decisions and awards, we cannot escape the fact that Austria's proposal to the Legal Subcommittee of COPUOS implies a sensible course of action at the moment. This proposal, made in 1998, is aimed at encouraging States Parties to the Convention to avail themselves of that option.

Conclusion on Article XIX of the Liability Convention: no amendments proposed. On the basis of this article and UNGA Resolution 2777 (XXVI), third paragraph, States should be prompted to accept in advance the binding force of the Claims Commission's decisions and awards.

Recommendations on the Liability Convention as a whole: no amendments suggested. Efforts should be conducted towards the widest possible acceptance of the binding nature of awards and decisions stemming from the dispute settlement procedures embodied in the Convention.

Efforts should be equally directed towards the inclusion of the legal aspects of space debris in the agenda of the Legal Subcommittee of COPUOS. In this way, in addition to having a specific definition of damage caused by space debris, we would advance in the consideration of the threats and risks arising from this type of damage and legal remedies thereto.

IV. The 1975 Registration Convention and related issues

The Registration Convention was subjected to careful analysis by **Professor Kopal,** the Special Rapporteur appointed for that purpose, whose perceptions and proposals form part of the Committee's Report to the London Conference.

In the first place, it should be noted that in **Professor Kopal's** view, fully shared by the Committee members, the Registration Convention is only remotely related to the commercial sides of space activities. Nonetheless, some of its provisions call for improvements, especially article I on definitions, and the need to define the "launching state" - a problem in common with the Liability Convention. This idea is strongly recommended by **Professor Bin Cheng** in his comments to the London Report[10].

The Special Rapporteur recommends, first and foremost, the unification of national registries and the adoption of more detailed requirements concerning space objects (thus, Article IV should be supplemented, especially

[10] Ibid., p. 585 et seq**.**

from the technical standpoint). On this point **Professor Kopal** fully agrees with **Professor Perek** as will be seen later. The former believes, further, that entries in national registries and information furnished for inclusion in the UN Register, as provided in Articles II, III and IV of the Registration Convention, should be reviewed. It is important nowadays to ease identification, not only of the launching State or States, but also of other entities participating in space activities as well.

Dual registration, in **Kopal's** view, should enable to give sufficient information about the characteristics and extent of space activities which are relevant for the purposes of registration. The above-mentioned provisions should be re-examined having in mind the development of commercial space activities and the participation of a variety of actors, as well as the change of subjects in the performance of such activities. Likewise, due account should be taken of the experience and prospects of different complex space systems consisting of constellations of space objects involving several actors.

Professor Kopal mentions two options by means of which the interpretation and application of the existing space law instruments should be improved on, namely

- legally binding implementation agreements or protocols to the existing Outer Space Treaties in order to shed more light on their provisions without touching upon their substance, or
- UNGA Resolutions recommending States Parties to the UN Space Treaties the ways and means of interpreting and applying the respective provisions of those treaties within the changing conditions in which space activities are presently being carried out.

Whatever option is eventually chosen for the desirable clarifications, it is the view of **Professor Kopal** that it should consist of a separate instrument rather than the introduction of amendments within the text of the Outer Space Treaties in force.

General conclusion on the Registration Convention: the Special Rapporteur on this topic suggests a cautious approach to the review of the Space Treaties having in mind that the international situation is unfavourable to changes of the kind. This is particularly applicable to this Convention related – only distantly - to commercialisation issues.

Professor Kopal has also provided valuable thoughts on other matters listed by the Chairman of our Space Law Committee with the objective of making proposals to the New Delhi Conference, as follows.

1. **International responsibility** for national activities in outer space and international liability for damage caused by space objects (Articles VI and VII of the 1967 Space Treaty). These principles should be interpreted and applied in a way similar to Article 139 of the 1982 Law of the Sea Convention relating to activities in the Area of the seabed and ocean floor and subsoil thereof (which includes the requirement of effective control and establishes joint and several liability on States Parties and international organisations).

