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CONFERENCE ON DISARMAMENT

PREVENTION OF AN ARMS RACE IN OUTER SPACE

WORKING PAPERS OF THE *AD HOC* COMMITTEE ON THE PREVENTION OF AN ARMS RACE IN OUTER SPACE

1985-1989

CD/OS/WP

ARMS CONTROL AND DISARMAMENT DIVISION OF
THE DEPARTMENT OF EXTERNAL AFFAIRS
, CANADA

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CONFERENCE ON DISARMAMENT

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1985-1989

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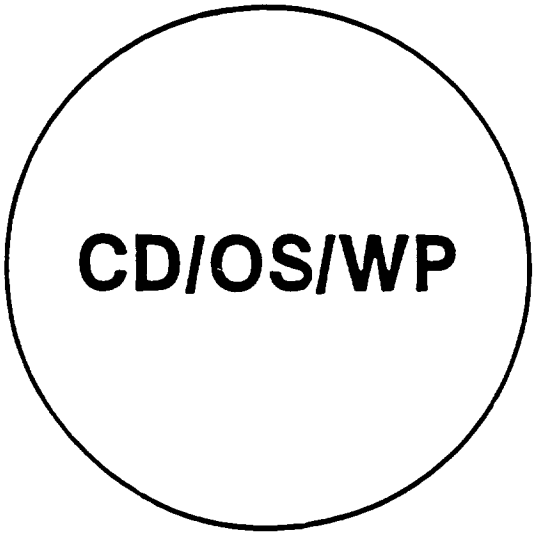

ARMS CONTROL AND DISARMAMENT DIVISION OF
THE DEPARTMENT OF EXTERNAL AFFAIRS
OTTAWA, CANADA

JANUARY 1990

PREFACE

This volume is a compilation of working papers (CD/OS/WP) from the 1985 to 1989 sessions of the Conference on Disarmament's Ad Hoc Committee on the Prevention of an Arms Race in Outer Space. It has been compiled and edited to facilitate discussions and research on the outer space issue.

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CD/OS/WP.1
26 June 1985

CONFERENCE ON DISARMAMENT

Original: ENGLISH

Ad Hoc Committee on Prevention of an Arms Race in Outer Space

List of documents of the Conference on Disarmament relating to agenda item 5: Prevention of an Arms Race in Outer Space

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CD/329 Rev.1 and Rev.2	Group of 21	Draft mandate for a subsidiary body on the agenda item entitled "Prevention of an arms race in outer space"	13/IX/1982 29/II/1984 20/VII/1984

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CD/413	Australia, Belgium, Canada, France, Germany, Federal Republic of, Italy, Japan, Netherlands, United Kingdom, United States	Draft mandate for an Ad Hoc Working Group on Item 7 of the agenda of the Committee on Disarmament entitled "Prevention of an arms race in outer space"	17/VIII/1983
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CD/427	USSR	Letter dated 30 January 1984 addressed to the Chairman of the Committee on Disarmament Transmitting the Replies given by Y.V. Andropov, General Secretary of the Central Committee of the Communist Party of the Soviet Union and Chairman of the Presidium of the Supreme Soviet of the USSR, to questions from the newspaper PRAVDA, published on 25 January 1984	31/I/1984
CD/434	A Group of Socialist States	Organizational Matters of the Work of the Conference on Disarmamesnt: Memorandum of a group of socialist States	17/II/1984
CD/476	USSR	Letter dated 20 March 1984 addressed to the President of the Conference on Disarmament from the representative of the Union of Soviet Socialist Republics, transmitting the text of a draft treaty on the prohibition of the use of force in outer space and fromsspace against the earth	20/III/1984
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CD/501	Hungary	Letter dated 25 April 1984 from the Head of the Hungarian Delegation to the Conference on Disarmament transmitting the text of the communique of the meeting of the Committee of Foreign Ministers of the States Parties to the Warsaw Treaty, held in Budapest on 19 and 20 April 1984	26/IV/1984

CD/510	USSR	Answers by Mr. K.U. Chernenko, General-Secretary of the CPSU Central Committee and Chairman of the Presidium of the Supreme Soviet of the USSR, to questions by a United States journalist, Mr. J. Kingsbury-Smith	18/VI/1984
CD/513	Group of 21	Statement of the Group of 21	29/VI/1984
CD/527	Australia; Belgium; Canada; France; Germany, Federal Republic of; Italy; Japan; Netherlands; United Kingdom; and United States	Draft Mandate for an Ad Hoc Committee on item 5 of the agenda of the Conference on Disarmament entitled: 'Prevention of an arms race in outer space'	30/VII/1984
CD/529	A Group of Socialist Countries	Draft Mandate for an Ad Hoc Committee on item 5 of the agenda of the Conference on Disarmament	2/VIII/1984
CD/579	China	Working paper presenting China's Basic Position on the Prevention of an Arms Race in Outer Space	19/III/1985
CD/584		Decision on the Establishment of an Ad Hoc Committee on Item 5 of the agenda entitled: "Prevention of an Arms Race in Outer Space"	1/IV/1985

CONFERENCE ON DISARMAMENT

CD/OS/WP.2
27 June 1985
Original: ENGLISH

Ad Hoc Committee on Prevention of
an Arms Race in Outer Space

List of General Assembly resolutions relating to agenda item 5 transmitted by the Secretary-General of the United Nations to the Conference on Disarmament*

1. Resolution 36/97 C entitled "Prevention of an arms race in outer space", adopted on 9 December 1981

2. Resolution 36/99 entitled "Conclusion of a treaty on the prohibition of the stationing of weapons of any kind in outer space", adopted on 9 December 1981

3. Resolution 37/83 entitled "Prevention of an arms race in outer space", adopted on 9 December 1982

4. Resolution 37/99 D entitled "Prevention of an arms race in outer space and prohibition of anti-satellite systems", adopted on 13 December 1982

5. Resolution 38/70 entitled "Prevention of an arms race in outer space", adopted on 15 December 1983

6. Resolution 38/183 I entitled "Report of the Committee on Disarmament", adopted on 20 December 1983

7. Resolution 39/59 entitled "Prevention of an arms race in outer space", adopted on 12 December 1984

8. Resolution 39/148 N entitled "Report of the Conference on Disarmament", adopted on 17 December 1984

GE.85-61912

* The text of the resolutions may be found in documents CD/231 (resolutions of the thirty sixth session of the General Assembly), CD/336 (resolutions of the thirty seventh session of the General Assembly), CD/428 (resolutions of the thirty eighth session of the General Assembly) and CD/544 (resolutions of the thirty ninth session of the General Assembly.

CONFERENCE ON DISARMAMENT

CD/607
CD/OS/WP.3
5 July 1985
ENGLISH
Original: RUSSIAN

PREVENTION OF AN ARMS RACE IN OUTER SPACE

Working Paper of a group of socialist countries

1. The world has recently come to an extremely dangerous frontier: the arms race, which has reached unprecedented dimensions, is not only intensifying but also threatening to spread to outer space. The danger that space will become the springboard for aggression and war is increasingly real. Programmes are being carried out to develop space weapons that are intended to destroy objects in space and attack targets on Earth from space. These activities, which stem from calculations on achieving military superiority, are likely to make an arms race in space irreversible and seriously destabilize the situation, and they heighten the threat of nuclear war. The onset of an arms race in outer space will undermine the prospects for arms limitation and reduction as a whole. The militarization of space, if it cannot be halted, will swallow up enormous material and intellectual resources, thereby doing great damage to the peaceful development of mankind and the solution of pressing global problems, and create insurmountable obstacles to international co-operation in the peaceful use of outer space.

2. It is necessary to prevent this fatal course of events, and not to allow space to be turned into a source of military danger. The exclusion of space from the sphere of the arms race must be a strict norm in the policy of States, and a universally recognized international obligation.

3. The socialist States consider that strike weapons of any kind - conventional, nuclear, laser, particle-beam or any other form - whether in manned or unmanned systems should not be introduced into or stationed in space. Space weapons should not be developed, tested or deployed either for anti-missile defence, or as anti-satellite systems, or for use against targets on Earth or in the air. Such systems which have already been developed should be destroyed. In other words, the socialist States propose that agreement should be reached on the prohibition and elimination of an entire class of weapons, namely, attack space systems, including space-based anti-missile systems and anti-satellite systems.

4. Strict compliance with the indefinite 1972 Treaty on the Limitation of Anti-Ballistic-Missile Systems between the USSR and the United States is of particular significance for the prevention of the militarization of space.

The socialist States attach great importance to the absolute and strict implementation of multilateral agreements limiting the use of space for military purposes. These include the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space Including the Moon and Other Celestial Bodies of 1967, and the Treaty banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water of 1963.

5. Given present developments, urgent measures must be taken to prevent an arms race in outer space. These measures may be worked out and adopted through both bilateral and multilateral negotiations. The socialist States consider that bilateral and multilateral negotiations complement each other.

6. The socialist States express satisfaction at the fact that the Conference on Disarmament was able to take the decision to set up an ad hoc committee on item 5 of its agenda, "Prevention of an arms race in outer space". They are ready to co-operate with the other States members in the implementation of the Ad Hoc Committee's mandate.

7. In the view of the socialist States, in carrying out its mandate the ad hoc committee should as a first step at this stage concentrate on examining the following issues:

(a) Political, military, economic and other consequences of the extension of the arms race into outer space.

(b) Significance of existing international agreements relating to the limitation of military activity in outer space for the prevention of an arms race in space.

(c) Proposals by States members of the Conference on Disarmament on the prevention of an arms race in outer space. Under this point, consideration should be given in particular to the proposals of the USSR on the conclusion of a treaty on the prohibition of the stationing of weapons of any kind in outer space (1981), the conclusion of a treaty on the prohibition of the use of force in outer space and from space against the Earth (1983) and on the use of outer space exclusively for peaceful purposes for the benefit of mankind.

8. The socialist States express the hope that the successful fulfilment of its mandate by the Ad Hoc Committee on the Prevention of an Arms Race in Outer Space will enable the Conference on Disarmament rapidly to embark upon negotiations on the conclusion of an agreement or agreements, as appropriate, for the prevention of an arms race in outer space in all its aspects, as it was recommended to do by the United Nations General Assembly. Only the guaranteed prevention of the militarization of space will make it possible to use space for creative rather than destructive purposes, and open the way for uniting the efforts of all States for the peaceful use of outer space.

CONFERENCE ON DISARMAMENT

CD/OS/WP.4
3 July 1985

ENGLISH
Original: RUSSIAN

Ad Hoc Committee on the
Prevention of an Arms Race
in Outer Space

Programme of work for the Ad Hoc Committee on the Prevention of an Arms Race in Outer Space proposed by a group of socialist countries

A. Political, military, economic and other consequences of the spread of an arms race in outer space.

B. Importance of existing international agreements on the limitation of military activities in outer space for the prevention of an arms race in space.

C. Proposals of States members of the Conference on Disarmament on the prevention of an arms race in outer space.

CONFERENCE ON DISARMAMENT

CD/OS/WP.5
10 July 1985

Original: ENGLISH

Ad Hoc Committee on the
Prevention of an Arms Race
in Outer Space

1985 Programme of Work

I. Consideration of issues relevant to the prevention of an arms race in outer space.

II. Existing agreements relevant to the prevention of an arms race in outer space.

III. Proposals and future initiatives on the prevention of an arms race in outer space.

GE.85-62400

CONFERENCE ON DISARMAMENT

CD/613
CD/OS/WP.6
23 July 1985
Original: ENGLISH

CANADA

Working Paper

Survey of International Law Relevant to Arms Control and Outer Space

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Preface

For a number of years prior to 1985, the Conference on Disarmament (CD) and its predecessor organizations have recognized the importance of outer space. It was, however, only on 29 March 1985 that the CD succeeded in reaching agreement on a mandate for an ad hoc Committee on the Prevention of an Arms Race in Outer Space. This development was welcomed by Canada and other member nations as a first step toward an organized examination of the subject. This process is in accordance with the United Nations General Assembly resolution which was adopted without dissent during its 39th session on December 12, 1984 and which called upon the CD to consider the question of preventing an arms race in outer space as a matter of priority. The mandate now adopted by the CD is a realistic one. It is neither narrow nor restricted but permits the CD to begin some action and undertake concrete work almost immediately.

The ad hoc Committee on the Prevention of an Arms Race in Outer Space established under the mandate, is "to examine, as a first step at this stage, through substantive and general consideration, issues relevant to the prevention of an arms race in outer space". In the process, it should take into account all existing agreements, existing proposals and future initiatives, then report on the progress of its work to the Conference on Disarmament in August, 1985.

From the Canadian perspective, the creation of the ad hoc Committee on outer space is in line with Canada's expressed policy and constitutes a significant step forward in coming to grips with the subject. The mandate of the ad hoc Committee both complements and accurately reflects the realities concerning the bilateral negotiations already underway between the United States and the Soviet Union in Geneva. It neither undermines, prejudges nor in any way interferes with those negotiations and this fact is considered by Canada to be absolutely central to the successful process of both sets of deliberations.

On 26 August 1982, Canada submitted its first substantive working paper to the CD on the outer space issue. That document entitled "Arms Control and Outer Space" (CD/320) undertook to discuss generally the subject of arms control and outer space in terms of stabilizing and destabilizing characteristics. With the establishment

of an ad hoc Committee to focus in more detail, Canada is prepared to reinforce its efforts and to participate actively and effectively in developing an understanding and consensus for further work relating to the subject of preventing an arms race in outer space.

This working paper is meant to facilitate consideration of this area by the CD by providing a basis for examining its legal context. In general, as a review of international law relating to arms control and outer space, it presents a broad interpretation of a variety of views concerning the significance and application of some of the existing treaties. It does not purport to provide a Canadian government position on any issue. Instead, in terms of the CD mandate relating to the prevention of an arms race in outer space, its objective is to provide a rational basis for discussion from which the ad hoc Committee might wish to develop its approach to the subject. It will be apparent throughout this paper that different interpretations may emerge due to the lack of consensus regarding terminology and definitions relating to the outer space.

I. Introduction

Generally speaking there are four sources of international law as outlined by Article 38(1) of the Statute of the International Court of Justice.[1] These are:

(a) international conventions, whether general or particular, establishing rules expressly recognized by the contracting states;

(b) international custom, as evidence of a general practice accepted as law;

(c) the general principles of law recognized by civilized nations;

(d) ... judicial decisions and the teachings of the most highly qualified publicists of various nations, as subsidiary means for the determination of rules of law.

This paper will limit its consideration to two categories. First, international conventions and treaties relevant to outer space will be reviewed. Treaties express the intention of the parties to create binding obligations under international law. They may also

reflect general principles of law and the obligations undertaken as part of a treaty may obtain broader acceptance so as to become a part of customary law.

Second, this paper will focus on UNGA resolutions some of which may reflect existing customary law or at least be indicative of the directions in which that law is evolving.

Comments by legal analysts have been included in the text where deemed appropriate.

II. International Agreements

Any consideration of international treaty law should be undertaken on the basis of the principles enumerated in the Vienna Convention on the Law of Treaties.[2]

Article 31 of this Convention provides the following general rule of interpretation:

1. A treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose.

2. The context for the purpose of the interpretation of a treaty shall comprise, in addition to the text, including its preamble and annexes:

   (a) any agreement relating to the treaty which was made between all the parties in connection with the conclusion of the treaty;

   (b) any instrument which was made by one or more parties in connection with the conclusion of the treaty and accepted by the other parties as an instrument related to the treaty.

3. There shall be taken into account, together with the contexts:

   (a) any subsequent agreement between the parties regarding the interpretation of the treaty or the application of its provisions;

   (b) any subsequent practice in the application of the treaty which establishes the agreement of the parties regarding its interpretation;

(c) any relevant rules of international law applicable in the relations between the parties.

4. A special meaning shall be given to a term if it is established that the parties so intended.

The discussion of treaties which follows is arranged chronologically by the date of the agreement in question. It should be noted that several treaties are covered which might seem at first glance to be irrelevant to the subject of arms control and outer space. These agreements are included simply because some of their provisions (especially those regarding verification) or the circumstances surrounding their negotiation may shed light on developments respecting arms control and outer space.

(i) The Charter of the United Nations (1945)[3]

The UN Charter has considerable relevance to the subject of arms control and outer space. It is explicitly mentioned in several treaties which deal directly with outer space including the 1967 Outer Space Treaty where parties agree to carry on their activities relating to the exploration and use of outer space "in accordance with international law, including the Charter of the United Nations ..." (Article III; see also the Preamble). Similarly, the Moon Treaty mentions the Charter (Articles II and IV) as does the Environmental Modification Treaty (Preamble and Article V).

Particularly relevant in the context is one of the stated purposes of the UN:

1. To maintain international peace and security, and to that end: to take effective collective measures for the prevention and removal of threats to the peace, and for the suppression of acts of aggression or other breaches of the peace, and to bring about by peaceful means, and in conformity with the principles of justice and internatonal law, adjustment or settlement of international disputes or situations which might lead to a breach of the peace; (Article 1)

Also important is the Preamble which states that the peoples of the United Nations will ensure that "by

acceptance of principles and the institution of methods, that armed force shall not be used, save in the common interest".

States are also inter alia obligated to settle disputes peacefully and refrain from the threat or use of force under Article 2:

> The Organization and its members, in pursuit of the Purposes stated in Article 1, shall act in accordance with the following Principles.
>
> 1. The Organization is based on the principle of the sovereign equality of all its Members.
>
> 2. All Members, in order to ensure to all of them the rights and benefits resulting from membership, shall fulfil in good faith the obligations assumed by them in accordance with the present Charter.
>
> 3. All Members shall settle their international disputes by peaceful means in such a manner that international peace and security, and justice, are not endangered.
>
> 4. All members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any state, or in any other manner inconsistent with the purposes of the United Nations....

Such obligations would seem to apply also to the activities of states in outer space, especially in view of the provisions of the Outer Space Treaty and other treaties mentioned above.

