

## ETHICS, SPACE ACTIVITIES AND THE LAW

Professor Dr. Maureen Williams  
Chair of Public International Law  
University of Buenos Aires – Argentina

### OPENING REMARKS

In a world no longer composed of two super-space powers and where space activities of other countries and international organisations – both intergovernmental and private – are growing by leaps and bounds, it seems imperative to draw up a number of ethical rules applicable to the use of the new areas.

This is particularly important if we have in mind the unrelenting growth of commercial space activities which is clearly indicating the need for more precise regulations in this field.

Indeed, international cooperation – which no longer should be seen as an expression of ideals but, rather, as a “general obligation to cooperate” – plays an important part in paving the way for developing countries to benefit from space activities and to make the principle of free access enshrined in Article I of the 1967 Space Treaty more than just a theoretical aspiration. The voice of

the developing countries in the ITU scenario in recent times is a glaring example of the weight carried by these countries concerning access to the earth orbits which are considered best for telecommunication satellites.

Two main questions will be addressed in the following paragraphs. In the first place, intellectual property rights related to scientific discoveries made on board manned space stations. How far should the traditional principles on this matter, applicable on Earth, prevail? What ethical rules should apply to inventions with an impact on the whole international community and where the welfare of mankind is involved, such as, for example, the possibilities of anticipating natural catastrophes?

The second question concerns the very thorny issue of dispute settlement related to the interpretation and application of the Space Treaties in force, and focuses on the ways and means of moving towards stricter mechanisms in this field.

## PART 1: Ethics, intellectual property and the rule of law

In May 1992 an International Colloquium on MANNED SPACE FLIGHT was organised by the University of Cologne in cooperation with the German Space Agency (DARA) and the German Aerospace Research Establishment (DLR) (1). In a truly interdisciplinary approach, scientists and lawyers were invited to discuss the legal aspects of manned space missions in the light of scientific and technical development. Professor Karl-Heinz Böckstiegel, Director of the Air and Space Law Institute of the University, in his inaugural speech, considered that the presence of man in space was a sign of our times. On that occasion he referred to the successful rescue and repair by three American astronauts - just a few days before the Cologne Colloquium - of an Intelsat satellite designed, among other things, to relay the Summer Olympic Games to Earth. As in many other examples, human intervention was, in this emergency, of vital importance.

Eight years on, Professor Böckstiegel's statement stands intact. Indeed, in the world of today the significance of human beings participating in space missions is beyond question. On 11 September 2000 the world watched in wonder the historical walk carried out jointly by astronauts Edward Lu (US) and Yuri Malenchenko (Russia) when they left the Atlantis and worked their way through a maze of airdales, cables and solar panels to reach the International Space Station and repair some of its components. This task was top

priority in the manned space flight in question.

Furthermore, the number and variety of events highlighting this 51<sup>st</sup> International Astronautical Congress organised in the beautiful city of Rio de Janeiro are proof enough of the importance of manned space missions in the present international scenario.

There appears to be general agreement in the sense that space laboratories provide an excellent -if not ideal- setting for scientists to pursue research which frequently results in inventions and discoveries, particularly in the field of biotechnology, genetic engineering, and other related sciences.

The presence of man in space, as mentioned above, does not mean that manned space missions will, in the near future, become routine. Nor would it be realistic to expect that developing countries to take an active part in any such laboratories even though scientists from third countries have been invited and, in fact, have already participated in manned space flights on an individual capacity.

This is precisely the field where ethical principles are called upon. At the root of the question is the need for resources at the disposal of space-faring countries, and the inventions and discoveries which may ensue, to be made available on reasonable terms to the international community. Hence the conclusion that technological achievements of the kind should be within the reach of non space-faring countries at a reasonable cost avoiding, at any rate, an abuse of the dominant position. In other words,

that science and technology should be put at the service of mankind without overlooking, of course, the efforts and astronomic investments made by the space-faring countries in the area of manned space flights. In cases where the invention or discovery is subject to patent law, an application of ethical principles would be indicating that licences should be available to third countries on a reasonable basis (3). As held by the European Court of Justice in 1991 in the Magill case, a refusal to license intellectual property rights, whether or not arbitrary, can disturb the very fine balance between the exercise of intellectual property rights and abuse (case 68/89, Common Market Law Reports 1991, p. 586).

The question is directly linked to the growing aspects of commercial activities in outer space. The interpretation given by the doctrine to the provision embodied in Article I of the 1967 Space Treaty referring to the benefit and interests of all countries irrespective of their degree of economic or scientific development, as the context in which the exploration and use of outer space should be carried out, is far from uniform.