2. Definition of space object: the definition spelled out in Article I of the Liability Convention and Article I of the Registration Convention should be related to the definition of space debris as proposed in paragraph 6 of the UN Technical Report on Space Debris and other relevant documents. On this point, the **General Rapporteur** observes that the latter definition is very close to the one adopted by the ILA in 1994 in the framework of the Buenos Aires International Instrument on the Protection of the Environment from Damage caused by Space Debris.

V. The 1979 Moon Agreement

Most of us present at the Space Law Working Session of the ILA London Conference, in July 2000, or who have glanced through our Report to that Conference, surely remember the staunch position of **Dr. Frans von der Dunk,** the Special Rapporteur for this Agreement, concerning the need to "improve on it or discard it".

In the wake of that Conference the Special Rapporteur gave considerable thought to these questions and his stand, at first sight, became harsher. However, instead of recommending the total deletion of this Agreement,

Dr. von der Dunk suggests changes to a number of provisions thereof, particularly to Article 11. In this way, a straightforward answer is given to **Professor Böckstiegel's** request listed at the outset of this Report, regarding the reasons for the poor support received by the Moon Agreement since its coming into force in 1984.

On second thoughs, **Dr. von der Dunk's** amendments are not as dramatic as they initially appeared to be. They are, in fact, a sensible set of adjustments entirely consistent with the state of the art today.

At the root of the **von der Dunk** proposal is the deletion of the formula "common heritage of mankind" (CHM) which he replaces with "the province of all mankind". This is a rather more flexible and elusive expression stemming from the English version of the 1967 Space Treaty. In **Dr.von der Dunk's** view the obscurity surrounding the concept of CHM accounts for the low number of ratifications obtained so far by the Moon Agreement. This reasoning is shared by most of our Committee members and a great part of the contemporary publicists.

Be that as it may, the most drastic proposal advanced by our Special Rapporteur is, really, the deletion of the terms ***"or natural resources in place"*** in the first sentence of Article 11.3 of the 1979 Agreement. This change is far more significant - albeit less conspicuous in the text of the Agreement - than the switch from "common heritage of mankind" to "province of all mankind" or, as suggested by the **General Rapporteur**, "common concern of all mankind", as will be discussed later.

Dr. von der Dunk's proposal also deals with yet another problem blocking the effectiveness of the Moon Agreement, namely the international régime to be set up once the exploitation of moon resources becomes feasible (Article 11.5 and 11.6 of the Agreement). The Special Rapporteur suggests more realistic rules on this question which, at the same time, will help dissipate doubts on the existence of a moratorium on the exploitation of moon resources until the envisaged international management régime is set up[11], a question extensively debated during the 60th Conference of the ILA (Montreal 1982). In accordance with the proposed Article 11.5, in fine, these activities would be permissible today provided no serious harm is caused to the interests of other States Parties, including their economic interests, and that the moon environment is not put at risk. Moreover, the suppression of Article 11.7 (d) concerning the equitable sharing of benefits implies, rather than a radical change, a down-to-earth adjustment of the original text.

The Special Rapporteur underlines a new legal problem noteworthy for its implications. The issue is of very recent vintage and relates to claims to "real estate" on the moon. On this point the following example is brought to our attention: a US citizen has been selling plots on the moon to tens of thousands of people and could, in this way, be creating a new legal reality unless the international community acts inequivocally in establishing a clearer legal régime. **Dr. von der Dunk** includes this new issue within the present terms of reference of our Committee. This naturally leads him to an amendment of paragraph 3 of Article 11 of the 1979 Agreement where the possibility of claiming rights of ownership over the moon or any areas thereof is ruled out.

The proposed amendment to Article 4.1 introduces the contemporary idea of "inter-generation" responsibility, a concept closely linked to sustainable development and good governance, and should be welcomed. Hereunder the text of **Frans von der Dunk's** proposed amendments.

Proposed Amendments to the Moon Agreement

1. Amendment of Article 4.1

"The exploration and use of the moon, *including commercial exploitation and use*[12], shall be the province of all mankind and shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development. *Commercial exploitation and use are, however, only allowable*

[11] This question was thoroughly discussed by the ILA Space Law Committee at the ILA 60th Conference, Montreal 1982. See REPORT OF THE SIXTIETH CONFERENCE OF THE ILA.