An important proviso to these obligations under the Charter is contained in Article 51 which states:

> Nothing in the present Charter shall impair the inherent right of individual or collective self-defence if an armed attack occurs against a Member of the United Nations, until the Security Council has taken measures necessary to maintain international peace and security. Measures taken by members in the exercise of this right of self-defence shall be immediately reported to the Security Council and shall not in any way affect

the authority and responsibility of the Security Council under the present Charter to take at any time such action as it deems necessary in order to maintain or restore international peace and security.

(ii) Antarctic Treaty (1959)[4]

During the International Geophysical Year (IGY) of 1957[5] the international scientific community conducted a number of studies of man's environment - the earth, the oceans, the atmosphere and outer space. The guidelines for the IGY contained several ideas which were later incorporated in the Antarctic Treaty of 1959, and some of these basic provisions served as precedents for later treaties particularly the 1967 Outer Space Treaty, the 1967 Treaty of Tlatelolco, the 1971 Seabed Treaty, and the 1979 Moon Treaty.

Two of the main purposes of the Antarctic Treaty were to ensure continuation of scientific cooperation and to avoid the militarization of the continent. In regard to the latter, the suitability of Antarctica for nuclear tests and the testing of other military equipment provided a strong incentive to prohibit the military use of Antarctica.

The preamble to the Antarctic Treaty recognized "that it is in the interest of all mankind that Antarctica shall continue forever to be used exclusively for peaceful purposes and shall not become the scene or object of international discord" indicating that the parties intended to create a legal regime for this area which would ensure peace on the continent and facilitate international cooperation.

In its operative part, the Treaty seeks to preserve a non-militarized status of the Antarctic by prescribing in Article I(1) that it shall be used "for peaceful purposes only" and prohibits "inter alia any measures of a military nature, such as the establishment of military bases and fortifications, the carrying out of military manoeuvres, as well as the testing of any type of weapons".[6] It is interesting to note that certain terms, such as "peaceful purposes", are not defined in the treaty.[7]

The Treaty, according to paragraph 2 of Article I, "shall not prevent the use of military personnel or equipment for scientific research or for any other peaceful purposes". This provision is said to have been

included in recognition of the importance of the support rendered, to scientific activities by naval vessels and personnel.[8]

The extent of the freedom of scientific investigation, as established in Article II of the Treaty, is set out in Article III. Freedom of scientific investigation is provided for to the extent to which it was actually exercised during the IGY.[9] Furthermore, one of its important elements is that of international cooperation.[10] The parties to the Treaty agree that to the greatest extent feasible and practicable, exchanges shall take place concerning plans for scientific programmes, or scientific personnel between expeditions and stations, and of scientific observations and results. Provision is also made for close cooperation with the specialized agencies of the United Nations and other international organizations having scientific or technical interest in Antarctica (Article II(2)).

Article V prohibits "any nuclear explosions in Antarctica and the disposal there of radioactive waste material".[11]

In order to promote the objectives and to ensure the observance of the Treaty's provisions, the principle of open inspection was established in Article VII of the Treaty.[12] Under paragraph 3 of Article VII, all areas of Antarctica, including all stations, installations and equipment shall be open at all times to inspection by any observers designated by state parties. Each of these observers shall have complete freedom of access at any time to any or all areas of Antarctica. Aerial observation is also permitted. In order to facilitate observation, information is exchanged between the parties as to expeditions to and within Antarctica, on all stations therein and any military personnel or equipment intended to be introduced into Antarctica (Article IX(1)). No sanctions are provided for non-compliance with the Treaty's provisions. Disputes about interpretation of the Treaty are to be dealt with by consultations. If a dispute remains unresolved, it may be taken to the International Court of Justice (Article XI).

Article IX of the Treaty contains important elements for the joint administration of Antarctica. In particular, representatives of contracting parties so entitled shall meet at suitable intervals for the purpose of exchanging information and for consultation on matters of common interest pertaining to Antarctica; and for

formulating and considering, as well as recommending to their governments, measures to further the principles and objectives of the Treaty. Article XII provides for a review conference thirty years after the Treaty's coming into force.

Prior to the beginning of international cooperation for scientific research, a number of states had already made claims of sovereignty over part of Antarctica. Article IV of the Treaty basically "freezes" the claims to sovereignty and jurisdiction of interested states. Under this provision, the Treaty does not have the effect of a renunciation by any contracting party of previously asserted rights or claims to territorial sovereignty. Furthermore, no new claims or enlargement of any existing claims shall be asserted while the Treaty is in force (Article IV(2)).

Concepts embodied in the Antarctic Treaty, such as the use of this area for peaceful purposes only, the freedom of scientific investigation, the promotion of international cooperation and the exchange of information and scientific personnel constitute examples of provisions which may be of relevance to the subject of arms control and outer space. The Antarctic Treaty is an example of the contribution that international law can make in ensuring a safer world.[13]

(iii) The Partial Test Ban Treaty (1963)

Concern for radioactive fallout caused by nuclear testing was one of the strongest motivating forces behind the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water.[14]

It developed between 1958 and 1962, with negotiations eventually being conducted in the Eighteen Nation Disarmament Committee (ENDC). Lack of progress in this forum led to private negotiations which resulted in the Treaty. The ENDC and its successors have considered but have not concluded an agreement to ban all nuclear tests.

The direct effect of paragraphs 1 and 2 of Article I is such that it is illegal to carry out a nuclear explosion in outer space:

1. Each of the Parties to this Treaty undertakes to prohibit, to prevent, and not to carry out any nuclear weapon test explosion, or any other

nuclear explosion, at any place under its jurisdiction or control;

(a) in the atmosphere; beyond its limits, including outer space;...

2. Each of the Parties to this Treaty undertakes furthermore to refrain from causing, encouraging, or in any way participating in, the carrying out of any nuclear weapon test explosion, or any other nuclear explosion anywhere which would take place in any of the environments described, or have the effect referred to, in paragraph 1 of this Article.

(iv) Outer Space Treaty (1967)

The Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space including the Moon and Other Celestial Bodies,[15] commonly known as the Outer Space Treaty, is regarded as the cornerstone international space law convention. As is evident from its full title, the Treaty establishes a basic legal framework for general space exploration and utilization. Moreover, it marks an important step in controlling certain, though not all, arms in outer space.

Being the first international convention directly relating to an environment regulated by, at best, nebulous customary international law principles, its significance cannot be overestimated. Its adoption brought about substantive changes in the legal regime of outer space. What before had merely been a set of non-binding guidelines now became legal obligations.

Since the Treaty holds a central position within the legal framework governing all activities carried out in space, it is necessary to examine its provisions closely. Three general themes emerge from such an examination: freedom of exploration and use, peaceful use and cooperation and international responsibility of states for their activities in outer space.

In the operative part of the Treaty, Article I reiterates the primary interests of the international community:

The exploration and use of outer space, including the moon and other celestial bodies, shall be carried out for the benefit and in the interests

> of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind.
>
> Outer Space, including the moon and other celestial bodies, shall be free for exploration and use by all States without discrimination of any kind, on a basis of equality and in accordance with international law, and there shall be free access to all areas of celestial bodies.
>
> There shall be freedom of scientific investigation in outer space, including the moon and other celestial bodies, and States shall facilitate and encourage international cooperation in such investigation.

This Article establishes a basic principle of space law: space shall be free for exploration and use by all states on the basis of equality.

According to Article II, outer space is not subject to national appropriation by claims of sovereignty, by means of use or occupation, or by any other means. This Article reflects the notion of res communis already granted substantial recognition by customary international law. Article III obliges states to undertake space activities "in accordance with international law, including the Charter of the United Nations, in the interest of maintaining international peace and security and promoting international cooperation and understanding".

The primacy of the common interest of all nations[16] is stressed again in Article IX of the Outer Space Treaty which states that parties shall be guided by the principle of cooperation and mutual assistance in the exploration and use of outer space, and shall conduct all their activities with due regard to the corresponding interests of all other parties to the Treaty. It is worthy of note that in the first three articles of the operative part of the Outer Space Treaty, in which the guiding principles governing space activities have been laid down, no mention of the use of the whole of outer space exclusively for peaceful purposes has been made.[17] It is only with respect to the moon and other celestial bodies that this concept has been accepted (Article IV(2)).

Article IV contains the only provision of the Outer Space Treaty addressed specifically to military activities and reads as follows:

> States Parties to the Treaty undertake not to place in orbit around the earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner.
>
> The moon and other celestial bodies shall be used by all States Parties to the Treaty exclusively for peaceful purposes. The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military manoeuvres on celestial bodies shall be forbidden. The use of military personnel for scientific research or for any other peaceful purposes shall not be prohibited. The use of any equipment or facility necessary for peaceful exploration of the moon and other celestial bodies shall also not be prohibited.

The first paragraph of this article codifies the policy set forth in a bilateral pledge by the United States and the Soviet Union, later unanimously adopted as a resolution of the United Nations General Assembly.[18] Within its admitted limits it contributed affirmatively to the stabilization of international relations through the imposition of some restraints on the military use of the space environment.[19] It also expands the prohibition against nuclear tests in outer space contained in the Partial Test Ban Treaty, to encompass any other kind of weapons of mass destruction.

The second paragraph of Article IV is one of the most controversial provisions of the Treaty and has often been cited in support of the claim that the Treaty forbids only those military activities that are enumerated in the above-mentioned article.[20] An argument has been advanced that Article IV, in conjunction with other provisions of the Treaty, imposes "complete demilitarization of outer space".[21] However, the negotiating history of the Treaty, its text and the practice of states would not seem to support this view.

To verify compliance with the provisions of the Outer Space Treaty, Article XII provides for inspection "on the basis of reciprocity" of all stations,

installations and equipment on the moon or other celestial bodies. Advance notice of inspection is required to ensure safety and to avoid interference with the operations of the facility to be visited. This provision for inspections does not, however, apply to objects in earth orbit. Observation of launches and flights of spacecraft on a voluntary basis is also allowed for by Article X. Article XI, which requires states to inform the UN Secretary General, the public and the scientific community "to the greatest extent feasible and practicable, of the nature, conduct, locations and results" of space activities, also has a limited role in the context of verification.

Concerning anti-satellite (ASAT) weapons Article IV of the Outer Space Treaty, read alone, makes certain legal conclusions clear. First, weapons systems of any kind including conventional weapon systems cannot be lawfully employed on the moon or other celestial bodies.[22] Second, the precise language of Article IV is such that ASATs "would not be prevented from being placed in outer space, per se",[23] since there is no specific stipulation in Article IV that space shall be used "exclusively for peaceful purposes" and ASATs are not prima facie weapons of mass destruction. Moreover, the negotiations between the space powers on this matter[31] suggest that they do not regard the terms of the Outer Space Treaty, as prohibiting the emplacement of anti-satellite devices in outer space. This attitude is further reinforced by recent Soviet proposals to ban all weapons in space. Thus, it would appear that the term "weapon of mass destruction" does not cover the emplacement in outer space of non-nuclear ASAT weapons. The same analysis is likely to apply to laser and particle-beam weapon systems with one reservation: the incipient nature of such systems makes it difficult to conclude whether such weapon systems would be for the purpose of mass destruction. This would probably depend on the type of system and its design objectives. Fractional orbital bombardment missiles (FOBS), although clearly weapons of mass destruction, may also not be prohibited by the Outer Space Treaty because they are in "outer space" (as yet undefined in international law) for less than one full orbit around the earth. SALT II, however, does include a provision prohibiting new FOBS systems.

It is worth mentioning that the Outer Space Treaty is not, in fact, an arms control treaty but was in large measure negotiated in COPUOS. COPUOS does not have

a mandate specifically to negotiate matters concerning arms control. That is the specific responsibility of the CD. It is recognized, however, that the arms control and peaceful use aspects of the outer space issue are closely related.

(v) The Treaty of Tlatelolco (1967)

The parties to the Treaty for the Prohibition of Nuclear Weapons in Latin America[24] agree to use nuclear materials under their jurisdiction exclusively for peaceful purposes and to prevent on their territories the testing, use, manufacture, production, acquisition, receipt, storage, installation, deployment or any form of possession of nuclear weapons. They also agree to refrain from engaging in or participating in the testing, use, manufacture, production, possession or control of nuclear weapons (Article I). In essence, the Treaty establishes a nuclear weapons free zone in Latin America.

The safeguards system of the International Atomic Energy Agency applies to peaceful nuclear activities of parties as a control mechanism and for verification purposes (Article XII). In addition, the Convention establishes the Agency for the Prohibition of Nuclear Weapons in Latin America to ensure, among other things, compliance with Treaty provisions (Article VII). The Treaty is noteworthy as representing the first agreement on arms limitation to create an effective regional system of control under a permanent supervisory organ. Specifically, the Agency and the IAEA have the authority to verify that devices and facilities intended for peaceful uses of nuclear energy are not used to test or manufacture nuclear weapons and that explosions for peaceful purposes are compatible with the Treaty. Methods of verification include inspections (Article XVI). Measures are prescribed in the event of violation including referral of the matter to the OAS and UN (Article XX). The Agency is also empowered to enter into relations with any international organization or body, including any future body established to supervise disarmament or measures for the control of armaments in any part of the world (Article XIX).

The Treaty might be seen to serve as an initial model of regional cooperation for the control of arms. The verification provisions also provide a precedent for international control organizations.

(vi) Rescue and Return Agreement (1968)

The Agreement on the Rescue of Astronauts, the Return of Astronauts, and the Return of Objects Launched into Outer Space[25] as its title suggests provides for the tendering of assistance and the rescue of astronauts in distress whether on sovereign territory or from areas outside of state jurisdiction.[26]

(vii) The Non-Proliferation Treaty (1968)[27]

This Treaty was negotiated and drafted by the ENDC pursuant to the 1965 General Assembly Resolution 2028 (XX) requesting the ENDC to give urgent consideration to the problem of nuclear weapons proliferation.

Article I of the Non-Proliferation Treaty prohibits the transfer, from a nuclear-weapon state "to any recipient whatsoever nuclear weapons or other nuclear explosive devices or control over such weapons or explosive devices directly, or indirectly." It also requires nuclear weapon states "not in any way to assist, encourage, or induce any non-nuclear-weapon State to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices, or control over such weapons or explosive devices".

This is the active prohibition. The corollary is found in Article II which prohibits the corresponding activities on the part of the non-nuclear receiving state.

Article III provides for verification using safeguards established by the International Atomic Energy Agency. The IAEA inspectors have the authority to conduct regular on-site inspections of nuclear facilities coming under the NPT regime. The NPT, therefore, can be said to serve as a precedent for the establishment of an international body empowered to monitor compliance with a multilateral convention dealing with a specific type of weapon.

(viii) The Seabed Treaty (1971)[28]

This Treaty prohibits emplacing on the seabed and the ocean floor, and in the subsoil thereof beyond the outer limit of a coastal zone, any nuclear weapons or any other types of weapons of mass destruction as well as structures, launching installations or any other facilities especially designed for storing, testing or using such weapons (Article I).

Article III, paragraph 1 of the Treaty states that in order to ensure compliance, each state party has the right to verify, through observation, the activities of other parties on the seabed provided only that this observation does not interfere with such activities. Such observation can be conducted by the parties through the use of their own means, with the assistance of other parties or through appropriate international procedures within the framework of the United Nations and in accordance with its Charter. Should a state be dissatisfied with its inspection and reasonable doubts remain concerning the fulfillment of obligations assumed under the Treaty, the parties shall consult with a view to removing such doubts (Article III (2)). If doubts still persist, the state questioning compliance may notify the other parties to the Treaty with a view to co-operating on further procedures for verification including appropriate inspection of installations (Article III (3)). Finally, if satisfaction is still lacking, the state may refer the matter to the UN Security Council which is empowered to take any action in accordance with the Charter (Article III (4)). The Final Declaration of the Second Review Conference of the parties to the Seabed Treaty states that paragraphs (2), (3) and (5) of Article III include the right of parties to resort to various international consultative procedures, such as ad hoc consultative groups of experts.

Like the Antarctic Treaty, the Treaty of Tlatelolco and the Outer Space Treaty, the Seabed Treaty prevents the introduction of nuclear weapons to a new region of the earth's environment.

(ix) Agreement on Measures to Reduce the Risk of Outbreak of Nuclear War (1971)[29], Agreement on Measures to Improve the Direct Communications Link (1971)[30] and Agreement on the Prevention of Nuclear War (1973)[31]

In the Prevention of Nuclear War Agreement each side undertakes to act in a manner so as "to prevent the development of situations capable of causing a dangerous exacerbation of their relations, as to avoid military confrontations and as to exclude the outbreak of nuclear war between them and between either of [them] and other countries" (Article I). This is further extended by Article II which requires the parties to refrain from the

threat or use of force against the other or its allies. In a crisis threatening nuclear war the parties agree to hold consultations.

The Agreement on Measures to Reduce the Risk of Outbreak of Nuclear War requires the parties, inter alia, to notify each other immediately of signs of interference with their early warning systems or related communications facilities if such occurrences threaten nuclear war (Article III). There is, in this provision, a recognition that interference with early warning systems (including satellites) could risk the outbreak of nuclear war. Since the parties have agreed in the Prevention of Nuclear War Agreement not to create situations or use force which would endanger international peace and security or cause a dangerous exacerbation of their relations, they have an implied understanding of the need to avoid interfering with early warning satellites.

The 1971 Agreement on Measures to Improve the Direct Communication Link requires the establishment of two additional communications circuits between the superpowers, using satellite communications systems (Article I). Furthermore, "each Party confirms its intention to take all possible measures to ensure the continuous and reliable operation of the communication circuits ..." (Article II). These provisions therefore, to prohibit interference with communications satellites involved in the Direct Communication Link.

(x) Convention on International Liability for Damage Caused by Space Objects (1972)[32]

This Convention is primarily intended to ensure prompt and equitable compensation for victims of damage caused by space objects. It establishes a set of rules for determining the source and measure of liability for damage occurring on earth, in outer space and in airspace. Specific procedures are envisaged for third party arbitration in cases of disagreement on responsibility or payment of damages.