Be that as it may, it is interesting - because of its connection with the present topic- to quote a definition suggested by Manuel Augusto Ferrer, from Argentina, on the occasion of the XXIII Iberoamerican Congress on Air and Space Law held in Curaçao in 1993, reading as follows: "An activity shall be considered to be for the benefit of Mankind when it implies the presence of man in outer space and this presence is accepted

by the international community. This concept is presumed insofar as the space activity concerned is not being the object of consultations under Article IX of the 1967 Space Treaty or, failing this procedure, the question has not been taken up by the Claims Commission envisaged in the 1972 Liability Convention" (4).

This proposal is, doubtless, a useful contribution to the development of international space law and should be addressed in our future work.

Another polemic question - related, in many ways, to ethics - is the scope and implications of the term "equitable sharing" as applied to the benefits derived from the Moon resources, pursuant to Article 11, 7 (d) of the 1979 Moon Agreement. It is common knowledge that this Agreement has not gained much support from the international community and that Article 11 is one of its most controversial articles, reminiscent of Part XI of the 1982 Law of the Sea Convention which led to the 1994 New York Agreement on the Implementation of Part XI. The question was thoroughly discussed in London in July 2000 on the occasion of the 69<sup>th</sup> Conference of the International Law Association. A general consensus is beginning to grow in the sense that "we either improve on, or replace, the Moon Agreement" (5). It would therefore be sensible to start considering these possibilities and the influence of ethical principles to iron out inequities.

The foregoing remarks take us back into the area of intellectual property rights. Issues are delicate, particularly

concerning the right to secrecy and the challenge of finding an acceptable balance between the conflicting positions. In pursuance of this objective, the main target is the survival of the legitimate interests of all those parties involved, in one way or another, as well as those of third countries which are not yet engaged, individually or otherwise, in manned space missions. It is easy to perceive serious gaps in the law which cannot be solved by resorting to the classical rules on intellectual property applied on Earth. Cosmetic adjustments, in this case, do not seem enough.

The problem is, rather, one of international space law which calls for a change in the strong protectionist accent underlying traditional intellectual property issues. This clearly indicates the need for a progressive development of international law in a way that it should not affect the solid pillars upon which space law is built nor overlook the valuable experience stemming from long years of practice in the field of intellectual property.

The 1967 Stockholm Convention establishing the World Intellectual Property Organization is sufficiently wide to encapsulate a considerable number of issues arising from technological advancements. Article 2 contains a non-exhaustive list of protected rights under the term "intellectual property". However, inasmuch as discoveries and inventions on orbital laboratories are concerned, more precision is needed.

One basic difference is that the right to secrecy is - necessarily - restricted in the field of international space law

by virtue of an obligation to inform. Therefore, there is a clear confrontation, on this point, between patent law in general and the rules underlying the exploration and use of outer space.

A major contribution to elucidate the law applicable to these new areas is provided by the Draft Convention on Manned Space Flight resulting from a joint effort between the Universities of Cologne, Mississippi and the Institute of State and Law of the Academy of Sciences of the then USSR. (6). Article VIII of this text (7), dealing specifically with intellectual property rights which, in spite of being space-oriented and thus providing a true example of progressive development of the law is, at the same time, strongly protective. The reason is it takes the classical solutions on intellectual property rights and the right to secrecy, unaltered, to the new fields. In other words, Article VIII of the Draft it is embodying the principle of territoriality which is, in fact, alien to space law.

Ethics indicates that, in these new fields, the right to secrecy should be made consistent with the duty to disclose information particularly as regards inventions and discoveries occurring on board orbital stations which are directly linked to the welfare of mankind. This would be the case of new technologies for anticipating natural catastrophes which have been so frequent in recent times. In these assumptions ethical principles would be indicating that the right to secrecy ought to be shortened and that access to the new technologies on the part of third

states should be made available on a reasonably equitable basis. In cases of natural disasters and other emergencies, anticipation would allow the affected population sufficient time to take the necessary measures and evacuate the emergency area. Ethical principles, in this sense, would go a long way in paving the path towards a more flexible interpretation of the right to secrecy.

In this area, ethics and international cooperation appear closely interwoven and are expected to have a major role in redressing the inequity of the system.

It is therefore suggested that the Draft Convention on Manned Space Flight be seen as an important contribution to pursue work in this area.

## PART II: Ethics, dispute settlement and the rule of law

The sharp increase in commercial space activities calls for effective mechanisms for dispute settlement related to the interpretation and application of the space treaties. Here again ethical principles become involved.