[12] The proposed amendments by Dr. von der Dunk are in italics. The present writer's suggestions are in square brackets.

[permissible] in conformity with the provisions of Article 11. Due regard shall be paid to the interests of present and future generations as well as to the need to promote higher standards of living and conditions of economic and social progress and development in accordance with the Charter of the United Nations".

2. Amendment of Article 11. 1

"The moon and its natural resources are the *province of all mankind [the common concern of all mankind]* [13], which finds its expression in the provisions of this Agreement and in particular in paragraph 5 of this Article".

3. Amendment to Article 11.2

"The moon is not subject to national appropriation by any claim of sovereignty, by means of use or occupation, or by any other means. *This shall not preclude any commercial exploitation or use as long as in conformity with the provisions of this article, other articles of this Agreement or any legal régime regarding commercial exploitation and use to be established on the basis of this Agrement."*

4. Amendment to Article 11. 3

"Neither the surface nor the subsurface of the moon, nor any part thereof [14] shall become property of any State, international intergovernmental or non-governmental organisation, national organisation or non-governmental entity or of any natural person. The placement of personnel, space vehicles, equipment, facilities, stations and installations on or below the surface of the moon, including structures connected with its surface or subsurface, shall not create a right of ownership over the surface or subsurface of the moon or any areas thereof. The foregoing provisions are without prejudice to the international régime referred to in paragraph 5 of this article."

5. Amendment to Article 11. 5

"States Parties to this Agreement hereby undertake to establish an international régime, including appropriate procedures, to govern the exploitation of the natural resources of the moon, *including commercial exploitation by non-governmental entities. Such international régime should include, as minimum*
-the duty of establishing a licensing obligation by means of national law [legislation] for every State Party whose non-governmental entities are interested in undertaking relevant activities ;
-guidelines for the licensing requirements to be imposed;
-the duty of establishing a transparent, fair, and comprehensive monitoring system in respect of activities thus licensed,
-a procedure for international registration of activities on the moon licensed in accordance with this régime, including payment of a reasonable registration fee to the international authority charged with such registration; and
-a procedure for providing other States Parties involved, or their non-governmental entities involved, with reasonable means to ascertain that their rights and interests are duly respected.

In the absence of such a régime, commercial exploitation and use of the moon will be permitted on condition that no commercial exploitation or use of the moon should cause serious harm to the interests of other States Parties including their economic interests, no substantial risk should affect future exploitation and use, and the moon's environment should not be put substantially at risk[15]*. Likewise, such commercial exploitation and use will continue to be subject to the provisions of this Agreement, including the general principles of paragraph 7."*

6. Amendment to Article 11. 7

[13] The present writer has added an alternative, viz. "the common concern of all mankind".
[14] The words "or natural resources in place" are deleted in this proposal, as explained previously.
[15] This and the previous paragraph have undergone minor editing changes in the final text of this Report.

"The main purposes of the international régime to be established shall include:
(a) The orderly and safe development of the natural resources of the moon;
(b) The rational management of those resources;
(c) The expansion of opportunities in the use of those resources.
(d) this provision is suppressed in Dr. von der Dunk's proposal.

7. Deletions and re-numbering

The Special Rapporteur proposes the deletion of Article 18 (dealing with the review of the Moon Agreement), the consequent re-numbering of Articles 19-21 as Articles 18-20; and the re-numbering, in Article 16, of the references to Articles 17 to 21 which should read as references to Articles 17 to 20.

8. Proposed Resolution on the Moon Agreement

Dr. von der Dunk has sent in a draft resolution concerning the above topic which will be taken into account for the drafting of the Committee's proposed Resolution to the New Delhi Conference.

Comments by the General Rapporteur on the Moon Agreement and related issues

Unlike the case of the 1967 Space Treaty whose provisions have been supplemented and clarified by **Professor Hobe's** suggested Protocol, in the case of the Moon Agreement the underlying idea is, no doubt, to have a "1979 Moon Agreement as amended by .....", or a "Revised Text". As can be seen, the carefully thought out changes suggested by **Dr. von der Dunk** to "save" the 1979 Moon Agreement are not as dramatic as they originally seemed to be.