Different degrees of liability apply depending on the location of the damage resulting from space activities. If the damage occurs on the earth's surface or to aircraft in flight then the launching state is absolutely liable (Article II). If, however, the damage is to another space object, then liability only attaches if the damage is due to the launching state's fault (Article III).

While the Convention is not directly relevant to arms control and outer space, it does reinforce the view that states are legally responsible for their activities, presumably including military activities, in outer space. Moreover, should the military activities of a state in outer space cause damage to third parties, presumably civil liability for those damages might follow.

(xi) Biological Weapons Convention (1972)[33]

One of the few truly disarmament agreements, this Convention prohibits the development, production, stockpiling and acquisition of biological warfare agents and weapons including toxins. It also requires the destruction or diversion to peaceful uses of existing stocks.

Only limited provisions are incorporated with regard to handling compliance problems. The parties agree to consult and cooperate with each other to resolve disputes about implementation (Article V). This may take place through appropriate international procedures within the framework of the United Nations. Complaints regarding violations of the treaty can be lodged with the UN Security Council (Article VI) and parties agree to cooperate with any Security Council investigation. Recent difficulties in resolving allegations of the use of chemical and/or toxin agents in South-East Asia and elsewhere illustrate the consequences of the lack of adequate agreed international verification of compliance procedures in such a treaty.

(xii) Anti-Ballistic Missile Treaty (1972)[34]

This Treaty between the USA and USSR prohibits the deployment of anti-ballistic missile (ABM) defences except for limited systems to protect each national capital and one other area (Article I and III). The 1974 Protocol to the Treaty restricts each side to one site only. Moreover, while the Treaty permits the development and testing of fixed land-based ABM systems at selected test sites, the parties undertake "not to develop, test or deploy ABM systems or components which are sea-based, air-based, space-based, or mobile land-based" (Article V (1), emphasis added). It can be noted that research is not expressly prohibited by the Treaty.

Verification of compliance with the ABM Treaty is to be provided by the use of "national technical means... in a manner consistent with generally recognized principles of international law" (Article XII (1)). Each party also agrees not to interfere with the national technical means of the other when used in accordance with Article XII (1). Furthermore, the use of deliberate concealment measures to impede verification by national technical means is prohibited (Article XII (2) and (3)). This provision against non-interference with national technical means has direct relevance to the law of outer space because one of the primary components of national technical means are reconnaissance satellites. In essence this provision reinforces the legitimacy of such satellite activities.

A Standing Consultative Commission is created to deal with compliance issues and other questions relating to the implementation of the Treaty (Article XIII).

(xiii) SALT I (1972)[35] and SALT II (1979)[36]

These agreements limit the number of strategic delivery vehicles that the superpowers may deploy. Only one provision of these agreements directly relates to outer space. Article IX (1)(C) of SALT II prohibits the development, testing or deployment of: "systems for placing into Earth orbit nuclear weapons or any other kind of weapons of mass destruction, including fractional orbital missiles". A common understanding to this provision states that it does not require the dismantling of any existing launchers. This provision, however, would seem to reaffirm and extends for these two states the applicability of the restrictions regarding nuclear weapons incorporated into Article IV of the Outer Space Treaty.

The other features of these agreements that are of most interest here, are those relating to verification. SALT I incorporates the same provision (Article V) regarding use of national technical means as that found in the ABM Treaty (Article XII). Compliance questions are referred to the same Standing Consultative Commission (Article VI).

SALT II also relies for verification on national technical means to be used in accordance with generally recognized principles of international law (Article XV (1)). As in SALT I and the ABM Treaty each party undertakes not to interfere with the other's national technical means (Article XV (2)) and not to use deliberate concealment measures to impede verification by national technical means (Article XV (3)). More precise definitions of concealment are provided in the form of Agreed Statements and Common Understandings. The use of design requirements such as "functionally related observable differences" to distinguish between weapons systems also facilitates verification. As was the case for the ABM Treaty and SALT I, these provisions relating to verification underscores the legitimacy of the use of military reconnaissance satellites which are a major element of national technical means of arms control and disarmament verification.

It is worth noting that recent events have underlined the limitations of national technical means when used alone for verification of strategic arms limits and have emphasized the need for additional effective methods of handling compliance questions.

SALT I expired in 1977 though both sides agreed to abide by its terms after that time. SALT II expires 31 December 1985. Though never ratified, both parties agreed to abide by the terms of SALT II on a reciprocal basis.

(xiv) The Threshold Test Ban Treaty (1974)[37] and the Peaceful Nuclear Explosions Treaty (1976)[38]

These two treaties are bilateral ones between the USA and the USSR. The Threshold Test Ban Treaty prohibits underground nuclear weapons tests exceeding 150 kt (Article I) and limits tests to designated test sites (Para. 1 of Protocol).

Verification, as under the ABM Treaty and SALT Treaties, is to be conducted by each side's national technical means used in a way consistent with international law (Article II). Each party again agrees not to interfere with the national technical means of the other. These national technical means include satellites as well as ground-based seismographic instruments.

In addition, the parties agree to consult about implementation. Noteworthy also is the exchange of data provisions in the Protocol relating to test site coordinates, geology, and test details. This Treaty was not ratified and no data exchange occurred. The parties did however state that they would abide by the 150 kt limit, on a reciprocal basis.

The Peaceful Nuclear Explosions Treaty is intended to complement the Threshold Test Ban Treaty by establishing a regime to govern underground nuclear explosions for peaceful purposes which by definition are those conducted outside test sites specified under the latter treaty. It limits any single peaceful nuclear explosion to 150 kt on a reciprocal basis. Any group of peaceful nuclear explosions is limited to 1500 kt. In the case of a group explosion, observers are to be invited on-site and they can bring their own monitoring equipment. Special detailed procedures for the shipment of this equipment are outlined. Other provisions for inspections are given regarding group explosions and individual explosions of different sizes. For explosions below 150 kt, national technical means of verification are relied upon, together with detailed data on the explosion provided by the party conducting it. The amount of information to be provided varies with the yield of the blast. A joint Consultative Commission is to be established to facilitate exchange of information and verification. Detailed procedures for the conduct of inspections are spelled out in a Protocol.

As with the Threshold Test Ban Treaty, the Peaceful Nuclear Explosions Treaty has not been ratified. The Treaty is significant because it involves on-site inspections that would take place at military-related sites on the territory of each superpower. Moreover, the two Treaties because they refer to non-interference with national technical means, again reinforce the legitimacy of military reconnaissance satellites as verification systems in the arms control and disarmament process.

(xv) The Registration Convention (1975)

The Convention on Registration of Objects Launched into Outer Space[39] entered into force on 13 September 1976. The Treaty establishes a mandatory and uniform registration system for objects launched into outer space. It provides for a general registry which is kept by the United Nations Secretary General and which is

publicly accessible. The Convention also provides a uniform format for information furnished by launching states.

The Treaty is based on the voluntary system established by General Assembly Resolution 1721 of 1961.[40] Under the voluntary system there was, however, no delineation of what details should be provided. Consequently, the information furnished by countries was not uniform and was not reported promptly and on a regular basis.

The Registration Convention is a reflection of the general principles established by the Outer Space Treaty and elaborated through the Rescue Agreement and Liability Convention. While the other treaties do not refer to a central registry system, the Outer Space Treaty does contemplate national registries.[41]

Three reasons have been posited for the establishment of a central registry: effective management of traffic, enforcement of safety standards, and imputation of liability for damage.[42] While the central registry is the most significant feature of the Treaty, it fulfills several other important objectives. Launching countries must maintain a national registry (Article II). Article IV of the Registration Convention requires mandatory reporting to the Secretary-General of the United Nations of information on a number of data, such as the date and location of the launch, changes in orbital parameters after the launch, and the recovery date of the spacecraft. States are not obliged to disclose the specific function of the satellite, but only the "general function of the space objects"(Article 1(e)). Furthermore, the Registration Convention does not require a launching state to provide appropriate identification markings for its spacecraft and its component parts.[43]

It is worthy of note that, notwithstanding the fact that over half of the satellites launched serve military purposes,[44] not one of the launchings registered has ever been described as having a military function.

(xvi) Environmental Modification Convention (1977)

The Environmental Modification Convention[45] as its title suggests aims at prohibiting the hostile use of potentially disastrous environmental modification techniques. This Convention is relevant to outer space

because of the potential of space science and technology for use in environmental modification either for peaceful or hostile uses. The dual-purpose nature of these technologies is explicitly referred to in the Preamble of the Convention which recognizes that the use of such techniques for peaceful purposes could "contribute to the preservation and improvement of the environment for the benefit of present and future generations", while their military or any other hostile application "could have effects extremely harmful to human welfare".

The key provision of the Convention is contained in Article I (1) which prohibits "military or any other hostile use of environmental modification techniques having widespread, long-lasting or severe effects as the means of destruction, damage or injury to any other State Party". Environmental modification techniques are defined as those which can be used "for changing - through the deliberate manipulations of natural processes - the dynamics, composition or structure of the Earth, including its biota, lithosphere, hydrosphere, and atmosphere, or of outer space" (Article II, emphasis added). The Convention, therefore, has direct application to outer space.

The Convention does not establish a ban on all environmental modification technologies for military or hostile purposes, but only for those which have widespread, long-lasting or severe effects. No definition of these terms may be found in the Convention itself. However, the understandings which accompany the Convention and form part of its negotiating record, define "widespread" as encompassing an area of several hundred square kilometers; "long-lasting" as lasting for a period of months or approximately a season; and "severe" as involving significant disruption or harm to human life, natural and economic resources or other assets.[46] These broad and legally non-binding provisions do not alter the largely recognized consequence that whatever is not prohibited verbis expressis by the Convention is implicitly permitted.[47] Thus, non-hostile techniques are not prohibited, regardless of their effects, nor are techniques which produce destructive effects below a certain threshold.[48]

Another characteristic of the Convention derives from the dual-purpose character of environmental modification technologies. The Convention states that its provisions "shall not hinder the use of environmental modification techniques for peaceful purposes" (Article

III). As a result of their dual-purpose character, the distinction between peaceful and military applications becomes very difficult to draw. Peaceful applications might include changing rainfall patterns, dissipating fog, and the diversion of hurricanes and earthquakes to name but a few.[49] Hostile applications might include triggering of earthquakes, upsetting the ecological balance of a region and destroying crops. The purpose of using environmental modification techniques in war also includes interfering with communications. Because of the difficulty of distinguishing research and development for peaceful applications from that for hostile uses, nowhere does the Convention prohibit research and development of environmental modification technologies for war-like purposes.

Article III (2) states that parties to the Convention undertake to facilitate, and have the right to participate in, the fullest possible exchange of scientific and technological information on the use of environmental modification techniques for peaceful purposes. Article IV provides that each party to the Convention undertakes "to take any measure it considers necessary in accordance with its constitutional process to prohibit and prevent any activity in violation of the provisions of the Convention anywhere under its jurisdiction or control" . Such a provision would seem to have little practical significance since no definition is given as to what constitutes an "activity in violation". Furthermore, recourse to different national laws precludes the establishment of a uniform and objective set of sanctions in case of non-compliance.

No means of verification are provided for in the Convention. However, a recent study[50] has indicated that military and civilian weather satellites could assist in verifying compliance with the provisions of the Convention, though it would be difficult to determine the cause of any unusual developing weather pattern which may have been detected.

Where a state questions compliance with provisions of the treaty, it may request consultation with another state in accordance with Article V. Consultation may also take place through suitable international procedures within the framework of the UN including the services of appropriate international organizations. Furthermore, a Consultative Committee of Experts may be convened to deal with compliance matters. It would be

composed of representatives of any state party wishing to participate. The Committee is charged with transmitting to the Depositary, a report of its findings which would then be distributed to all state parties. Finally, any party having reason to believe that another party is in breach of its treaty obligations, may lodge a complaint with the UN Security Council. The Council is empowered to initiate its own investigation and parties to the Convention are obligated to cooperate with the Security Council.

(xvii) Moon Treaty (1979)

The Agreement Governing the Activities of States on the Moon and Other Celestial Bodies[51] is the most recent agreement dealing directly with outer space. A Resolution was adopted by consensus in the UN General Assembly on 5 December 1979 recommending the Treaty for signature and the Treaty came into force on 11 July 1984.[52] It should be noted that as of 31 March 1984 there are only four parties to this Treaty. The result of lengthy discussion and compromise, the Moon Treaty is a composite of general principles and specific provisions outlining permissible activity on the moon and other celestial bodies.[53] The Treaty is a further elaboration of certain concepts in the Outer Space Treaty. While it does not apply to the earth or earth orbits and while few states are party to the Treaty, the principles it contains regarding space conduct are of great interest.

The Moon Treaty is modeled on the Outer Space Treaty; space activities are to be carried out in accordance with international law in the interest of maintaining peace and security and promoting international cooperation and understanding. Exploration and use is to be carried out for the benefit and in the interests of all nations. All of these principles, while general, are of relevance to space law today.

There are several key articles in the Moon Treaty which serve to establish state conduct for the moon and other celestial bodies. Article IV (1) provides that exploration and use of the moon shall be the province of all mankind and shall be carried out for the benefit and in the interests of all countries regardless of their degree of economic or scientific development. In carrying out activities, states shall be guided by the principle of cooperation and mutual assistance.[54] Secondly, scientific investigation must be carried out without discrimination and on the basis of equality and in accordance with international law.

While arms control was not a major focus of discussion during the negotiations, some nations did express concern over the military implications of certain space activities. Article III of the Moon Treaty contains the only provision specifically addressed to military activities. Paragraph 1 provides that the moon and other celestial bodies shall be used "exclusively for peaceful purposes". While in this case the language is virtually identical to that found in Article IV (2) of the Outer Space Treaty, the effect is to expand the area of application of the peaceful purposes admonition.[55] Under the Outer Space Treaty only the moon and celestial bodies were specifically limited to peaceful purposes. Because of the definitional concept contained in Article I of the the Moon Treaty, orbits around and other trajectories to and around the moon and other celestial bodies must also be devoted to peaceful purposes.[56] With regard to Article III (2), some nations wanted to assure that this provision did not differ in effect from Article 2 (4) of the UN Charter and did not derogate from the right of self-defence under Article 51 of the UN Charter. Article III (2) of the Moon Treaty prohibits "any threat or use of force or any other hostile act or threat of hostile act" on the moon. Since there is no definition of the term "hostile act", there is no firm understanding as to how a hostile-act might differ from the use of force. In this regard, it should be noted that when France signed the Moon Treaty it reported a clarification to the United Nations as follows:

> France is of the view that the provisions of Article 3, Paragraph 2 of the agreement relating to the use or threat of force cannot be construed as anything other than a reaffirmation, for the purposes of the field of endeavour covered by the agreement, of the principle of the prohibition of the threat or use of force, which states are obliged to observe in their international relations, as set forth in the UN Charter.[57]

Article III (2) also prohibits the use of the moon as a base for threatening the earth or spacecraft.

Paragraph 3 of Article III prohibits orbiting of nuclear and other kinds of mass destruction weapons around the moon and any other trajectory to or around the moon. It also forbids the placement or use of such weapons on the moon. It would seem that paragraph 3 attempts to settle the question caused by the omission of the moon from the prohibition contained in Article IV (1) of the Outer Space Treaty regarding placement of nuclear weapons and other weapons of mass destruction.

Paragraph 4 forbids "the establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military manoeuvres" on the moon.

As regards verification, parties to the agreement are allowed to inspect all space vehicles, equipment, facilities stations and installations belonging to any other party. Pursuant to Article XV (1), the Agreement authorizes every contracting state to conduct such inspection "on its own behalf or with the full or partial assistance of any other state party or through appropriate international procedures within the framework of the United Nations and in accordance with the Charter".

If a party believes another party is not fulfilling the obligations incumbent upon it pursuant to the Moon Treaty, it may request consultations with a view to arriving at a mutually acceptable resolution of any controversy (Article XV (2)). Should no settlement be forthcoming, the parties may take measures to solve their dispute by any other peaceful means. The assistance of the Secretary-General may be sought by either party in order to resolve the controversy (Article XV (3)).

(xviii) International Telecommunication Convention (1982)

The presently applicable International Telecommunication Convention was adopted in 1982 in Nairobi.[58] The purposes of the International Telecommunications Union (ITU) are to maintain and extend international cooperation for the improvement and rational use of telecommunications, to ensure the efficient use of the radio spectrum and to harmonize the actions of states in the attainment of these ends.[59] The ITU is also responsible for the allocation of radio frequencies for all outer space activities and for ensuring that the radio spectrum is utilized without harmful interference. With respect to the use of the geostationary orbit, provision is made requesting states to undertake efficient and economical utilization to ensure equitable access for all members (Article 33).

However, the opportunities for an equitable and rational allocation of orbital positions are reduced by Article 38 (1) of the Convention which states:

> Members retain their entire freedom with regard to military radio installations of their army, naval and air forces.

III. United Nations General Assembly Resolutions

The evolution of space law has closely followed space exploration. It should be noted that even prior to the first launchings, it was thought that on the basis of international law, outer space was res communis.[60] Thus, as was the case with the high seas, space was understood to be free for all to use and to be beyond sovereign claims. Even while the use of outer space was at an experimental stage, the need for its regulation was strongly defended. Initial efforts of the United States in early 1957[61] to ban the use of cosmic space for military purposes did not meet with a favourable response from the Soviet Union.[62] However, the twelfth session of the United Nations General Assembly adopted Resolution 1148 calling for the "joint study of an inspection system designed to ensure that the sending of objects through outer space should be exclusively for peaceful and scientific purposes."[63]

Soon after the launching of the first Soviet and American satellites[64] the international legal aspects of outer space activities began to be examined. In 1958, the United Nations General Assembly created an ad hoc Committee on Peaceful Uses of Outer Space by Resolution 1348 entitled "Question of the Peaceful Use of Outer Space.[65] Already at this early stage the Assembly resolved to "promote energetically the fullest exploration and exploitation of outer space for the benefit of mankind".[66] This was to be achieved on the basis of sovereign equality by international cooperation in the study and utilization of space for peaceful purposes. It was thought that the implementation of these aims could best be carried out by the establishment of an appropriate international body within the framework of the United Nations. Consequently, the ad hoc Committee was formed composed of eighteen members and charged with reporting to the General Assembly at its next session, on:

(1) the activities and resources of the U.N. and other international bodies relating to the peaceful uses of outer space;

(2) the area of international cooperation and programs in the peaceful uses of outer space which could appropriately be undertaken within the U.N.;

(3) the future organizational arrangements to facilitate international cooperation in space activities; and

(4) the nature of legal problems which might arise in carrying out space programs.