The depth and width with which the IISL, the ILA and other institutions –both public and private- have examined the problem is showing that, as far as controversies between private entities engaged in space activities are concerned, the existing law provides a number of solid, well-rooted solutions, mainly within the field of international commercial arbitration.

The problem remains, however, where subjects of public law are concerned. The stumbling block continues to be, no doubt, the “demon of sovereignty” which translated into our language and field means that no state may be taken to a court or tribunal without its consent. In practical terms, this means that no great progress may be expected in the quest for more effective methods of dispute settlement.

Let us now take a look at the way opinion is moving in these areas. Almost simultaneously with the Legal Subcommittee of COPUOS, the International Law Association was entrusted with the task of revising the Treaties on Outer Space to determine whether changes were necessary in view of commercial space activities. The First Report on this matter, entitled “Review of Space Treaties in View of Commercial Space Activities (8)” was submitted to and adopted by the 69<sup>th</sup> Conference (London, July 2000) which entrusted the Space Law Committee with the preparation of a Final Report on the subject for the following Conference (New Delhi 2002), where concrete proposals on the different provisions are expected.

The task implied, inter alia, the revision of the 1972 Liability Convention by the present writer and, at a subsequent stage, the preparation of a general report embodying the findings in this field as well as the work done by Professors Hobe (1967 Treaty), Prof. Kopal (Registration Treaty), and Prof. von der Dunk (Moon Agreement).

As far as the Liability Convention is concerned one should not escape the fact that rules on liability and dispute settlement are in the interest of both space-faring and non-faring countries as

they are all potential victims of damage resulting from space activities. In accordance with this thinking, the most controversial sections to be addressed are Article II on the definition of damage, Article XII on the applicable law and Article XIX dealing with dispute settlement and the recommendatory nature of the Claims Commission's awards.

Briefly, conclusions were as follows. The definition of damage –one of the widest in contemporary international law- could perhaps be redrafted to make it more consistent with the present international context. This course of action, however, was considered not advisable in the immediate future. The main criticism from the doctrine was that such a definition did not cover damage caused by space debris.

Yet, it should be borne in mind that this question has been dealt with in detail in the context of the ILA International Instrument on Damage caused by Space Debris (66<sup>th</sup> Conference, Buenos Aires 1994) which envisages binding and non-binding procedures for dispute settlement in this field (9). Its drafting history, scope and implications have been explained largely at COPUOS and its Legal Subcommittee, as well as in the Workshop "Space Law for the Twenty-first Century" (10) held within the framework of UNISPACE III in July 1999 in Vienna. It is expected that this Instrument should provide a realistic basis to tackle growing environmental risk.

The applicable law listed in Article XII of the 1972 Liability Convention does not raise a problem of conflict of laws. There is almost general agreement on this point and, generally speaking, this Article

provides a sound solution. Per contra, Article XIX of the Convention, establishing the recommendatory nature of awards stemming from the Claims Commission, is not seen with too much favour, especially from the purely legal standpoint .

However so, and even though a move towards stricter mechanisms of dispute settlement within the Liability Convention appeared ideal it was, at the same time, considered that the moment was not the best for any such move. Moreover, the political will of the parties to go ahead did not exist. In these circumstances it is wise to advance cautiously and consider the possibility of mid-way options such as that provided by UNGA Resolution 2777 (XXVI), paragraph 3 whereby States may declare that they accept the Claims Commission decisions as binding. States should be strongly encouraged to do so in accordance with Austria's recommendation submitted to the Legal Subcommittee of COPUOS in 1998 .

This proposal, firmly supported by the ILA Space Law Committee throughout its work, was envisaged for the immediate future and did not mean losing sight of the ultimate goal, namely advancing towards some kind of compulsory system when the political moment so indicates.

This work of treaty-revision which, in many ways, implied detecting ethical principles in the inspiration of the norm, should be read together with the above-mentioned ILA International Instrument on Space Debris as well as with the 1998 ILA Final Text of a Revised Convention on Dispute Settlement related to Space Activities. This Draft Convention was adopted at the ILA 68<sup>th</sup> Conference in 1998 on the basis of a Report containing

extensive commentary on the different sections of the Revised Convention (11). Responsibility, liability and dispute settlement related to space activities – particularly those of a commercial character- are strongly linked with ethical principles which could be translated in this field as the need for more effective and agile dispute settlement procedures to ensure a prompt and amicable solution for the victim, and where talks should not carry on indefinitely under the label of “direct negotiations”.

## CONCLUSIONS ON PART I

Ethical principles, intellectual property and the rule of law

1. It is important to resort to ethical principles to redress inequities between industrialised and developing countries in the field of manned space missions.