From the historical perspective, however, these changes affect provisions which were the object of profound - and sometimes vitriolic - debates and compromise within the Legal Subcommittee of COPUOS in the early seventies, between the delegations of developing countries and of the then Soviet Union.

In later years, the precedent provided by the Law of the Sea, and difficulties arising from Part XI (dealing with the Area, particularly article 136 providing that the Area and its resources are the common heritage of mankind) became illustrative on this point. As is known, this situation led to the conclusion of the 1994 New York Agreement on the Implementation of Part XI, and only then was the door open for the 1982 Law of the Sea Convention to become effective.

Before taking a final decision on the deletion of the CHM clause let us go back for a moment to the acid discussions registered within the Legal Subcommittee of COPUOS over article 10 of the 1972 Draft Text of the Agreement stating that the natural resources of the moon and other celestial bodies were a common heritage of mankind. In those days the whole of this text was then put between square brackets thus indicating a complete lack of consensus on the matter.

This situation prompted the Soviet Union to submit a Working Document to the Legal Subcommittee of COPUOS ON 28 March 1972 where the expression "common heritage of mankind" was severely questioned on the grounds that, pursuant to the 1967 Treaty, the moon and other celestial bodies could not become the property of anyone and, in addition, that the concept of "heritage" was closely intertwined with the right of ownership or of property. If a thing belonged to nobody it could not - according to the Soviet document - become the heritage of anybody [16]. This approach, at the time, left a number of delegations to the Legal Subcommittee of COPUOS particularly uneasy.

In response the Argentine delegation, as a kind of rebuttal to the Soviet stance, submitted a working document containing a deep discussion on the width, length and implications of a number of terms related to "property", "ownership", "heritage", "succession" and others, in the different legal systems of the world, and

[16] Doc. A/AC.105/115, 27 April 1973, pp. 24-25.

recommending the replacement of the formula "province of all mankind" with "common heritage of mankind"[17], as it now stands.

The Soviet Union, for its part, remained firm in its position until 1978 when a slight change of attitude was perceived within the Legal Subcommittee of COPUOS. However, it was not until 1979, when a number of delegations made public their discouragement on the lack of consensus over crucial aspects of the UN Draft, that the USSR decided to become more flexible and compromising[18].

In the world of today the suppression of the CHM formula - in the Special Rapporteur's own words - may not be politically wise. True enough. The **General Rapporteur** believes that the CHM concept - if still undefined - is an important element for negotiation between industrialised and developing countries inasmuch as it is developed and used within each specific context and subject. This is quite different from invoking and applying an abstract formula without exactly knowing what its dimension .and consequences may turn out to be and which, so far, has given way to confusion and reluctance in going along, *inter alia*, with the text of the Moon Agreement. Perhaps the wording of this formula could be adjusted to be consistent with other international instruments of our time.

In the field of international environmental law, for instance, the situation is illustrative when dealing with topics and areas of unquestionable **concern to mankind**. Let us take the protection of the ozone layer in light of the 1987 Montreal Protocol. In this context developing countries whose consumption of CFCs and other chemical products containing chlorine and bromine falls below a certain figure - calculated *per capita and per annum* -only become bound by the restrictions imposed by the system ten years after they become parties to the Protocol[19]. The protection of the ozone layer is - doubtless - a **common concern of all mankind.** And so is the moon and its resources.

If we apply this reasoning, *mutatis mutandi*, to the Moon Agreement, insofar as the amendment suggested to Article 11.1 by the Special Rapporteur is concerned, the adoption of the term "common concern of all mankind" is suggested *in lieu* of "province of all mankind" which still remains vague and has different connotations depending on the language and area in which this provision is considered. We would be back, for example, to "*apanage*" in the French version and "*incumben"* in the Spanish text which are not exactly synonymous. In addition, the formula "common concern of mankind" is increasingly favoured in the field of modern international law.

One second point. A frequent objection when amendments to multilateral treaties are considered is that, from a practical stance, it appears just as difficult to amend the Treaty as to agree on a new one.