The ad hoc Committee obtained permanent status, as a Standing Committee, [67] in 1959 by UNGA Resolution 1472 almost one full year later.[68] This resolution recognized the common interest of mankind as a whole in furthering the peaceful use of outer space and, significantly, made mention of the paramount aim to benefit all states "irrespective of their economic or scientific development" through space exploration. The Assembly also noted that the U.N. should promote international cooperation in outer space. The next significant Resolution, 1721, adopted unanimously in December 1961,[69] would serve to guide the subsequent evolution of space law. In addition to reiterating the afore-mentioned principles, the Assembly adopted the guiding principle that outer space and celestial bodies would be "free for exploration and use by all States in conformity with international law and would not be subject to national appropriation".[70] The Assembly called upon states launching objects to furnish COPUOS with information regarding launch details and acquired scientific and technological knowledge. This information was to be communicated through the Secretary-General who was requested to maintain a public registry of all furnished details. COPUOS was instructed to maintain close links with the Secretariat in order to ensure full cooperation and interaction between government and non-governmental organizations concerned with outer space matters.

Thus by 1961 three important themes had emerged:

(1) that exploration was to be according to international law;

(2) that all states would be free to explore and use the outer space environment;

(3) that space could not be subject to claims of sovereignty.

These themes were further elaborated upon in 1963 by the very important Resolution 1962 entitled "Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space".[71] The following guiding principles were propounded:

(1) the exploration and use of outer space should be carried on for the benefit and in the interest of all mankind;

(2) outer space and celestial bodies should be free for exploration and use by all states on a basis of equality and in accordance with international law;

(3) outer space and celestial bodies should not be subject to national appropriation;

(4) the activities of states in the exploration and use of outer space should be carried on in accordance with international law, including the Charter of the United Nations;

(5) states should bear international responsibility for national activities in outer space, this responsibility to be borne by the states alone or by the international organizations and by the states participating in them; it was also set forth that national activities should require continuing supervision by the state concerned;

(6) in the exploration and use of outer space, states should be guided by certain principles of responsibility, as well as request consultation between interested parties;

(7) the state on whose registry an object launched in outer space is carried should retain jurisdiction and control over such object and its component parts;

(8) each state which launches or procures a launching of the object into outer space should be internationally liable for damage to a foreign state by such object or its component parts on the earth, in air space or in outer space;

(9) states should regard astronauts as envoys of mankind in outer space and should render to them all possible assistance; the principle of the return of astronauts and their space vehicles to the state of registry was also laid down.[72]

The Declaration of Legal Principles, as well as its precursor Resolution 1721, did not contain any specific controls on military uses of outer space and/or celestial bodies, but did make reference to the general principle that the exploration and use of outer space should be carried on for peaceful purposes.

Another factor which favoured progress in the enhancement of public order in space during this period could be broadly classified as community concerns. In 1962, within the Eighteen-Nation Committee on Disarmament (ENDC) several countries pressed for priority in the question of the Peaceful Uses of Outer Space.[73] During 1963, a joint draft resolution to ban nuclear and other weapons of mass destruction from outer space was initiated in the ENDC. Following private negotiation and agreement between the United States and the Soviet Union, the draft was referred to the General Assembly. On 13 October 1963, the General Assembly approved the draft as Resolution 1884 (XVIII). In its operative part, the resolution calls upon all states: "(a) to refrain from placing in orbit around the earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, installing such weapons on celestial bodies, or stationing such weapons in outer space" or in any way participating in the conduct of the foregoing activities. The substance of this resolution eventually was incorporated into The Outer Space Treaty of 1967 as Article IV (1).

These important concepts formed the basis for conduct in outer space and future space law conventions. It is worthy of note that Resolution 1962 was adopted unanimously. Nevertheless, the adoption of the significant provisions in all the afore-mentioned General Assembly resolutions, while welcomed, were considered only as provisional steps in establishing outer space law.[74] From a legal point of view, General Assembly resolutions do not constitute binding international law, and have the character of recommendations only. However, in some cases certain resolutions, may reflect customary international law or represent a step in the process of the progressive development of the law.

It is noteworthy that as regards Resolution 1962 many states declared, before its adoption, that their governments would consider the resolution as legally binding, or would at least agree to comply with its principles.[75]

However one characterizes the legal impact of General Assembly resolutions, it is evident that subsequent space treaty law has reflected many principles embodied in these early resolutions. More recent resolutions in the General Assembly have had less impact on the development of the law of outer space. They have, however, since 1981, highlighted an apprehension felt by some nations over an apparent trend towards stationing weapons in outer space.

IV. Summary

On the basis of the foregoing review of international law relating to arms control and outer space, certain themes, emerge. These may be summarized as follows:

(1) General international legal norms regarding military activities on earth (e.g. the UN Charter) also apply to military activities in outer space (Outer Space Treaty and Moon Treaty).

(2) Outer space and celestial bodies are not subject to national appropriation and are free for non-prohibited uses such as exploration and scientific investigation by all states (Outer Space Treaty and Moon Treaty).

(3) States bear international responsibility for their national activities in outer space and on celestial bodies (Outer Space Treaty, Moon Treaty and Liability Convention).

(4) Certain military activities in outer space are consistent with international law. These include:

(a) The use of military personnel in space (Outer Space Treaty).

(b) The use of space-based remote sensors for military purposes (ABM Treaty, SALT Treaties, Threshold Test Ban Treaty, and Peaceful Nuclear Explosions Treaty).

(c) The use of space-based communications, navigation, meteorological systems.

(5) Certain military activities in space are inconsistent with international law. These include:

(a) Interference with space-based remote sensors used for military purposes as between the USA and USSR (ABM Treaty, SALT Treaties, Threshold Test Ban Treaty and Peaceful Nuclear Explosion Treaty).

(b) Placement of nuclear weapons and other weapons of mass destruction in orbit around the earth and on celestial bodies or in orbit around them. (Outer Space Treaty, Moon Treaty, SALT II). This includes new fractional orbital systems (SALT II).

(c) Hostile acts or use of force on celestial bodies and orbits around them. (Moon Treaty).

(d) Placement of military bases and conduct of military tests or manoeuvres on celestial bodies and in orbits around them. (Outer Space Treaty and Moon Treaty).

(e) Testing of nuclear weapons in outer space (Partial Test Ban Treaty).

(f) Development, testing, deployment of space-based ABM systems or components (ABM Treaty).

(g) Military or hostile use of environmental modification techniques in outer space (Environmental Modification Treaty).

V. Conclusion

Opinions may vary on whether or not each of the five categories outlined above could be extended to encompass other space activities beyond those itemized. Opinions will also differ on the legal status of many of the themes listed. Much of the discussion surrounding what activities are permitted and what are proscribed focusses on certain key definitions such as "peaceful purposes", "free use", "militarization". Consideration of these definitions may facilitate the future deliberation of the CD on arms control and outer space.

NOTES

(1) (1946) no. 67 United Kingdom Treaty Series, Cmd. 7015. Signed 26 June 1945; entered into force 24 October 1945.

(2) (1980) no. 58 United Kingdom Treaty Series, Cmd. 7964. Opened for signature 23 May 1969; entered into force 27 January 1980.

(3) Supra, note 1.

(4) (1961), 402 United Nations Treaty Series 71. Opened for signature 1 December 1959; entered into force 13 June 1961.

(5) The International Geophysical Year (IGY) was organized under the auspices of the International Council of Scientific Unions in 1957-58 and was planned and carried out by more than 50 states. Each participating state planned and developed its own programs, which were coordinated by a special Committee for the International Geophysical Year. See: Buedeler, The International Geophysical Year, UNESCO, (1957); Chapman, IGY-Year of Discovery, (1959).

(6) See also Article IX (1) (a): "use of Antarctica for peaceful purposes only" and the first and fourth preambular paragraphs.

(7) Stein, "Legal Restraints in Modern Arms Control Agreements", (1972), 66 American Journal of International Law, 255, 259; Vlasic, "Disarmament Decade, Outer Space and International Law", (1981), 26 McGill Law Journal 173.

(8) Hanessian, "The Antarctic Treaty", (1959), International and Comparative Law Quarterly 436, 468.

(9) Article II states: "Freedom of scientific investigation in Antarctica and cooperation toward that end, as applied during the International Geophysical year, shall continue, subject to the provisions of the present Treaty".

(10) Article III states:

> "1. In order to promote international cooperation in scientific investigation in Antarctica, as provided for in Article II of the present Treaty, the contracting Parties agree that, to the greatest extent feasible and

practicable: (a) information regarding plans for scientific programmes in Antarctica shall be exchanged to permit maximum economy and efficiency of operations; (b) scientific personnel shall be exchanged in Antarctica between expeditions and stations; (c) scientific observations and results from Antarctica shall be exchanged and made freely available.

2. In implementing this Article, every encouragement shall be given to the establishment of cooperative working relations with those Specialized Agencies of the United Nations and other international organizations having a scientific or technical interest in Antarctica."

(11) According to Article V (2), if all the contracting parties were to adhere to any broader international agreements concerning the use of nuclear energy, including nuclear explosions and the disposal of radioactive waste material, those agreements would apply to Antarctica.

(12) Article VII (2). This provision was the first time that the two superpowers agreed on an on-site inspection system to ensure against unauthorized military activity.

(13) Antarctica: 10th Meeting of Treaty Consultative Parties, (November 1979), Department of State Bulletin 21.

(14) (1963), 480 United Nations Treaty Series 43. Opened for signature 5 August 1963; entered into force 10 October 1963.

(15) Adopted in UNGA Resolution 2222 (XXI), 19 Dec. 1966. (1967) 610 United Nations Treaty Series 206. Opened for signature 27 January 1967; entered into force 10 October 1967.

(16) Vlasic, supra, note 7, 170.

(17) Goedhuis, "What Additional Arms Control Measures Related to Outer Space Could be Proposed?", in: Jasani (ed.), Outer Space - A New Dimension of the Arms Race, (1982), 297, 299.

(18) UNGA Resolution 1884, 13 October 1963.

(19) Christol, "Article Four and 1967 Principles Treaty: Its Meaning and Prospects for its Clarification", Paper submitted at the XXIXth Congress of the International Institute of Space Law of the IAF, held in Dubrovnik, 1-8 October 1978, 6.

(20) Stein, supra, note 7, 260.

(21) Marcoff, Traité de droit international public de l'espace, (1973), 357.

(22) Christol, supra, note 19, 26.

(23) Ibid.

(24) UN Doc. S/RES/255 (1968). (1967) 634 United Nations Treaty Series 326. Opened for signature 14 February 1967; entered into force 22 April 1968.

(25) (1969) 672 United Nations Treaty Series 119. Opened for signature 22 April 1968; entered into force 3/December 1968.

(26) Articles II, III and IV.

(27) (1970) 729 United Nations Treaty Series 161. Opened for signature 1 July 1968; entered into force 5 March 1970.

(28) (1973) no. 13 United Kingdom Treaty Series, Cmd. 5266. Opened for signature 11 February 1971; entered into force on 18 May 1972.

(29) Agreement on Measures to Reduce the Risk of Outbreak of Nuclear War. (1972), 807 United Nations Treaty Series 57. Signed 30 Sept. 1971; entered into force 30 Sept. 1971.

(30) Agreement on Measures to Improve the Direct Communications Link. (1972), 806 United Nations Treaty Series 402.

(31) Agreement on the Prevention of Nuclear War. (1973), 24 United States Treaties 1478. Signed 22 June 1973; entered into force 22 June 1973.

(32) (1974) no. 16 United Kingdom Treaty Series, Cmd 5551. Opened for signature 29 March 1972; entered into force on 1 September 1972.

(33) Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on their Destruction. (1976) no. 11 United Kingdom Treaty Series, Cmd 6397. Opened for signature 10 April 1972; entered into force 26 March 1975.

(34) Treaty between the USA and the USSR on the Limitation of Anti-ballistic Missile Systems. Treaties and Other International Acts, Series 7503, (Washington: US Department of State, 1973). Signed 26 May 1972; entered into force 3 October 1972. Protocol to the Treaty between the USA and the USSR on the Limitation of Anti-ballistic Missile Systems. UN Doc. A/9698, Annex III, 9 August 1974. Signed 3 July 1974; entered into force 24 May 1976.

(35) Interim Agreement Between the USA and the USSR on Certain Measures with Respect to the Limitation of Strategic Offensive Arms. Treaties and Other International Acts, Series 7504 (Washington: US Department of State, 1972).. Signed 26 May 1972; entered into force 3 October 1972.

(36) Treaty Between the USA and the USSR on the Limitation of Strategic Offensive Arms, and Protocol. CD/28, 27 June 1979 and CD/29, 2 July 1979. Signed 18 June 1979.

(37) Treaty Between the USA and the USSR on the Limitation of Underground Nuclear Weapon Tests. U.N. Doc A/9698, Annex I and II, 9 August 1974. Signed 3 July 1974.

(38) Treaty Between the USA and the USSR on Underground Nuclear Explosions for Peaceful Purposes. CCD/496, 23 June 1976 and CCD/496/Corr. 1, 5 August 1976. Signed 28 May 1976.

(39) Adopted in UNGA Res. 3235 (XXII), 12 Nov. 1974. (1978) no. 70 United Kingdom Treaty Series, Cmd 7271. Opened for signature 14 Jan. 1975; entered into force 15 September 1976.

(40) UNGA Resolution 1721 (XVI), 20 Dec. 1961.

(41) In Articles V and VIII.

(42) Matte, Aerospace Law: From Scientific Exploration to Commercial Utilization, (1977), 159 and authorities therein cited.

(43) Vlasic, supra, note 7, 190.

(44) Goedhuis, supra, note 17, 298.

(45) (1979) no. 24 United Kingdom Treaty Series, Cmd. 7469. Opened for signature 18 May 1977; entered into force 5 October 1978.

(46) Understanding to Article I reproduced in Agreement Governing the Activities of States on the Moon and other Celestial Bodies, Committee on Commerce, Science, and Transportation, 95th Cong., 2nd Session, May 1980, 250.

(47) Dolman, Resources, Regimes, World Order, (1981), 322.

(48) Krieger, Disarmament and Development. The Challenge of the International Control and Management of Dual-Purpose Technologies, (1981), 41.

(49) In 1975, Canada submitted a working paper to the Conference of the Committee on Disarmament which groups 19 technologies within three main categories: atmospheric modification; modification of the oceans; and modification of the land masses and water systems associated with them. CCD/463, 5 August 1975; see also CCD/465, 8 August 1975 for the Swedish delegation's study.

(50) Jasani, Outer Space: A New Dimension of the Arms Race, (SIPRI), (1982), 111.

(51) UN Doc. A/RES/34, 68, 14 Dec. 1979.

(52) For an analysis of the development of the Treaty, see Matte, "Treaty Relating to the Moon", in: Jasentuliyana and Lee (eds.), Manual on Space Law, vol. I (1979), 253; Reijnen, "The History of the Draft Treaty on the Moon" (1975), 19th Colloq. on the Law of Outer Space 357.

(53) Reference to the moon hereinafter shall include other celestial bodies as well. Article 1(1) states that provisions of the agreement relating to the moon shall also apply to the other celestial bodies within the solar system, other than the earth, except in so far as specific legal norms enter into force with respect to any of these celestial bodies.

(54) Article IV (2). It is stressed that international cooperation in pursuance of the agreement " should be as wide as possible".

(55) Norris and Bridge, "Some Implications of the Moon Treaty with Regard to Public Order in Space", (1979) 23rd Colloquium on the Law of Outer Space 57, 57.

(56) Article I (2) states that reference in the Agreement to the Moon shall include orbits around or other trajectories to or around it.

(57) Supra, note 56.

(58) Final Acts of the Plenipotentiary Conference, International Telecommunications Union, Nairobi, 1982. Opened for signature 6 November 1982; entered into force, 1 January 1984. This Convention replaces the 1973 Malaya-Torremolinos Convention, (1975) United Kingdom Treaty Series, Cmd 6219.

(59) See generally Article IV of the Convention.

(60) Brownlie, Principles of Public International Law, (3rd ed.), (1979), 266-7.

(61) In its Memorandum submitted to the First Committee of the United Nations General Assembly on 12 January 1957, the United States proposed that "the first step toward the objective of assuring that future developments in outer space would be devoted exclusively to the peaceful and scientific purposes would be to bring the testing of such objects under international inspection and participation". UN Document A/C.1/783.

(62) For the position of the Soviet Union see UN Document DC/SC.1.49 (18 March 1957) and DC/SC/1/55 (30 April 1957).

(63) UNGA Res. 1148 (XII), 14 November 1957.

(64) The first Sputnik was launched on 4 October 1957, followed closely by Explorer 1 on 31 January 1958.

(65) UNGA Res. 1348 (XIII), 15 December 1958.

(66) Ibid.

(67) The Committee on the Peaceful Uses of Outer Space or COPUOS as it is commonly termed.

(68) UNGA Res. 1472 (XIV), 12 Dec. 1959.

(69) UNGA Res. 1721 (XVI), 20 Dec. 1961, "International Cooperation in the Peaceful Uses of Outer Space".

(70) Ibid.

(71) UNGA Res. 1962 (XVIII), 13 Dec. 1963.

(72) Matte, Aerospace Law, (1969), 106-7.

(73) United Nations Department of Political and Security Affairs, The United Nations and Disarmament, 1945-1970, 19.