2. Intellectual property and manned space missions are the key words in this area. The traditional protective approach to intellectual property should be toned down when applied to inventions and discoveries occurring on board manned space laboratories, particularly when they are related to the welfare of Mankind .

3. An appropriate balance should be found between space-faring countries and third countries concerning the uses of outer space.

4. The access to benefits directly related to the welfare of Mankind, such as new technologies discovered on board orbital laboratories relating, inter alia, to the possibility of anticipating natural catastrophes or where health issues are

concerned, should be made available to all countries at reasonable costs.

5. New law should be created in this field avoiding, however, much too detailed regulations which necessarily have a shorter life span. Conversely, in the initial stages principles of a more general nature appear advisable as they are more likely to survive the times.

6. A sound basis to pursue work in this domain is the Draft Convention prepared by the Institute of Air and Space of the University of Cologne, together with the University of Mississippi and the Institute of State and Law of the then USSR, which was extensively discussed in 1992 in Cologne under the heading “Manned Space Flight”.

## CONCLUSIONS ON PART II

Ethical principles, dispute settlement and the rule of law:

1. It is in the name of ethical principles that we should advance towards more effective procedures for dispute settlement related to space activities . To this end the idea that States should be encouraged to make a declaration –under paragraph 3 of UNGA Resolution 2777 (XXVI)- accepting the binding nature of the Claims Commission awards.

2. The Buenos Aires Draft Instrument on Space Debris (1994) and the ILA Revised Text of a Convention on Dispute Settlement (1998) provide a good basis for progress in this domain.

## NOTES

1. See MANNED SPACE FLIGHT , Ed. Karl-Heinz Böckstiegel, Carl Heymanns Verlag, Köln, München, Berlin, Bonn, 1993, p.2

2. Ibid.

3. See present writer's "Benefit for Third Countries", op.cit. in note 1, p.131.

4. See the present writer's "El Derecho Internacional y los Vuelos Espaciales Tripulados", Instituto Iberoamericano de Derecho Aeronáutico y del Espacio, Madrid 1995, at p.126.

5. See Report "Review of Space Law Treaties in View of Commercial Space Activities". by the Rapporteur of the Space Law Committee of the ILA, 69<sup>th</sup> Conference, London July 2000.

6. See "Draft for a Convention on Manned Space Flight", op.cit. in note 1, pp. 7-13.

7. Article VIII of the Draft Convention on Manned Space Flight provides that :

1. Subject to the provisions of this Article, for the purposes of intellectual property law, an activity occurring in or on a manned space object or a separate space flight element shall be deemed to have occurred only in the territory of the State Party to this Agreement that has registered the space object or flight element respectively.
2. In respect of an invention made by a person who is not a national or resident of the State of registry, a State Party to this Agreement shall not

apply its laws concerning secrecy of inventions so as to prevent the filing of a patent application (for example, by imposing a delay or requiring prior authorisation) in any other State Party to this Agreement that provides for the protection of the secrecy of patent applications containing information that is classified or otherwise protected for national security purposes. This provision does not prejudice (a) the right of any State Party to this Agreement in which a patent application is first filed to control the secrecy of such patent application or restrict its further filing, or (b) the right of any other State Party to this Agreement in which an application is subsequently filed to restrict, pursuant to any international obligation, the dissemination of an application.

3. The temporary presence in the territory of a State Party to this Agreement of any articles, including the components of a space flight element, in transit between any place on Earth and the manned space flight station or any space flight element registered by another State Party to this Agreement shall not in itself form the basis for any proceedings in the first State Party for patent infringement.

8. See Report of the Space Law Committee to the 69<sup>th</sup> Conference of the International Law Association, London July 2000.



9. See ILA International Instrument on the Protection of the Environment from Damage caused by Space Debris (text and explanations by the Rapporteur), Report of the 66<sup>th</sup> Conference of the ILA, Buenos Aires 1994.

10. See UNISPACE III: Workshop on Space Law for the Twenty-first Century, July 1999, especially Session 8 entitled "Maintaining the Space Environment". In other sessions of this Workshop frequent reference was made to the ILA 1998 Convention on the Settlement of Disputes related to Space Activities (Proceedings of the Workshop on Space Law for the Twenty-First Century, organized by the International Institute of Space Law and the United Nations Office for Outer Space Affairs).

11. See Report of the Sixty-Eighth Conference of the ILA, Space Law Committee (1998): Report and Revised Text of a Draft Convention on the Settlement of Disputes Related to Space Activities.