If, in our case, we follow the first course of action, i.e. to "save" the Agreement by introducing amendments, then we would - theoretically, at least - become immersed in the issue of having, on the one hand, States Parties to the original Agreement (only nine, however, to date) and, on the other, States Parties to the amended Agreement. This entails the complications arising from the application of Part IV of the Vienna Convention on the Law of Treaties, particularly articles 40 and 41 on amendments of multilateral treaties and agreements to modify multilateral treaties between certain of the parties only.

Yet, on looking closer, and in light of the changes suggested by **Dr. von der Dunk**, it may be reasonably expected that the nine States Parties to the 1979 text will have no great difficulties in becoming bound by the amended text. In addition, the new provisions may seem more acceptable to the - so far detached - members of the international community.

Another source of trouble, apart from the difficulties surrounding the CHM concept, is the fact that the Moon Agreement only required five ratifications to enter into force. This took place on 11 July 1984.

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[17] Doc. A/AC.105/115, Annex I, pp. 29-31.

[18] See, by the present writer, ***"International law before and after the Moon Agreement",*** in International Relations, London, Vol. VII, N°2, 1981.

[19] 1987 Montreal Protocol on Substances that Deplete the Ozone Layer (article 5 and subsequent modifications introduced by the Meetings of the Parties in later years).

Contrary to the previous Space Treaties - which established a similar requirement but where the number of ratifications and accessions constantly grew - in the case of the Moon Agreement very few States have become parties to date. This implies an undesirable contradiction.

The "five ratifications" requirement was perhaps advisable in the early days of the space age in order to encourage the effectiveness of the Space Treaties. In this respect it has worked well. The Moon Agreement, however, is now illustrative of the contrary. More than thirty years on the world scenario is entirely different and the "five ratifications" formula ought to be reviewed. This fact should be especially borne in mind by our Committee when submitting proposals of the kind.

VI. Contributions from Committee members

As indicated earlier useful ideas were received from our distinguished Committee members on the topics of reference, which will be summarised in the following lines.

Judge Gilbert Guillaume

Judge Guillaume, present president of the International Court of Justice, has referred us, in connection with terminology and the clarification of terms, to the *Dictionnaire de Droit International Public* recently edited by **Professor Salmon** in Brussels, which contains entries for all the identified terms. From this source, Judge Guillaume has sent us a list of definitions in the French language concerning "*espace extra-atmosphérique*", "*patrimoine commun de l'humanité"* with an interesting reference to "*l'intérêt de l'humanité toute entière" and "la préoccupation commune de l'humanité",* to which mention is made in the 1992 Rio Declaration on the Environment and Development, as well as in the conventions stemming from that Conference, i.e., the UN Framework Convention on Climate Change and the Convention on Biological Diversity.

In addition, the list includes a definition on space object reading

> *Objet construit par l'homme, destiné à être utilisé dans l'espace extra atmosphérique. En pratique l'objet spatial n'acquiert sa spécificité qu'à partir du moment où il est lancé dans l'espace.*

We may also find a definition of "*dommage en droit spatial*" and the different kinds of damage from the legal point of view of *"État de lancement d'un objet spatial"* and others.

Professor Lubos Perek

Professor Perek, for many years a Scientific Consultant of this Committee which benefits from his sharp interdisciplinary views, has elaborated thoughts on the following issues.

1. **Clarification of terms**

This expert is very much in favour of clarifying the terminology, pointing out that the ITU regulations - which have the force of law - contain close to two hundred "terms and definitions" which - he observes - is in conspicuous contrast to the Space Treaties which contain very few definitions. In **Professor Perek's** opinion space law is in strong need of definitions not only in the field of commercialisation but also concerning all the issues arising from space debris.

The ITU system of definitions contains many terms of a general nature, such as "deep space", "active satellite", "orbit", "space station", "interference" and so forth. Professor Perek recommends that these definitions should be taken into account in any future work.

Of special importance are the definitions of "outer space" and "space object". In our Scientific Consultant's view the statement proclaiming that the lack of a definition of outer space has created no problems is, in fact, incorrect. In this sense he mentions the different attitude of States towards the geostationary orbit brought about since 1976 as a result of the "Bogotá Declaration" observing that, as recently as February 2001, the

Scientific and Technical Subcommittee of COPUOS was unable to reach consensus on the simple fact that the geostationary orbit is part of outer space.