(74) Kopal, "Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies", (1966), McGill Yearbook of Air and Space Law 463, 467.

(75) Kopal, supra, note 74, 467.

ANNEX 1

STATUS OF MULTILATERAL AGREEMENTS RELATING TO OUTER SPACE

		Opened for Signature	No. of Parties as of (date)	
1.	Charter of the United Nations	1945	158	31 March 1984
2.	Antarctic Treaty	1959	32	31 December 1984
3.	Partial Test Ban Treaty	1963	111	31 December 1984
4.	Outer Space Treaty	1967	92	31 December 1984
5.	Treaty of Talatelolco	1967	29	31 December 1984
6.	Rescue & Return Agreement	1968	79	31 March 1984
7.	Non-Proliferation Treaty	1968	127	31 December 1984
8.	Seabed Treaty	1971	81	31 December 1984
9.	Convention on International Liability for Damage Caused by Space Objects	1972	72	31 March 1984
10.	Biological Weapons Convention	1972	104	31 December 1984
11.	Registration Convention	1975	32	31 December 1984
12.	Environmental Modification Convention	1977	54	31 December 1984
13.	Moon Treaty	1979	4	31 March 1984
14.	International Telecommunications Convention	(a) 1973	156	31 March 1984
		(b) 1982	8	30 June 1985

Sources:

Bowman, M.J. and D.J. Harris. Multilateral Treaties: Index and Current Status. London: 1984.

United States. Arms Control and Disarmament Agency. 1984 Annual Report. Washington: April, 1985.

CONFERENCE ON DISARMAMENT

CD/OS/WP.7
29 July 1985
Original: ENGLISH

Ad Hoc Committee on
Prevention of an Arms Race
in Outer Space

UNITED KINGDOM OF GREAT BRITAIN AND NORTHERN IRELAND

Principal international agreements which apply or otherwise relate directly or indirectly to outer space

I. "1963 Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water" (Partial Test Ban Treaty).

1. This was the first international Treaty to refer specifically to outer space. In Article I each of the Parties to the Treaty undertakes:

> "to prohibit, to prevent and not to carry out any nuclear weapon test or any other nuclear explosions at any place under its jurisdiction or control: (a) in the atmosphere; beyond its limits including outer space ..."

2. The Treaty is of unlimited duration, and it has over 100 contries as Parties. The reference to outer space in article I of the Treaty has gained greater significance in the intervening years since this Treaty came into force, as the scope and number of activities which are or could be carried out in outer space has greatly increased. Technically, a nuclear explosion would have a devastating effect in outer space, destroying or damaging many of the satellites currently in orbit, not only because of the blast from the explosion itself, but also because of the disruption which would be caused by the electro-magnetic pulse (EMP) which a nuclear explosion would produce.

3. Therefore, any call for a new treaty prohibiting nuclear explosion in outer space is countered by the fact that such tests are already prohibited under the 1963 Partial Test Ban Treaty.

II. "1967 Treaty on the Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies" (The Outer Space Treaty).

4. This treaty, to which over 100 countries are Party, promotes the peaceful use of outer space. From a disarmament point of view, the key provision is contained in Article IV under which:

> "States Parties to the Treaty undertake not to place in orbit around the earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner".

5. The principal purpose of this provision, at the time of its negotiation by the United States and the USSR, was to prohibit the deployment in space of weapons which might circumvent the elaborate early warning system against attack by ballistic missiles which both countries had developed.

6. The Outer Space Treaty only contains specific verification provision in regard to installations and space vehicles on the moon and other celestial bodies. These facilities are open to inspection by other parties on the basis of reciprocity, but only after reasonable notice has been given and consultations between parties have been held to avoid interference and to assure safety. The closest the Treaty comes to the concept of verification in regard to its most important prohibition, on the stationing of nuclear weapons or any other kinds of weapons of mass destruction in outer space, is in Article X, which states that:

> "In order to promote international co-operation in the exploration and use of outer space, including the Moon and other celestial bodies, in conformity with the purposes of this Treaty, the States Parties to the Treaty shall consider on a basis of equality any requests by other States Parties to the Treaty to be afforded an opportunity to observe the flight of space objects launched by those States".
>
> "The nature of such an opportunity for observation and the conditions under which it could be afforded shall be determined by agreement between the States concerned".

Article XI could also be helpful in this connection.

7. Such provisions do not constitute an effective means of meeting any concerns which one State Party may have with regard to the nature of a space activity being carried out by another State Party. Despite the fact that the Outer Space Treaty does not contain any effective mechanism for verification of the placing in orbit around the Earth of any nuclear weapons or other weapons or other weapons of mass destruction, it does nevertheless contain a basic prohibition on the placing of such weapons in outer space which States Parties are required to observe. The Treaty, therefore, sets a benchmark against which their behaviour and activities can be judged. It is worth noting that the Treaty has no clause specifying the Treaty is of unlimited duration. Any State Party may withdraw.

8. Article I (a) of the September 1971 Agreement between the United States of America and the USSR on Measures to Improve the USA-USSR Direct Communications Link, required the United States and the Soviet Union to establish and maintain two direct communication links by satellite. In Article 2, each Party confirms its intention to take all possible measures to assure the continuous and reliable operation of the communication circuits. Although not directly relevant, the agreement does contain the implicit requirement to maintain the satellite communications system in operational order.

9. Two other agreements appear in the same category. The 1971 agreements on Measures to Reduce the Risk of Outbreak of Nuclear War and the 1973 USA-USSR Agreement on the Prevention of Nuclear War also contain implicit undertakings not to interfere with the satellite early-warning or communications systems needed to ensure effective operation of both agreements. However, while interference with such systems would be incompatible with the purpose of increasing confidence which underpins such agreements, these particular agreements contain no specific prohibition on such interference.

10. Protection for satellites being used as national technical means of verification is written into a number of other bilateral US-Soviet Treaties. The SALT I Interim Agreement of October 1972 sets out in Article V that:

> "Each Party undertakes not to interfere with the National Technical Means of Verification of the other party operating in accordance with paragraph one of this Article".

Paragraph 1 in turn states that:

> "For the purposes of providing assurance of compliance with the provisions of this Interim Agreement, each party shall use National Technical Means of Verification ..."

In addition to the above, the Treaty on the Limitation of Anti-Ballistic Missile Systems (also of October 1972), which was negotiated concurrently with the Interim Agreements, contains the same provisions in its Article XII, using identical language. The refusal of the Soviet Union to consider any form of on-site inspection and verification placed the burden of verification on satellites from which such systems were not to be hidden. However, the Interim Agreement and the ABM Treaty had important additional lines to their verification provision. At Soviet insistence, the phrase

> "in a manner consistent with generally accepted principles of international law"

was added to the ABM Treaty (Article XII.I) to resolve the Soviet refusal to accept the legitimacy of the legal right of the United States to carry out general surveillance tasks not connected with a particular treaty.

11. In the ABM Treaty, in Article V, paragraph I, each Party undertakes not to develop, test or deploy ABM systems or components which are inter alia space-based. It follows from Articles V and XII of the treaty, read together, that development begins with those types of activities which can be detected by national technical means, that is primarily photo-reconnaisance satellites. It permits laboratory research for space-based BMD systems. It prohibits field testing of prototypes of such systems or components. The Treaty does not prohibit development and testing of fixed, ground-based BMD laser systems and their components. It also permits the development and testing and deployment of space-based laser devices, such as pointing and tracking devices as long as the devices are not capable of countering strategic ballistic missiles or their elements in flight trajectory and as long as they are not tested in ABM mode. The Treaty thus permits testing of sub-components for space-based BMD lasers while prohibiting component or full systems testing, and, more importantly, deployment of such systems. The Treaty also permits research into all types of BMD systems.

12. The Treaty does not define what 'space based' actually constitutes because of international difference of opinion as to where the boundaries between national air space and outer space lie. This topic has been under discussion in UNCOPUOS. The ABM Treaty does not restrict development, testing and deployment of space-based ASATs, however armed. In common with other States Parties, however, both the United States and the Soviet Union may not deploy nuclear armed space-based ASATs as they are both parties to the Outer Space Treaty.

In addition to this, as part of the provisions of the ABM Treaty, an ASAT system may not be given capabilities to counter strategic ballistic missiles or their elements in flight trajectory and may not be tested in an ABM mode.

13. Although SALT II Treaty (signed at Vienna in June 1979) remains unratified, both the United States and the Soviet Union have stated that they will abide by its provisions as long as its provisions are respected by the other Party. In Article XV, paragraph 2, it repeats the SALT I and ABM Treaties prohibition on interference with NTM. It also states in Article IX, paragraph IC that each party undertakes not to develop, test or deploy systems for placing into orbit nuclear weapons or any other kinds of weapons of mass destruction, including fractional orbital missiles. This represents a more inclusive ban than that contained in the Outer Space Treaty. As a result, the Soviet Union agreed to dismantle its fractional orbital system.

14. 1977 Environmental Modification (ENMOD) Treaty (which entered into force in October 1978), and the 1979 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and other Celestial Bodies ('the Moon Treaty') have implications for weapons and disarmament in space. Article II of the ENMOD Treaty states that:

> "The term 'environmental modification techniques' refers to any technique for changing-through the deliberate manipulation of natural processes - the dynamics, composition or structure of the Earth, including its biota, lithosphere, hydrosphere and atmosphere, or of outer space".

The addition of 'space' was to make the area of prohibition as extensive as possible. As the prohibited techniques remain largely theoretical, and never seemed usable in or from space, the prohibition at present is also theoretical. The Moon Treaty largely repeats in Article III, the bans on military facilities and manoeuvres on celestial bodies contained in Article IV of the Outer Space Treaty. Both stress that the moon is to be used only for peaceful purposes, but the "Moon Treaty" gives it extra prominence, and stresses that its surface cannot be used to direct any hostile act out into space.

15. 1975 Convention of Registration of Objects Launched into Outer Space requires, in Article IV, that the Secretary-General of the United Nations be provided with information concerning space launches, including the general function of the space object. It is not thought that to date any state has registered a space launch for military purposes, despite the fact that it is believed that well over half of all space launches are primarily for military purposes.

16. There are two other agreements worth noting:

(a) Rescue of Astronauts (which came into force in 1968), providing for assistance to astronauts in the event of accident, distress or emergency landing; their return and that of objects launched into space. About 100 States are parties to this treaty, including the United States and the USSR.

(b) Damage caused by Space Objects (which came into force in 1972) providing for rules and procedures on liability for damage caused by space objects. About 55 States are parties, including the United States and the USSR.

CONFERENCE ON DISARMAMENT

CD/OS/WP.8
1 August 1985

Original: ENGLISH

Ad Hoc Committee on
Prevention of an Arms Race
in Outer Space

Proposals of Sweden relating to prevention of an arms race in outer space

1. On 22 March 1984 before the Conference on Disarmament the head of the Swedish Delegation, Ambassador Rolf Ekéus, stated, i.a., the following:

"It is clear that some significant measures relating to the risks for an arms race in outer space have been taken. However, the existing body of international law contains too many loopholes to effectively prevent an arms race in outer space. What we have learned about tests and development of anti-satellite weapons confirms that additional measures urgently need to be taken.

The main task should be to negotiate an International Treaty banning all space weapons including weapons directed against targets in space. Such a ban should cover the development, testing and deployment of ASAT weapons on earth, in the atmosphere and in outer space and must include the destruction of existing ASAT systems.

Furthermore, damage, disturbance and harmful interference in the normal functioning of permitted space objects should be forbidden in international agreements in order to strengthen the Outer Space Treaty and confirm the International Telecommunication Convention.

The banning of the development, testing and deployment of space-based ABM systems as agreed upon in the 1972 ABM Treaty between the Soviet Union and the United States should also be reiterated in a multilateral treaty.

A prohibition of Fractional Orbital Bombardment Systems (FOBS) should likewise be included in line with SALT II.

In addition efficient measures should be adopted regarding the verification of the compliance with such a treaty or treaties. At the present stage of technical development it appears inescapable that some sort of international direct inspection be applied, including on-site inspection whenever feasible.

In the process of creating an international legal system prohibiting an arms race in outer space military space systems which could have particularly destabilizing characteristics must be identified. It would also be essential to recognize that certain military space systems can have a stabilizing effect and that they can be a valuable contribution to disarmament measures.

The international use of satellites for the monotoring of disarmament agreements should be considered in the context of the proposal of France to establish an International Satellite Monitoring Agency (ISMA).

The notification procedures in the 1975 Registration Convention could be further developed to serve as a collateral measure to strengthen disarmament agreements related to space. Such a measure and other similar confidence building measures would be helpful in the efforts to create a system of international agreements to curb an arms race in outer space".

2. On 21 March 1985 Ambassador Ekéus reverted to the issue of an arms race in outer space and concluded, i.a., that "It is important to elaborate legally binding international instruments prohibiting ASAT-weapons and ASAT-warfare. Because all states are directly or indirectly involved, the Conference on Disarmament in accordance with its responsibilities must immediately consider in what way it can take action to this effect.

The main task of the Conference should be to aim at achieving a total ban on ASAT-weapons. That implies a ban on development, testing, production and deployment as well as on use of such weapons.

Some specific types of weapons or of action may be prohibited. Interim measures may be contemplated. For instance an agreement on no first use of ASAT-weapons or unilateral undertakings to that effect would be of help while negotiating. A moratorium on testing could be agreed upon at an early stage.

The proposal by the delegation of France, that the Soviet Union and the United States could pledge to extend to the satellites of third countries the provisions concerning the immunity of certain space objects on which they have reached bilateral agreement, is also of interest."

CONFERENCE ON DISARMAMENT

CD/OS/WP.9
5 August 1985
ENGLISH
Original: RUSSIAN

CONCLUSIONS

drawn by a group of socialist countries from the consideration by the Ad Hoc Committee of the issues included in its programme of work

The statements by delegations on all the items of the Ad Hoc Committee's programme of work have shown:

1. There is growing concern at the threat of the spread of the arms race to outer space. This threat stems from the United States "Strategic Defence Initiative" aimed at the development and deployment in space of a new class of armament - offensive space weapons.

2. An arms race in outer space would have adverse political, military, economic and other consequences. These include: destabilization of the strategic situation; increased threat of the outbreak of nuclear war; speeding up of the arms race in all areas and growth of nuclear arsenals; undermining of existing treaties and of the prospects for arms limitation and reduction, and increase of military tension; vast unproductive expenditures; damage to the peaceful use of space and obstacles for international co-operation in the peaceful use of space.

3. Developments leading to the extension of the arms race into space must be stopped. Space must be an area of exclusively peaceful activity for the benefit of all mankind.

4. The efforts of the international community have led to the elaboration and conclusion of international agreements which play a major role in the limitation of the arms race in outer space: the multilateral treaties banning nuclear weapon tests in the atmosphere, in outer space and under water, of 1963, and on principles governing the activities of States in the exploration and use of outer space, including the moon and other celestial bodies, of 1967, the bilateral treaty of indefinite duration between the USSR and the United States on the limitation of ABM systems, of 1972, and others.

These agreements restrict the military use of space in the following basic areas: it is prohibited to carry out any nuclear explosions and to deploy nuclear weapons or any other type of weapon of mass destruction in space; it is prohibited to establish military bases, installations and fortifications, to test any type of weapon and to conduct military manoeuvres on celestial bodies; and it is forbidden to develop, test or deploy space-based ABM systems or components.

At the same time, the possibility of the deployment in space of weapons that are not weapons of mass destruction has not been closed off. This avenue may be used for the deployment of offensive space weapons.

A reliable barrier to the spread of the arms race to outer space could be the conclusion, through negotiations, of an agreement or agreements closing off all avenues for an arms race in space, in other words ensuring that it is prevented.

5. The concrete proposals submitted by the Soveit Union and a group of socialist countries in the Ad Hoc Committee of the Conference on Disarmament include the draft treaties on the prevention of the stationing of weapons of any kind in outer space (1981), on the prohibition of the use of force in outer space and from space against the Earth (1983), and on the use of outer space exclusively for peaceful purposes for the benefit of all mankind (1984). The Working Paper of a group of socialist countries (CD/607) also provides a constructive basis for working out an agreement or agreements for the prevention of an arms race in outer space.

Other concrete proposals on the prevention of an arms race in outer space have also been submitted in the Ad Hoc Committee. Many provisions of these proposals go in the same direction as the initiative of the socialist countries, and show that approaches to the solution of a number of aspects of the problem under consideration coincide.

6. It is essential to reach agreement without delay on the prevention of an arms race in outer space. It is important not to lose the present favourable opportunity of preventing an arms race in space which stems from the fact that there are no offensive space weapons at present.

A first, effective and easily taken step in this direction would be, in the opinion of many delegations, for other States to join in the unilateral moratorium of the USSR on the launching of anti-satellite weapons in outer space which will be in force as long as other countries act in the same way.

7. The discussion of the items in the Ad Hoc Committee's work programme was generally productive. It confirmed the desire of the majority of participants in the Conference to focus efforts on reaching agreement on urgent measures which would facilitate the elaboration of an agreement or agreements on the prevention of an arms race in outer space; it revealed areas of agreement on a number of major aspects of the solution of this problem; and it helped to create favourable conditions for going on to reach agreement on the corresponding arrangements.

CONFERENCE ON DISARMAMENT

CD/OS/WP.10
13 June 1986

Original: ENGLISH

Ad Hoc Committee on Prevention
of an Arms Race in Outer Space

GROUP OF 21

Programme of Work for 1986

A. Identification of issues and activities relevant to the prevention of an arms race in outer space. Definitions and description of activities.

1. Weapon systems in space or directed against targets in space.

2. Support of weapon systems and military operations on earth and surveillance systems.

3. Other issues and activities.

B. Examination of current international arrangements and understandings concerning military activities in outer space.

1. Analysis of relevant existing treaties and agreements.

2. Issues of treaty law in relation to issues and activities as identified under A.

3. Other legal matters relevant to the prevention of an arms race in outer space.

C. Existing proposals and future initiatives with a view to preventing an arms race in outer space; questions regarding compliance.