2. **International responsibility of states for national space activities.**

Professor Perek considers this a most important point. It seems that commercial satellites in GEO cannot always be re-orbited to recommended junk orbits because of the pressure of shareholders to increase profit in the last stages of the active lives of these satellites. The only solution seems to be mandatory regulations.

3. **Further suggestions**

Professor Perek fully supports the proposal made by **Professor Kopal**, as Special Rapporteur on the Registration Convention, that national registries kept by launching states should be unified. This proposal is equally supported by **Professor Bin Cheng**. The need for unification became rather obvious as a result of the publication, on the Internet, of the Online Index of Objects launched into Outer Space. This index lists in a systematic way all the information contained in the governmental announcements made in compliance with the Registration Convention.

Professor Carl Q. Christol

Professor Christol centered his comments, received in the form of two proposals, on "Inducements to Encourage Human Activities in the Space Environment" (directed towards a review of the Liability Convention) and "Implementation of the Common Heritage Principle". A summary follows .

1. **Inducements to Encourage Human Activities in the Space Environment (Christol Proposal)**

A realistic approach to the funding of space activities depends on the existence of an acceptable legal régime identifying liability for damages. Such a régime can be founded on unlimited liability. A second option can be limited liability. In both situatins there is a role for insurance.

Limited liability has been accepted for international aviation and for such domestic activity as the operation of nuclear power facilities. In the United States much attention has been given to the limitation on giving to political parties. Other examples exist.

Space debris, resulting from human activities, can produce harm to persons and property. Practical efforts to mitigate the prospect of debris-based harm are being studied. Such efforts should be augmented by an analysis of whether a legal régime of limited liability would also encourage the investment of large sums in socially desirable space activities.

To initiate the discussion of this subject it is suggested that an international agreement be entered into fixing as compensation for harm (damages) on the part of the launching State (including the private legal entities of such State) at one billion dollars.

When two or more States engage in cooperative scientific and technological efforts to render space debris harmless to persons and property, the liability of a launching State for damages caused to persons and property shall not exceed five hundred million dollars. This benefit shall accrue only to the foregoing cooperating States.

2. **Implementation of the Common Heritage of Mankind Principle (Christol Proposal)**

Proposal A: Where Exploitative Activity is Carried On by a Private Firm

When a private firm has engaged in the exploitation of moon and celestial bodies and has realized a net profit on its investment in such activities for a period of seven successive years, it shall thereafter pay a certain percentage (for example, twenty five percent) of its net profit to the United Nations. Such funds are to be used by the United Nations to promote and advance, in accordance with the Common Heritage of Mankind

Principle, the Human Rights and human needs particularly of the peoples of developing countries. In any year in which a private firm realizes no net profit there shall be no duty to make this payment.

Proposal B: Where Exploitative Activity is Carried On by a State, a Group of States, or by a Public International Organization

Where one or more of the foregoing entities has engaged in the exploitation of moon and celestial bodies and has realized a net profit on its investment in such activities for a period of five successive years, it shall thereafter pay a certain percentage (for example, thirty percent) of its net profit to the United Natons to achieve the goals set forth in Proposal ... , and subject to the same condition also set forth in Proposal A.

VII. The United Nations Principles

When strictly following the wording of the London Space Law Resolution, we notice it refers to the "UN Space Law Instruments". This is, therefore, not only inclusive of treaties but United Nations Principles as well. For these reasons a short word on the subject seems appropriate.

So far, the UN - unable to agree on binding international instruments to govern these matters - has adopted Principles on Direct Broadcast (1982), Remote Sensing (1986) and the Use of Nuclear Power Sources in Outer Space (1992). In the framework of this Report emphasising the commercial aspects of space activities, the Principles on Remote Sensing appear the most relevant for our task.

The matter has been the object of several meetings in recent times. Three of them, held in different latitudes and contexts during the first half of 2001, have been chosen for reference.