CONFERENCE ON DISARMAMENT

CD/OS/WP.11
24 June 1986

Original: ENGLISH

Ad Hoc Committee on Prevention
of an Arms Race in Outer Space

1986 Programme of Work

1. Examination and identification of issues relevant to the prevention of an arms race in outer space;
2. Existing agreements relevant to the prevention of an arms race in outer space;
3. Existing proposals and future initiatives on the prevention of an arms race in outer space.

In carrying out its work, the Ad Hoc Committee will take into account developments which have taken place since the establishment of the Committee in 1985.

GE.86-62501

CONFERENCE ON DISARMAMENT

CD/708
CD/OS/WP.12
26 June 1986

Original: ENGLISH

PAKISTAN

Proposal relating to the prevention of an arms race in outer space: international instrument to supplement the ABM treaty

1. It is evident that the need to prevent an arms race in outer space is not the exclusive preserve of the two major space Powers or of those countries that possess the capabilities to utilize outer space. The non-aligned, neutral and developing countries also have a major interest in preventing the weaponization of this zone, so that it may be preserved for peaceful and equitable uses.

2. The present and planned activities of the space Powers will not only entrench the inequitable use of outer space but also compromise its declared status as a zone of peace. The introduction of anti-satellite weapons, missile defence systems, in any guise, early warning or space-tracking radars and surface to air missiles usable in an ABM mode, would substantially erode the existing international agreements relating to outer space, in particular the Outer Space and Anti-Ballistic Missile treaties. More importantly other arms control and disarmament agreements between the two major Powers, related to the ABM treaty, may also not survive. The consequences are likely to be grave for stable relations between the two major Powers as well as for global security.

3. The entire international community has a manifest interest in seeking to amplify and improve the contemporary legal régime relating to outer space, in keeping with existing and anticipated requirements. Concentrated efforts should be made, especially through multilateral negotiations, to strengthen these juridical norms.

4. Along with other relevant bilateral and multilateral forums, the Conference on Disarmament should be enabled to commence early negotiations on comprehensive international agreement or agreements, as appropriate, to prevent an arms race in outer space, as well as to promote multilateral co-operation in the peaceful and equitable uses of this zone.

5. Pending the realization of these global arrangements, the Conference on Disarmament should evolve interim confidence-building measures along the lines of existing proposals such as the establishment of an International Space Agency, the adoption of a moratorium on the development, testing and deployment of ASAT weapons, and establishment of the immunity of space objects. In the same context, the Conference should call upon the space Powers to share information regarding their current and prospective activities in space and to indicate their understanding of and adherence to relevant treaty obligations.

6. In consonance with the foregoing considerations, the delegation of Pakistan would propose, as an interim measure and until the conclusion of a comprehensive treaty to prevent an arms race in outer space, the adoption of an international instrument to supplement the ABM treaty with a view to ensuring that the self-restraint accepted by the two Great Powers in the ABM treaty is not negated by acts of omission or commission by either or both of these Powers or by other technologically advanced States. Such an instrument should incorporate the following five elements:

(a) Recognize and reconfirm the importance of the United States-USSR ABM treaty in preventing the escalation of an arms race, especially in outer space;

(b) Note the commitment of the two Powers to continue to abide strictly by the provisions of this treaty, in particular its Article V under which they have undertaken not to develop, test or deploy ABM systems or components of such systems that are sea-based, air-based, space-based or mobile land-based;

(c) Provide a clear interpretation of the research activities permissible under the ABM treaty, not only for the two parties but also for other technologically advanced States, so as to facilitate an impartial interpretation of ambiguous aspects of the treaty such as the definition of "research" and the "use of other physical principles";

(d) Include a commitment by other technologically-advanced States not to take their own research beyond the limits accepted by the United States and the USSR; and

(e) Include a mechanism to provide for the redress of such activities that are contrary to the limitations contained in the ABM treaty.

7. The delegation of Pakistan hopes that this proposal will be given early and appropriate consideration in the CD and, in particular, by the Ad Hoc Committee on the prevention of an arms race in outer space.

CONFERENCE ON DISARMAMENT

CD/709/Rev.1
CD/OS/WP.13/Rev.1

22 July 1986

ENGLISH
Original: SPANISH

VENEZUELA

(Working Paper)

SPACE STRIKE WEAPONS

Draft definition

In attempts to define space strike weapons, account must be taken of, inter alia, the following factors:

1. The nature of the weapon
2. The place of deployment of the weapon
3. The location of the target
4. The scientific principle on which functioning of the weapon is based
5. The distinction between anti-satellite (ASAT) and anti-ballistic-missile (ABM) weapons.

1. The nature of the weapon

Any weapon can be used for offensive or defensive purposes and it would seem superfluous to indicate that the definition covers both offensive and defensive weapons. In the case of space weapons, such an express indication is indispensable.

2. The place of deployment of the weapon

There can be no doubt that any weapon located in outer space falls within the category of space weapons, whether the target against which it can be used is exo-atmospheric (situated in space) or endo-atmospheric (situated within the atmosphere: in the air, in water or on land).

3. The location of the target

The concept of space weapons must also cover land-, water- and air-based weapons that are capable of attacking a target situated in outer space.

4. The scientific principle on which the functioning of the weapon is based

This is another important factor, since the definition must be sufficiently broad to cover weapons of every kind, whether they are conventioned weapons, nuclear weapons or weapons of mass destruction and

whether they are based on conventional technology or, if they are based on exotic technology, whatever the principle employed for their operation (high-energy laser beams, microwaves, particle beams, electron beams, kinetic energy, etc.).

5. The distinction between anti-satellite (ASAT) weapons and anti-ballistic-missile (ABM) weapons and systems

The need to draw this distinction stems from the fact that all the foregoing elements are not necessarily present in anti-satellite weapons which, while capable of being deployed in any of the conceivable environments, are exclusively intended to destroy or damage targets located in outer space.

Weapons and systems designed for the interception of ballistic projectiles warrant special treatment within the definition, for they combine the factors mentioned above. To some extent they constitute a separate category since they can comprise endo-atmospheric and/or exo-atmospheric interceptors and can also be deployed in any of the conceivable environments: in space, in the air, in water or on land.

Draft definition

There follows a draft definition in which an attempt has been made to take the above-mentioned factors into account. Rather, what follows is an attempt at a definition that has no other purpose than to stimulate discussion and the exchange of ideas within the Conference on Disarmament and help to elucidate the question which are the weapons that come within the scope of item 5 on the Conference's agenda, "Prevention of an arms race in outer space".

Space strike weapons

"Space strike weapons" means any offensive or defensive device, including its operational components, whatever the scientific principle on which its functioning is based:

(a) capable of destroying or damaging from its place of deployment in outer space an object situated in outer space, in the air, in water or on land;

(b) capable of destroying or damaging from its place of deployment in the air, in water or on land an object situated in outer space.

The following are also space strike weapons: any offensive or defensive device including its operational components, and any system of such devices, whatever the scientific principle on which its functioning is based, that is capable of intercepting, from outer space or from land, water or the atmosphere, ballistic projectiles during their flight.

CONFERENCE ON DISARMAMENT

CD/OS/WP.14/Rev.1
21 July 1986

ENGLISH
Original: CHINESE/ENGLISH/
RUSSIAN/SPANISH

Ad hoc Committee on Prevention
of an Arms Race in Outer Space

Compilation of definitions of space weapons

The present compilation contains definitions of space weapons as proposed by delegations. It was prepared by the Secretariat pursuant to the decision of the Ad hoc Committee at its 6th meeting on 4 July 1986.

Bulgaria and Hungary

Space strike weapon is:

(a) any weapon system based entirely or partially in space, which is specifically designed and intended to destroy, damage or interfere with the normal functioning of, objects in space or on Earth, including its atmosphere, or

(b) any weapon system, whether land-based, sea-based or air-borne, which is specifically designed and intended to destroy, damage or interfere with the normal functioning of, space objects.

China

A space weapon means any device or installation either space-, land-, sea-, or atmosphere-based, which is designed for attacking or damaging spacecraft in outer space, or disrupting their normal functioning, or changing their orbits, and any device or installation based in space (including those based on the moon and other celestial bodies) which is designed for attacking or damaging objects in the atmosphere, or on land, or at sea, or disrupting their normal functioning.

Sri Lanka

Any weapon or a component of a weapon or a device, whether ground-based or space-based, in Earth orbit or in any trajectory beyond Earth orbit, designed physically to damage or interfere with or attack a space object, or to attack ground or air-borne targets from space is a space weapon.

Union of Soviet Socialist Republics

In the view of the Soviet delegation, this concept includes, firstly, all space-based weapons intended for action against objects in space or on the Earth, including the Earth's atmosphere. Secondly, it includes weapons, wherever based, intended for action against space objects.

What specific types of weapon fall within this definition? Firstly, anti-satellite weapons, wherever based (in space, in the air, at sea, on land or mobile) and whatever their principle of operation. Secondly, space-based anti-missile weapons, again whatever their principle of operation. Thirdly, space-based "space-to-Earth" weapons intended to attack objects on the Earth and in the Earth's atmosphere.

Venezuela

"Space strike weapons" means any offensive or defensive device, including its operational components, whatever the scientific principle on which its functioning is based:

(a) capable of destroying or damaging from its place of deployment in outer space an object situated in outer space, in the air, in water or on land,

(b) capable of destroying or damaging from its place of deployment in the air, in water or on land an object situated in outer space.

The following are also space strike weapons: any offensive or defensive device including its operational components and any system of such devices, whatever the scientific principle on which its functioning is based, that is capable of intercepting, from outer space or from land, water or the atmosphere, ballistic projectiles during their flight.

CD/OS/WP.14/Rev.1/Add.1
29 July 1986

Original: ENGLISH

CONFERENCE ON DISARMAMENT

Ad Hoc Committee on Prevention
of an Arms Race in Outer Space

Compilation of definitions of space weapons

Addendum

German Democratic Republic

The following definitions are proposed:

ASAT system

- Any device or installation based entirely or partially on land, sea, in the air and/or in outer space which is specifically designed and intended to destroy, damage or interfere with the normal functioning of space objects.

Space object

- Any object put in outer space that circles the Earth at least once in an unpowered flight or stays in outer space at least for the minimum period of such revolution.

Outer space

- Space around the Earth above an altitude of 100-110 km. Any height between these borders may be chosen by the appropriate body. Document A/AC.105/C.2/L.139 of the Committee on the Peaceful Uses of Outer Space could serve as a basis for that decision.

CONFERENCE ON DISARMAMENT

CD/716
CD/OS/WP.15
16 July 1986

Original: ENGLISH

CANADA

Working Paper

Terminology Relevant to Arms Control and Outer Space

Table of Contents

Introduction

On 25 April 1986, the Conference on Disarmament (CD) agreed to re-establish an ad-hoc Committee on the subject of outer space. Its mandate is "to examine, and to identify, through substantive and general consideration, issues relevant to the prevention of an arms race in outer space".[1] This mandate complements the bilateral negotiations underway by the United States and the Soviet Union whose objectives and process were reconfirmed at the Geneva Summit of November 21 and 22, 1985. It does not undermine, prejudge or in any way interfere with those negotiations, a fact that is absolutely central to the success of both sets of deliberations.

On 23 July 1985, Canada tabled a working paper entitled "Survey of International Law Relevant to Arms Control and Outer Space" (CD/618). In general, it presented a broad interpretation of a variety of views concerning the significance and application of some of the existing treaties. In its conclusion, CD/618 identified certain key definitions, consideration of which could facilitate future deliberations of the CD. This working paper will undertake to consider some of these definitions and like CD/618 it will present a broad interpretation of a number of views.

Among the requisites for success in the arms limitation and disarmament process is the ability to define in agreed ways with reasonable precision the terms of an agreement so as to minimize ambiguity and contradictory interpretations during the negotiations and drafting stages of an agreement and, perhaps most importantly, after the agreement has come into force. Recent events have demonstrated how imprecision in defining treaty obligations has led, in some instances, to controversy regarding compliance with those obligations. While at times, some have argued that "constructive" ambiguity may facilitate negotiation and eventual agreement, such an approach should be used cautiously. It is essential to come to a shared understanding of the nature of an obligation - a commonality of mind - in order to ensure that parties apply the same standards when judging the compliance behaviour of others.

This paper summarizes a range of views concerning certain key terms. The aim of this exercise is to outline the disparity of interpretation that exists at present among international legal experts, which is also reflected in the views of governments. The paper will also focus on some of the words and phrases used in intergovernment discussions of these topics in order to identify some of the confusion which

has resulted from the use of these terms. In the conclusion of this working paper, several observations will be made as to which interpretations are most useful.

The terms discussed in this paper are:

(1) military use of space;
(2) weaponization of space;
(3) militarization of space;
(4) free for exploration and use; and
(5) exclusively for peaceful purposes.

This list is clearly not exhaustive of the important concepts which require further clarification in the CD's discussions. Future working papers might address other terminology.

The outer space issue constitutes an excellent context for such review since it has been, and is, an exemplary area for international cooperation in the endeavour to maintain global peace and security. Since the beginning of the space age, some twenty-nine years ago, the international community has become increasingly aware of the necessity for such cooperation. In order to promote international cooperation in the peaceful use of space, the United Nations General Assembly (UNGA) established the Committee on the Peaceful Uses of Outer Space (COPUOS) as a focus in 1959. In the intervening years, COPUOS has developed an impressive and detailed background of documentation which serves as an authoritative source on terminology and definitions pertinent to outer space in general.

By contrast, the documentation developed by the CD, which is specifically devoted to the arms control aspects of outer space, is significantly less. While the issue has been discussed in plenary in the CD and its predecessors, it was only in 1985 that the CD undertook substantive and sustained consideration of the issue by establishing an ad hoc Committee to focus on the issue in detail. Canada recently tabled a compendium of verbatim statements and working papers from the 1985 CD session (CD/678, 12 March 1986) to assist the CD's deliberations. This was preceded by a similar compendium covering the years 1962-1984 (CD/606, 4 July 1985) and a working paper which discussed arms control and outer space in terms of stabilizing and destabilizing characteristics (CD/370, 26 August 1982).

Documentation of the CD Relating to Outer Space

The final records (PVs) of the 1985 CD session relating to the prevention of an arms race in outer space and its supporting working papers (WP), reveal considerable

imprecision in the use of terms relating to the arms control and outer space. The tendency to use a number of terms loosely, if not recognized and corrected, could have a significant impact on the precision of language and upon the intent of statements, resolutions and treaties. At this early stage of multilateral discussions on issues relating to arms control and outer space, it would be prudent to recognize, clarify and understand fully the nuances of these terms and expressions.

Outer Space Mandate

The mandate for the ad hoc Committee itself is a case in point. It seems reasonable to suggest that in using the word "prevention" in the mandate of the ad hoc Committee the membership of the CD is providing a firm indicator that in its collective view, at present, there is not an arms race in outer space - the argument being that one cannot prevent something if it already exists. This impression appears to be further reinforced by a number of subsequent working papers which contrast "the prevention of an arms race in outer space" with the halting of the arms race on earth[2].

For illustrative purposes, dealing specifically with the 1985 discussions in the CD, three expressions relating to outer space have been selected as indicative of the growing imprecision, and the possible confusion or inadvertent interchange of significantly different terms. These expressions are: a) military use of space, b) militarization of space, and c) weaponization of space.

Military Use of Space

To begin with, it seems reasonable to assume that the use of space for arms control verification is one type of military use of space to which the majority of nations are likely to subscribe. In SALT I, SALT II and the ABM Treaty, the United States and the Soviet Union have accepted, within the parameters of international space law and practice, that the use of national technical means (NTM) - a military use of space - is a legitimate execution of the verification process. As the Canadian working paper CD/320 of 26 August 1982 suggested, this type of military use is inherently stabilizing and therefore should be considered acceptable. Without such an application of the use of military satellites for verification purposes, many significant international arms control agreements would not be possible. Other military uses of space (eg., early warning, communications) can also be viewed as stabilizing.

Weaponization of Space

At the other end of the spectrum, "weaponization of space" seems to refer to the placement of weapons in space or their use in or from space.[3] To the best knowledge of the international community, weapons have not yet been placed in orbit on a permament or semi-permanent basis although it is generally assumed that anti-satellite (ASAT) weapons have been inserted into full or partial orbit for testing purposes on more than one occasion in the past. Apparently, the trajectories of intercontinental ballistic missile (ICBM) systems have not been interpreted to involve the weaponization of space. The important distinction between weapons placed in space, weapons which only transit space on the way to their targets and weapons based elsewhere which are used to attack targets in space, often is blurred in discussions.

Militarization of Space

Between the "military use of space" - which seems acceptable to many nations - and the "weaponization of space" - which appears not to be - falls the concept of "militarization of space". While the term "militarization of space" is particularly vague, it appears to imply less of a military presence than "weaponization" but more so than "military use". The proceedings and working papers of the CD are replete with references to the "prevention" of outer space militarization or the "problem" of "non-militarization" of space.[4] Other states have referred to the need for the "demilitarization" of space. To some states "militarization" seems to be used in the same sense as "weaponization" - that is to refer exclusively to weapons.[5] Other states seem to use the term so as to include any military use of space.[6]

The foregoing brief review suggests that it would be useful for the CD to attempt to arrive at some shared definitions for these three basic but important concepts.

Terminology from the Outer Space Treaty

Several expressions much used in the CD have their origin in the deliberations leading up to the Outer Space Treaty of 1967. Much of this debate took place and continues to occur in COPUOS. The mandates of COPUOS and the CD are distinctive and should avoid unnecessary overlap. Nevertheless, while their responsibilities are clearly delineated, the environment within which both mandates are to be undertaken is the same. Their pertinent terminology and definitions are therefore closely inter-related.

A survey of the legal opinion regarding the Outer Space Treaty and COPUOS documentation relevant to outer space confirms the impression of the imprecise nature and use of many terms. The following two phrases selected from the 1967 Outer Space Treaty are illustrative. They are: a) "freedom for exploration and use" (Article I, para 2), and b) "exclusively for peaceful purposes" (Article IV, para 2).

Freedom for Exploration and Use

The wording of Article I, paragraph 2 of the Outer Space Treaty includes a reference to freedom of both "exploration and use" of outer space.[7] This wording finds its origins in Resolution 1721 (XVI) of the General Assembly[8].

The record of discussion and negotiation of Resolution 1721 and the Outer Space Treaty[9] does not provide much guidance as to the meaning of the terms "exploration" and "use". In particular, it is not clear if the terms were to be used in a cumulative sense - that is, in describing two distinct activities - or if "exploration" was merely a subset of activities defined by the term "use". Furthermore, it is uncertain if the term "use" of outer space was to have a broad meaning, embracing any and all activities in outer space, or if it was to have an a priori limited meaning.

Some legal writers do, however, attempt to clarify the scope of the terms. Three aspects of the principle of freedom of outer space have been distinguished:

1. the right of free access;
2. the right of free exploration; and
3. the right of free use.[10]

The distinction between the right of free exploration and the right of free use is to be found mainly in the substance of the activity. According to one author, the right of free exploration applies to scientific research activities.[11] Such exploration activities do not always have to remain wholly within the spatial limits of outer space; they may also comprise activities on earth connected with scientific space research.

The "free use" principle provides the international legal basis for all activity in outer space. In contrast to the restrictions imposed by other sections of the Outer Space Treaty, Article I, paragraph 2 authorizes space activities, and hence serves as the point of departure for any argument in favour of a particular use of outer space.

Although the "free use" principle is one of the key provisions of the Outer Space Treaty and is sufficiently broad to sustain the right of states to conduct activities in outer space free from claims of sovereignty of subjacent states, it is not unlimited. For example, Article I, paragraph 2 must be read in the context of the "common interests" clause of Article I, paragraph 1 with the result that the advantages to be derived from rapid development of outer space must be balanced against the requirement that it be carried out in a manner beneficial to all members of the international community.

With regard to the "common interests" clause, some authorities take the position that the express requirement to use outer space for the benefit of all members of the international community constitutes no more than a duty upon each member not to misuse outer space in a way which could diminish the value of space activities to other members.[12] Others have taken the position that the phrase means that the use of space objects should not be detrimental to the interests of other countries, including national security and public order.[13]

In addition to the above, the "free use" principle is subject to the following limitations: the non-appropriation clause;[14] the international law clause;[15] the "denuclearization clause";[16] the "responsibility" and "liablity" clauses;[17] the "cooperation and mutual assistance" clause;[18] and the "consultation", "observation" and "information" clause.[19]

Moreover, the right of free use would be subject to several other limitations such as: the "corresponding interests" clause;[20] the practice of "first come, first served" with respect to satellite and space object positioning; and limitations on the use of all finite or specially valuable space resources.

A justification for this view concerning the limitations on "free use" can be found in Article I, paragraph 3 of the Outer Space Treaty which spells out the principle of freedom of scientific investigation without the limitations contained in Article I, paragraph 2, namely non-discrimination, equality and accordance with international law.[21] It has been suggested that activities solely devoted to scientific investigation enjoy a somewhat privileged status in comparison to activities related to the principle of "use".[22]

In applying the requirement that space activities be conducted "for the benefit and in the interests of all

countries" (Article I, paragraph 1) to the question of military activity in outer space, some authorities conclude that space activities can be conducted in the interests of all countries only if they are "peaceful" in nature.[23] It may be argued that since the term "peaceful" is ambiguous and subject to conflicting interpretations, the drafters chose to substitute the equally ambiguous concept of use "in the interests of all countries".[24] Finally, proponents of the view that Article I, paragraph 1 implicitly incorporates the "peaceful use" requirement maintain that since Article IV and other provisions of the Treaty did not completely prohibit placement of weapons in outer space, the term "peaceful uses" was omitted from Article I to avoid ambiguity.[25]

The case for the opposite position is based on the formulation of Article IV, pargraph 2 which expressly limits activities on the moon and other celestial bodies to exclusively peaceful purposes, but in paragraph 1 omits any such limitation with respect to earth orbit. Although some advocates of the "peaceful use" interpretation of Article IV, paragraph 1 explain the omission as the result of imprecise drafting,[26] the omission must be considered intentional since an attempt to apply the phrase "exclusively for peaceful purposes" to all areas of outer space was defeated.[27]

Concept of Peaceful Purposes: Conflicting Interpretations

It would be useful to recall the actual wording of Article IV of the Outer Space Treaty:

> States Parties to the Treaty undertake not to place in orbit around the earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner.
>
> The moon and other celestial bodies shall be used by all States Parties to the Treaty exclusively for peaceful purposes. The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military manoeuvres on celestial bodies shall be forbidden. The use of military personnel for scientific research or for any other peaceful purposes shall not be prohibited. The use of any equipment or facility necessary for peaceful exploration of the moon and other celestial bodies shall also not be prohibited. (Emphasis added).

Article III of the 1979 Moon Treaty repeats much of Article IV of the 1967 Outer Space Treaty:

1. The moon shall be used by all States Parties exclusively for peaceful purposes.

2. Any threat or use of force or any other hostile act or threat of hostile act on the moon is prohibited. It is likewise prohibited to use the moon in order to commit any such act or to engage in any such threat in relation to the earth, the moon, spacecraft, the personnel of spacecraft or man-made space objects.

3. States Parties shall not place in orbit around or other trajectory to or around the moon objects carrying nuclear weapons or any other kinds of weapons of mass destruction or place or use such weapons on or in the moon.

4. The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military manoeuvres on the moon shall be forbidden. The use of military personnel for scientific research or for any other peaceful purposes shall not be prohibited. The use of any equipment or facility necessary for peaceful exploration and use of the moon shall also not be prohibited.

Since the conclusion of the Outer Space Treaty, the interpretation of the term "peaceful purposes" has given rise to fundamental problems of definition. For example, does "peaceful purposes" mean non-military or non-aggressive or something else? Does the "peaceful purposes" phrase apply only to the moon and other celestial bodies or also to "outer space", including the moon and other celestial bodies as well as earth orbit? Does the adverb "exclusively" which precedes the term "peaceful purposes" have any particular significance?

Generally speaking, two different approaches can be discerned in the continuing debate. One view is that "peaceful purposes" prohibits only "aggressive" military uses of outer space while permitting "non-aggressive" uses.[28] The opposing view equates peaceful with non-military use.[29]

(a) The Restrictive Interpretation

In 1958, the American Bar Association's Committee on the Law of Outer Space conducted a systematic survey of the growing body of space law literature. In a section on

"The Legal Status of Space" a discussion was included on "The Problem of 'Peaceful Purposes': Military Uses". In part it states: "One difficulty is that the word 'peaceful' is used in various contexts. In the sense of the United Nations Charter, and in international law generally, it is employed in contradiction to 'aggressive'." Further, the report states:

> "For the time being it seems that the only uses of space that are prohibited are those within the prohibition of the Charter, and that until a disarmament agreement dealing with space activities can be arrived at, the United States is justified in using space for non-aggressive military uses consistent with the terms of the Charter...."[30]

A similar restrictive view of the phrase "peaceful purposes" has been applied when interpreting the Outer Space Treaty. According to this view, the lack of prohibitive provisions (except for nuclear and mass destruction weapons) in the Outer Space Treaty indicates that "peaceful" could not signify "non-military". Article IV, paragraph 1 which prohibits the stationing of weapons of mass destruction in outer space omits the express requirement to use celestial bodies for "peaceful purposes" applied by Article IV, paragraph 2. Hence, the "peaceful purposes" requirement applies only to celestial bodies and not to earth orbit. Moreover, Article III, which does apply to earth orbit, requires states to conduct space activities in accordance with international law, including the United Nations Charter under which defensive or non-aggressive military activity is permissable.

It, therefore, seems clear that the drafters of the Outer Space Treaty intended to restrict military activities only to the extent expressed in Article IV. The drafters merely required in Article III "compliance by states with international law and the UN Charter, which do not prohibit military activities but aggression or a threat to, or breach of the peace".[31] In this connection it is worth emphasizing two points. One is that the UN Charter reiterates the inherent right of self-defence, which would probably be diminished under a regime prohibiting all military uses of outer space. Second, in the UN Charter system, the opposite of "peaceful" is "aggressive" and military efforts of states on their own territories or in international areas are not prohibited.[32] It has even been argued that military uses of outer space for deterrent and defensive purposes serves the cause of peace.[33]

Further, at the time of the negotiation and conclusion of the Treaty both major space powers had already launched satellites into outer space for military purposes. Negotiating a complete ban on these satellites in such circumstances would have raised controversial issues falling within the purview of disarmament negotiations.[34]

The space powers have continued to use outer space for military communications and reconnaissance among other military activities. Although these activities are clearly "military" in nature, they are arguably "non-aggressive". This continued practice by states provides further support for the restrictive approach to the interpretation of "peaceful purposes" because by their actions in space the space powers are giving clear meaning to this concept.[35]

Such state practice, it is worth noting, seems to be in keeping with the normal usage of the word "peaceful" as well as the practice on the high seas and in the airspace above the high seas, where military manoeuvres, weapons testing and surveillance have always been considered as peaceful military uses under international law.[36]

Nor has this restrictive interpretation of "peaceful purposes" been solely restricted to Western authors. Kolossov, a prominent Soviet scholar, recently advocated the division of space activities into peaceful and military, and the further breakdown of military space activities into "military aggressive" and "military non-aggressive".

> "Military aggressive activities are illegal according to international law and are regarded as a crime against international peace which gives rise to international responsibility... [In contrast,] non-aggressive military activities in outer space have been limited, but not banned. Such activities might include the use of missiles to repel acts of aggression, the use of various space objects (communications, navigation, meteorological satellites, etc.) as support means for military training, manoeuvres and other activities of different branches of force in time of peace when they are not categorized as acts of aggression, as well as the use of space objects for testing weapons not prohibited by international law."[37]

(b) The Non-Restrictive Interpretation

According to a second school of thought[38] "peaceful" is intended as "non-military". In light of the semantic sense of "peaceful", it is argued, a military activity could never be "peaceful" since there is an underlying threat of violence or, as one author has put it: "No space activity is peaceful when it affects the security of states".[39]

The proponents of this interpretation further submit that the "common interests" clause contained in Article I, paragraph 1 of the Outer Space Treaty can only mean that without being expressly prohibited, military activities with non-nuclear weapons in outer space, even if "defensive" in nature are not lawful, since no military activity could be carried out "in the interests of all countries".[40]. One author argues, for instance, in reference to the "common interest of mankind" principle that:

> In order to avoid misunderstandings and ambiguity inherent to "peaceful", a new principle, implying fixed obligation to use outer space exclusively for peaceful purposes, without specific reference to the language of "peaceful purposes", has been introduced in the text of the Treaty. This has been accomplished through the provision in the principles of the Treaty that the exploration and use of outer space shall be carried out for the benefit and in the interests of all countries. The principle of peaceful purposes has been achieved through a form of circumlocution in which several words are employed rather than the single word "peaceful". This has produced a prescription which is a logical derivation and which undoubtedly excludes all military uses of outer space.[41]

Even the widely claimed stabilizing character of reconnaissance satellites has been questioned. The military functions of these kinds of satellites in several recent conflicts has been highlighted. Only if such satellites are operated under the control of an international agency, it is contended, can the interest of all mankind be served.[42]

Some of those adopting the non-restrictive interpretation, whereby "peaceful" is interpreted as excluding all military activities, also find support by reference to the examples of the demilitarization regime of the Antarctic Treaty and of the International Atomic Energy

Agency (IAEA) Charter.[43] It has been argued, for example, that during the deliberations in COPUOS prior to the conclusion of the Outer Space Treaty, the vast majority of delegates insisted that the word "peaceful" should be interpreted in the sense of "non-military".[44] The inspiration for this approach came from the Antarctic Treaty which states in the opening sentence of Article I(1) that "Antarctica shall be used for peaceful purposes only"; the founding premise of the Treaty being that military purposes, defensive as well as offensive, were not "peaceful".[45]

It has also been contended that the applicability, mutatis mutandis, of Article 1 of the Antarctic Treaty to Article IV (2) of the 1967 Outer Space Treaty, vis-à-vis the moon and other celestial bodies, exists in the sense that a) "peaceful" means "non-military", b) references to military installations, military manoeuvres and so forth in the provision are exemplificative and not exhaustive; and c) the possibility of using military personnel and equipment for scientific research or other peaceful purposes in no way invalidates the contention that "peaceful" means "non-military".[46]

(c) "Exclusively for Peaceful Purposes"

With respect to the question of whether or not the adverb "exclusively" has any additional significance for the meaning of "peaceful purposes", one legal writer is of the opinion that the adverb "exclusively" has no legal significance. He argues that the word is intended merely to emphasize the precepts expressed in Article IV of the Outer Space Treaty.[47]

Kolossov suggests "that all outer space activities may be divided into peaceful and military. Peaceful activities should be understood as exclusively peaceful, i.e., scientific-exploratory and economic."[48]

On the other hand, another legal writer, Markoff, elaborates at considerable length on the significance of the word "exclusively" and its relationship to the term "peaceful purposes". First, he points out that "the main provision on a complete non-militarization of the moon and the other celestial bodies in Article IV (2) contains the expression "exclusively for peaceful purposes", whereas, other sentences of the same paragraph relating to the allowed use of military personnel, facilities or equipment speak merely of "peaceful purposes" or "peaceful exploration". Secondly, he states that "in paragraph 2 of the Treaty's preamble, as well in Articles IX and XI, only the term 'peaceful' has been used."

Markoff then remarks:

> In the system of specific arms control measures set forth in both paragraphs of Article IV, the qualification "exlusively peaceful" characterizes the particular use of the moon and other celestial bodies. This use....excludes all kinds of military and not only "warlike" activities on planets other than the earth. The mandate to use "exclusively for peaceful purposes" does not apply to all of the space environment.[49]

The specific emphasis on "exclusively" can be perceived also by comparison to the 1971 Treaty on the Prohibition of the Emplacement of Nuclear Weapons and Other Weapons of Mass Destruction on the Sea-Bed and the Ocean Floor and in the Subsoil Thereof. Where a complete demilitarization has been established, as in the case of Article IV (2) of the Outer Space Treaty, or has been intended, as in the case of Resolution 1721, the restrictive expression "exclusively peaceful" has been used. Where no complete disarmament has been achieved, as in the case respecting the sea-bed and the ocean floor, only the term "peaceful" has been used. This reference occurs in the preamble in the same way that it appears in the preamble of the Outer Space Treaty and constitutes an acknowledgement, a recommendation and an expectation only.[50]

Conclusion

The foregoing discussion has demonstrated the difficulty in arriving at an unqualified and clear-cut definition of "peaceful purposes". Canada believes, however, that the restrictive interpretation is the most appropriate in view of the negotiating history of the Outer Space Treaty, its actual wording and state practice since its coming into force.

Terms such as "weaponization" and "militarization", which have been widely used, are even more ambiguous. These latter terms are not used in space law and do not even appear to have any generally accepted meaning in political discussions.

As has been pointed out, states have agreed to or acquiesced in the military use of outer space, to a considerable extent. Many of the satellites now in orbit must be considered to be military. The ABM Treaty provides

for verification by "national technical means" including photoreconnaissance satellites, which are clearly military. Such stabilizing military uses of space are highly desirable and should continue without interference. Indeed, they should be supported by the international community and by international law.

Apart from weapons of mass destruction, the placement of weapons in earth orbit has, in the past, not been addressed in any extensive fashion, partly because, until recently, this was not seen as a technically feasible or militarily useful possibility.

The Canadian government maintains that in the absence of developed treaty law in outer space, general international law would apply. This has been explicitly done to some extent already, according to the terms of various outer space conventions.

From the point of view of general international law, outer space is analogous to other environments beyond national jurisdiction, notably the high seas. The Law of the Sea Convention stipulates in article 88 that "the high seas shall be reserved for peaceful purposes". This is a more clear-cut expression of the concept than in fact appears in the Outer Space Treaty. Article 88 has never been intepreted as preventing, for example, the passage of warships or prohibiting maritime military activities such as naval exercises or even weapons tests. Nor has it been seen to ban the stationing of any type of weapons on the high seas. "Peaceful purposes" as this phase applies to outer space must be understood in an analogous fashion. Outer space is open to military activity. If the international community decides on restrictions on certain types of activity which do not otherwise contravene international law, it must do so by specific agreement, as indeed it did to some extent in the Outer Space Treaty. Again an analogy with the law of the sea is relevant. The 1971 Seabed Treaty, as its title states, prohibits "the emplacement of nuclear weapons and other weapons of mass destruction on the seabed and ocean floor". This treaty embodies the prohibition of a particular use of a particular weapon which otherwise would not have been contrary to international law. The same considerations apply in outer space. In the absence of an existing specific prohibition (such as, for example, the one against nuclear weapons) and on the assumption that the activity in question is not contrary to an existing principle of international law (such as non-use of force) the placement of weapons in orbit in space is not per se unlawful.

This is not to say that placing or using weapons in space (or the increased "militarization" or "weaponization" of space) would be a desirable development. However, the elementary level to which space law has so far progressed does not of itself seem an adequate basis on which to prevent such a trend. To prevent the risks to security on earth which may be posed by the threat of weapons placed in space or for use in space will require that states develop the law beyond this elementary stage.

NOTES

1. CD/694, 25 April 1986.

2. See for example: USSR, CD/548, 8 February 1985, page 2;
USSR, CD/570, 27 February 1985, page 2;
and
USA, CD/571, 5 March 1985, page 2.

3. See for example: China, CD/579 19 March 1985, page 1.

4. See for example: Mongolia, CD/PV.273, 17 July 1984, page 9;
USSR, CD/542, 26 October 1984, page 1;
USSR, CD/543, 20 December 1984, page 5;
USSR, CD/548, 8 February 1985, page 3
Hungary, CD/PV.295, 28 February 1985, page 9;
Argentina, CD/PV.296, 5 March 1985, page 27; and
Morocco, CD/PV.301. 21 March 1985, page 22.