1. X International Symposium on Remote Sensing (April 2001, Foz do Iguaçu, Brasil)

This meeting brought together scientists from all parts of the world and one of its features consisted, for the first time, of a Round Table organised by **Professor José Monserrat Filho** to discuss the legal implications of a number of sensitive issues relating to remote sensing and the collection, protection and distribution of satellite data[20]. This meeting also focused on cooperation agreements between Argentina and Brazil for remote sensing activities as well as between these countries and NASA, Spain, Germany and others. National space legislation was another question on the agenda for this occasion.

2. Project 2001 on the "Legal Framework for the Commercial Use of Outer Space" (May 2001, Cologne)

This challenging enterprise was conducted from Cologne University by Professor Böckstiegel and his skillful team. It is fair to say that each of the Workshops organised within the Project meant a real step forward in the progressive development of the law of outer space.

A good number of members of the ILA Space Law Committee participated actively in this Project which, as previously indicated, was wound up in May 2001. On this occasion an International Colloquium was held in Cologne to discuss the results achieved during the four years of development of the Project. Remote sensing issues was one of the topics exhaustively analysed during this Colloquium. Among the the conclusions, reached by consensus, was the fact that most of the 1986 UN Principles Relating to Remote Sensing of the Earth from Outer Space were today part of customary international law and that they did not preclude a free distribution and commercialisation of the collected data [21].

3. Earth Observation Data in the Legal Sector (June 2001, London)

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[20] On this occasion Prof. Monserrat Filho discussed the difficulties involved in having a binding instrument on this topic and the present writer referred to remote sensing and international law and to the Argentine bilateral and multilateral experience in this area.

[21] See, for further details, Proceedings of the Workshop on Legal Remote Sensing Issues – Project 2001, 28 October 1998, Toulouse.

The British Institute of International & Comparative Law (BIICL, London) showed similar concern for the legal aspects of remote sensing, particularly the problems raised by the use of satellite data as evidence before national and international courts. This concern resulted in the setting up of a study group composed of lawyers and experts in the interpretation of satellite data who analysed together their experiences in this field.

The Annual Conference of the Institute took place on 22 June 2001 in London and a variety of interesting examples were brought to the attention during a working session which the present writer was invited to chair. The panellists, **Drs. Robin Cleverly and Chris Hackford**, both of whom participated in recent cases before the ICJ where satellite images were produced and interpreted, referred *inter alia* to the boundary dispute between Nigeria and Cameroon taken to the ICJ in 1994.

Briefly, the facts were as follows. Nigeria used a recent satellite image of an area to portray its location to the Court. However, the image was interpreted differently by the two parties with the effect that, instead of enlightening the Court, it caused more confusion. The net result was, in the words of the above-mentioned specialists, that what had been considered by Nigeria to be a very clear way to clarify a straightforward point to the Court actually had the opposite effect[22].

It is therefore clear that, although there is little margin for human error in the production of a satellite image, there is considerable room for error in the interpretation. This amounts to saying , as quoted in the BIICL Report (p.41), that it is not the earth observation data what is used in court; it is the opinion of the expert.

The above-described situation is in need of clarification , as no doubt are the various issues surrounding the issue of remote sensing today. If we have in mind the interest recently shown in different parts of the world for these matters and their commercial implications, this would seem a topical area for future work of the ILA Space Law Committee.

VIII. Matters under permanent review by the ILA Space Law Committee

SPACE DEBRIS

Pursuant to the terms of reference of the London Conference the Space Law Committee has kept this topic under permanent consideration. Not much progress, however, has been registered within the Legal Subcommittee of COPUOS where the specific inclusion of the legal aspects of space debris on its agenda has not yet materialised.

On the private level some of our members have become involved in presentations where space debris legal issues were addressed, such as a Document submitted to the Legal Subcommittee of COPUOS in 2001 entitled "The Space Law Committee of the Intenational Law Association"[23] and a presentation on "The contribution of the International Law Association to the Progressive Development of the Law of Outer Space"[24], submitted to the above-mentioned International Colloquium on The Legal Framework for the Commercial Use of Outer Space in Cologne, last May 2001.

This topic which, in fact, surfaced a number of times during the last months , was followed closely at the 43rd Colloquium on the Law of Outer Space (IISL) held in Rio de Janeiro in October 2000, particularly in Sessions 1 and 4 of the Colloquium[25] to which reference is made in the present Report under the heading "The Liability Convention". In additon, the present writer has contributed to the Yearbook of International Environmental Law, Volume XI – 2000, with a Report entitled "Space Debris" which makes reference, *inter alia*, to the ILA production on the topic.

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[22] See the Final Report of the BIICL Study Group, 19 May 2001, p.75.
[23] See UN Documents A/AC.105/C.2/L.223 and A/AC.105/C.2/2001/CRP.9
[24] This presentation, by the present writer, was submitted to the International Colloquium on THE LEGAL FRAMEWORK FOR THE COMMERCIAL USE OF OUTER SPACE, held in Cologne, 29-31 May 2001. It addressed the questions of space debris, dispute settlement and the revision of space treaties in view of commercial space activities, on the basis of the work carried out so far by the ILA.
[25] See op.cit. in note 8.

In March 2001 the III European Conference on Space Debris was held in Darmstadt. As in its previous Conferences of 1993 and 1997, the meeting was of an interdisciplinary character and some of our Committee members took part in the different sessions.

On the occasion of the 44th International Colloquium of the International Institute of Space Law held in Toulouse between 2-6 October 2001, Session 4 included questions related to space debris and the ILA International Instrument on the matter was again a source of reference.

Finally, on 9 November 2001, a Conference on space debris was held in London at Inmarsat, within the framework of the European Centre of Space Law (UK point of contact) . It was a well-attended meeting gathering people from the industry, bankers, engineers, lawyers and representatives from governmental bodies. Professor Bin Cheng - present at the meeting - has informed us that one of the conclusions is to use the Buenos Aires International Instrument as basis for international discussion for a convention on the subject.

For these reasons, and also considering the ever-increasing risk of damage to the environment caused by space debris in view of the growth of commercial space activities, and believing that questions relating to the legal aspects of space debris should be taken up without delay by the Legal Subcommittee of COPUOS, it is suggested to continue keeping the topic under permanent review by our Committee.

DISPUTE SETTLEMENT

This topic, like space debris, is kept under permanent study by our Committee. Given the sharp increase in commercial space activities in recent times, disputes on the interpretation and application of the outer space treaties are more likely to occur. Moreover, the various aspects of this question are the object of different proposals within the present Report with the underlying objective of moving towards stricter rules on the matter.

The 1998 ILA Draft Convention on the Settlement of Disputes related to Space Activities has been introduced by the Committee's Chairman and the General Rapporteur, as well as by some of our members, to universities and other institutions, both governmental and private, involved in the theoretical and practical sides of these questions and the progressive development of the law.

Consensus appears to be growing on the consistency of the ILA Draft Convention on Dispute Settlement with the present reality of commercial space activities. This consensus is particularly evident in the case of Article 10 of the Draft Convention which leaves the door open for private entities to be parties to the dispute settlement procedures laid down for sovereign states. Therefore, for reasons similar to those underlying space debris, this topic should continue under permanent study by our Committee.

IX. New Topics for Future Work of the Committee

Considering the high commercial implications of remote sensing from space and the many cooperation agreements presently underway in different latitudes, and on the basis of the work carried out by Project 2001 (Cologne University) and other relevant institutions in different countries, it is suggested to begin work on ***"The legal and related aspects of Remote Sensing from Outer Space"*** with a view to submitting a First Report to the ILA Berlin Conference in 2004. An important chapter within this framework is the use of satellite information as evidence in national and international courts and tribunals.

A word of thanks

On 10 November 2001 the Executive Council of the ILA accepted Professor Karl-Heinz Böckstiegel´s resignation as Chairman of the Space Law Committee - a commitment he carried out

with indefatigable skill and style over the last twelve years. The present writer feels honoured to take over the Chair from Professor Böckstiegel and, in turn, will be succeeded in her assignment as General Rapporteur by Professor Stephan Hobe (Cologne University).

The Space Law Committee hereby expresses its deep gratitude to the outgoing Chairman for his very effective conduction of our work and is happy to announce that Professor Böckstiegel will remain a member of this Committee thus enabling us to continue to benefit in the future from his valuable thoughts and advice.

Buenos Aires, November 2001.