5. See for example: USSR, CD/PV.320, 11 July 1985, pages 17-18 and
GDR, CD/PV.303, 28 March 1985.

6. See for example: China, CD/579, 19 March 1985.

7. Article I reads:

> The exploration and use of outer space, including the moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind.
>
> Outer space, including the moon and other celestial bodies, shall be free for exploration and use by all States without discrimination of any kind, on a basis of equality and in accordance with international law, and there shall be free access to all areas of celestial bodies.

There shall be freedom, of scientific investigation in outer space, including the moon and other celestial bodies, and States shall facilitate and encourage international co-operation in such investigation.

8. U.N.G.A Resolution 1721 (XVI), 20 December 1961, "International Cooperation in the Peaceful Uses of Outer Space".

9. U.N. Docs. A/C.1/PV 1210-1214 (December 1961); A/C.1/SR. 1210-1214 (December 1961); see also Stevenson, "International Cooperation in the Peaceful Uses of Outer Space", (1962), 46 Department of State Bulletin 180.

10. Marcoff, Traité de droit international public de l'espace, (1973), 330, 332.

11. Ibid., 331.

12. Ibid., 333.

13. Marcoff, "Implementing the Contractual Obligation of Article I, Paragraph 1 of the Outer Space Treaty of 1967," (1973), 17th Colloq. on the Law of Outer Space 136, 137.

14. Article II of the Outer Space Treaty.

15. Article III.

16. Article IV, para 1.

17. Articles VI and VII.

18. Articles IX and V.

19. Article XV.

20. Article IX.

21. See the wording of Article I, para 3: "There shall be freedom of scientific investigation in outer space, including the moon and other celestial bodies and States shall facilitate and encourage international cooperation in such investigation."

22. Staff Report on the Treaty of 1967, prepared for the use of the U.S. Senate Committee on Aeronautical and Space Sciences, 90th Cong., 1st Sess., 1967, 23.

23. Ibid.

24. Marcoff, "Disarmament and 'Peaceful Purposes' Provisions in the 1967 Outer Space Treaty", (1976), 4 Journal of Space Law 3, 21.

25. Niciu, "What is the Meaning of the Use of Cosmos Exclusively for Peaceful Purposes", (1973), 17th Colloq. on the Law of Outer Space 224, 228.

26. Ibid., 229.

27. Marcoff, supra, note 24, 10.

28. Stein, "Legal Restraints in Modern Arms Control Agreements", (1972), 66 American Journal of International Law 255, 262-4.

29. Gal, Space Law, (1969), 164, 180-1.

30. American Bar Foundation. Committee on the Law of Outer Space. Report to NASA. July 1961, 25-6.

31. Reed and Norris, "Military Use of the Space Shuttle", (1980), 13 Akron Law Review 677.

32. Gal, supra, note 29, 167.

33. Ogunbanwo in International Law and Outer Space Activities, The Hague: 1975, 32; Reed and Norris, supra, note 31, 682; and Fawcett, International Law and Uses of Outer Space, (1968) at 54.

34. Dembling and Arons, "The Evolution of Outer Space Treaty", (1967) 33 JALC 433-4.

35. Butler, "Peaceful Use and Self-Defence in Outer Space", (1982) 25th Colloqium on the Law of Outer Space 77. Furthermore, pursuant to art. 31(3)(b) of the Vienna Convention on the Law of Treaties, in interpreting a treaty, there shall be taken into account "any subsequent practice in the application of the treaty which establishes the agreement of the parties regarding its interpretation". The Treaty is reproduced in (1969) 63 American Journal of International Law 875 et seq.

36. Bridge, "International Law and Military Activities in Outer Space", (1980) 13 Akron Law Review 658. See also Meyer cited at p. 167 in Gal, supra note 29.

37. Kolossov, "Notions of 'Peaceful' and 'Military' Space Activities", (1982) 25th Colloq. on the Law of Outer Space 117, at 118.

38. Chaumont, Le droit de L'espace, (1970), 96; Woetzel, "Sovereignty and National Rights in Outer Space", (1961), 5th Colloq. on the Law of Outer Space 1, 44; Goedhuis, "General Questions on the Legal Regime of Space", in International Association (I.L.A.), (1960), 50th Report 72, 77.

39. Gal, supra, note 29, 171.

40. Marcoff, "Disarmament and 'Peaceful Purposes' Provisions in the 1967 Outer Space Treaty", (1976), 4 Journal of Space Law 3, 7. See also Nozari, Space Law, Moscow, 1979, 200-1; Matte, "Le Traité sur l'espace de 1967 et l'utilisation militaire du milieu extra-atmosphérique", (1983) 7 Ann. D.M.A. 322 et seq.; and Lachs, The Law of Space, (1972) at 106-8.

41. Marcoff, ibid., 11.

42. Matte, supra, note 40.

43. Vlasic, "Disarmament Decade, Outer Space and International Law," (1981) 26 McGill Law Journal 173; Zendalis and Wade, "Anti-Satellite Weapons and the Outer Space Treaty of 1967", (1978), 8 California W.I.L.J. 474; and Marcoff, supra, note 40.

44. Goedhuis, "An Evaluation of the Leading Principles of the Treaty of Outer Space Legislation," (1968), Netherlands International Law Review, 25.

45. Goedhuis, "What Additional Arms Control Measures Related to Outer Space Could be Proposed", in Jasani, (ed.) Outer Space - A New Dimension of the Arms Race (1982), 300. See also Article II of the Statute of the International Atomic Energy Agency (1956).

46. Cheng, "The Legal Status of Outer Space and Relevant Issues.... Delimitation of Outer Space and Definition of Peaceful Use", (1983) Journal of Space Law 99, at 102.

47. Gal, "Activities in Orbit and Celestial Bodies: Two Notions in Peaceful Uses", (1982) 25th Colloquim on the Law of Outer Space 83.

48. Kolossov, supra, note 37, 118.

49. Marcoff, supra, note 40, 16.

50. Ibid., 18, 21.

CONFERENCE ON DISARMAMENT

CD/OS/WP.16
28 July 1986

Original: ENGLISH

Ad Hoc Committee on Prevention
of an Arms Race in Outer Space

List of proposals submitted at the 1986 session

Listed below are proposals submitted at the 1986 session, as indicated by the delegations concerned. It was prepared by the Secretariat pursuant to the decision of the Ad Hoc Committee at its tenth meeting on 18 July 1986.

German Democratic Republic

Statement in the Conference on Disarmament on 24 July 1986, containing proposals on a treaty on the prohibition of ASAT weapons and the immunity of satellites (CD/PV.373).

Germany, Federal Republic of

Statement in the Conference on Disarmament on 6 March 1986, concerning a possible legal regime for the protection of satellites, supplemented by confidence-building measures in the form of a "rules-of-the-road" agreement (CD/PV.345).

Pakistan

Statement in the Conference on Disarmament on 22 April 1986, concerning issues relevant to the prevention of an arms race in outer space (CD/PV.358).

Proposal relating to the prevention of an arms race in outer space: international instrument to supplement the ABM Treaty (CD/708-CD/OS/WP.12).

Sri Lanka

Statement in the Conference on Disarmament on 8 July 1986, containing proposals relating to the prevention of an arms race in outer space (CD/PV.368).

Union of Soviet Socialist Republics

Statement in the Conference on Disarmament on 20 February 1986, concerning the conclusion of an international agreement to ensure the immunity of satellites and for the prohibition of anti-satellite systems and the destruction of existing systems (CD/PV.341).

Statement in the Conference on Disarmament on 17 June 1986, concerning the letter dated 12 June 1986, from the Chairman of the Council of Ministers of the Union of Soviet Socialist Republics, Mr. N.I. Ryzhkov, to the Secretary-General of the United Nations, containing considerations on the development of international cooperation in the prevention of an arms race in outer space and the peaceful development of outer space (CD/PV.362).

Venezuela

Working paper containing a draft definition of space strike weapons (CD/709/Rev.1-CD/OS/WP.13/Rev.1).

CONFERENCE ON DISARMAMENT

CD/OS/WP.16/Add.1
31 July 1986

Original: ENGLISH

Ad Hoc Committee on Prevention
of an Arms Race in Outer Space

List of proposals submitted at the 1986 session

Addendum

Australia

Statement in the Conference on Disarmament on 29 July 1986, containing proposals for discussion relating to the prevention of an arms race in outer space (CD/PV.374).

India

Statement in the Conference on Disarmament on 22 April 1986, concerning the prohibition of anti-satellite weapons (CD/PV.358).

GE.86-63769

CD/OS/WP.17
7 April 1987

CONFERENCE ON DISARMAMENT

EXEMPLAIRES D'ARCHIVES
FILE COPY

Original: ENGLISH

Ad Hoc Committee on Prevention
of an Arms Race in Outer Space

1987 PROGRAMME OF WORK

1. Examination and identification of issues relevant to the prevention of an arms race in outer space;

2. Existing agreements relevant to the prevention of an arms race in outer space;

3. Existing proposals and future initiatives on the prevention of an arms race in outer space.

In carrying out its work, the Ad Hoc Committee will take into account developments which have taken place since the establishment of the Committee in 1985.

CONFERENCE ON DISARMAMENT

CD/OS/WP.18
2 July 1987

Original: ENGLISH

Ad hoc Committee on Prevention
of an Arms Race in Outer Space

GERMAN DEMOCRATIC REPUBLIC

Proposal for a Structured Discussion of Item 3 of the Programme of Work: "Existing Proposals and future initiatives on the prevention of an arms race in outer space"

1. In recent years the prevention of an arms race in outer space has come to be a key issue in efforts to avoid a nuclear war and to achieve nuclear disarmament. Therefore, maximum importance attaches to the conclusion of an agreement or agreements designed to prevent an arms race in outer space. In the pursuit of this objective bilateral and multilateral negotiations must complement and stimulate each other.

2. Resolution 41/53, which was adopted at the forty-first United Nations General Assembly by 154 votes in favour with only one abstention, reflects the resolute determination of the overwhelming majority of States to prevent an arms race in outer space, and their demand for the immediate opening of concrete multilateral negotiations. These are to be conducted within the framework of an ad hoc committee of the Conference on Disarmament with a view to concluding an agreement or agreements to prevent an arms race in outer space in all its aspects.

3. In 1985 and 1986 the Ad Hoc Committee of the Conference on Disarmament examined issues relevant to the prevention of an arms race in outer space. It was established there that the existing legal régime in this field is incomplete. Consequently, the Ad Hoc Committee now has to identify the measures that could serve to remedy this situation.

4. The Conference on Disarmament has accumulated a valuable set of ideas and proposals. So a fairly good basis was established for concrete, businesslike and result-oriented work. To this end the Ad Hoc Committee has before it:

(a) Comprehensive draft treaties (USSR-working papers CD/274 and CD/476)

(b) Proposal for the conclusion of an additional protocol to the Outer Space Treaty (Italy - working paper CD/9);

(c) Proposals for definitions (CD/OS/WP.16, CD/OS/WP.16 Add.1);

(d) Various detailed proposals by a number of States (Working papers by Canada - CD/320 and CD/716: France - CD/375; People's Republic of China - CD/579; Sweden - CD/OS/WP.8; Pakistan - CD/708; Venezuela - CD/709).

(e) Specific ideas and suggestions put forward by many States in the plenary and in the Ad Hoc Committee.

II.

With a view to increasing the effectiveness of the work of the Ad Hoc Committee the discussion on item 3 of the programme of work "Existing proposals and future initiatives on the prevention of an arms race in outer space" could be structured. Such a structure could be based on proposals submitted to the Conference on Disarmament and could contain the following aspects:

(1) Basic approach to the subject

- Prohibition of the use of force in outer space and from space against the Earth;
- Prohibition of the development, testing, deployment and use of space weapons;
- Prohibition of anti-satellite weapons and destruction of existing systems;
- Garanty of the immunity of space objects;
- Establishment of "rules of the road";
- Establishment of a code of conduct.

(2) Kind of agreement

(a) Comprehensive agreement on the prevention of an arms race in outer space;

(b) Partial agreements on specific aspects leading to the prevention of the deployment of arms in space;

(c) Additional protocol to the "Treaty on the Principles governing the Activities of States in the Exploration and Use of Outer Space including the Moon and Other Celestial Bodies";

(d) Amendments to the "Treaty on the Principles Governing the Activities of States in the Exploration and Use of Outer Space including the Moon and Other Celestial Bodies";

(e) Agreement on a code of conduct.

(3) Interim measures

(a) A moratorium on the development, testing and deployment of space strike weapons;

(b) A moratorium on the development, testing and deployment of anti-satellite weapons;

(c) The transformation of bilateral agreements containing provisions relevant for the prevention of an arms race in outer space into multilateral ones.

(4) Verification

- Use of national technical means of verification;
- International co-operation in verification;
- Establishment of an international inspectorate for the verification of non-deployment of any weapons in outer space, which would be given the right of access for the purpose of on-site inspections to all objects designed to be launched and stationed in outer space and to their corresponding launching vehicles as well as the right of monitoring any launches of space objects.

(5) International organs

- Establishment of a world space organization
  to encourage international co-operation of States in the peaceful use of outer space;
  to monitor compliance with existing and future agreements on the prevention of an arms race in outer space;
- Establishment of an International Satellite Monitoring Agency (possibly in the framework of a world space organization)

(6) Definitions

Space weapons	- CD/OS/WP.14/Rev.1
Space strike weapons	- CD/OS/WP.14/Rev.1 CD/709/Rev.1
ASAT weapons	- CD/OS/WP.14/Rev.1/Add.1
Space objects	- CD/OS/WP.14/Rev.1/Add.1
Outer space	- CD/OS/WP.14/Rev.1/Add.1

CONFERENCE ON DISARMAMENT

CD/817
CD/OS/WP.19
17 March 1988

ENGLISH
Original: RUSSIAN

LETTER DATED 17 MARCH 1988 FROM THE REPRESENTATIVE OF THE UNION OF SOVIET SOCIALIST REPUBLICS ADDRESSED TO THE PRESIDENT OF THE CONFERENCE ON DISARMAMENT, TRANSMITTING THE TEXT OF A DOCUMENT ENTITLED "ESTABLISHMENT OF AN INTERNATIONAL SYSTEM OF VERIFICATION OF THE NON-DEPLOYMENT OF WEAPONS OF ANY KIND IN OUTER SPACE"

I have the honour to transmit herewith a document entitled "Establishment of an international system of verification of the non-deployment of weapons of any kind in outer space".

I should be grateful if you would arrange for this document to be circulated as an official document of the Conference on Disarmament and as a working paper of the Ad hoc Committee on Prevention of an Arms Race in Outer Space.

(Signed) Y. NAZARKIN
Representative of the USSR to
the Conference on Disarmament

UNION OF SOVIET SOCIALIST REPUBLICS

ESTABLISHMENT OF AN INTERNATIONAL SYSTEM OF VERIFICATION OF THE NON-DEPLOYMENT OF WEAPONS OF ANY KIND IN OUTER SPACE

The USSR delegation shares the concern expressed by the representatives of many States participating in the Conference on Disarmament about the possibility of the arms race spreading to outer space.

During the 1987 session of the Conference on Disarmament the delegation of the Soviet Union proposed that, without waiting for the conclusion of an appropriate agreement on space, a start should be made on establishing a system for international verification of the non-deployment of weapons of any kind in outer space. The main purpose of such a system would be to determine that objects to be launched into and stationed in space were not weapons and were not equipped with weapons of any kind.

In the opinion of the USSR, the central place in such a system of verification might be taken by an International Space Inspectorate upon which the States parties to the agreement would confer the right of access, for inspecion purposes, to any objects intended to be launched into and stationed in outer space.

In the present paper, the USSR proposal concerning the International Space Inspectorate is given concrete form. In this connection, the Soviet Union believes that, depending upon the specifics of the actual agreements on the prevention of an arms race in space, the system of verification, the structure of the International Space Inspectorate and its modes of operation can be worked out and refined in the course of negotiations.

I. Aims and definitions

1. The main aim in establishing the International Space Inspectorate is to implement measures to verify that any objects to be launched into and stationed in outer space by States parties are not weapons and are not equipped with weapons of any kind.

2. On-site inspection directly before launch is the simplest and most effective method of making sure that objects to be launched into and stationed in space are not weapons and are not equipped with weapons of any kind.

3. In order to ensure a complete ban on space arms, measures of verification with the aid of the International Space Inspectorate should include:

(a) advance submission by the receiving State to the representatives of the International Space Inspectorate of information on every forthcoming launch, including the date and time of launch, the type of launch vehicle, the parameters of the orbit and general information on the space object to be launched;

(b) the permanent presence of inspection teams at all sites for launching space objects in order to check all such objects irrespective of the vector;

(c) the start of inspection ... days before the object to be launched into space is mounted on the launch vehicle or other vector;

(d) the holding of inspections also at agreed storage facilities, industrial enterprises, laboratories and testing centres;

(e) the verification of undeclared launches from undeclared launching pads by means of ad hoc on-site inspections.

4. The expression "space object" means any apparatus intended to be launched into and stationed in outer space.

5. The expression "weapons prohibited for launching into outer space" means systems and devices, irrespective of the physical principles on which they are based, that are created ab initio or are re-equipped to strike objects in outer space or in the atmosphere or on the surface of the Earth (the list of such systems and devices will be agreed upon in the course of negotiations).

6. Ballistic missiles whose launches are not connected with placing any objects into the orbit of an artificial Earth satellite or on a flight path to other heavenly bodies shall not be subject to verification by the International Space Inspectorate.

II. Structure and financing

1. The governing body directing the work of the International Space Inspectorate shall be a Council composed of representatives of all States parties to the Agreement. The Council shall hold regular annual sessions, as well as special sessions which may be convened by the Inspector-General at the request of a majority of States parties to the Agreement.

2. The executive body of the Council shall be the International Space Inspectorate; it shall be headed by an Inspector-General, who shall be elected by the Council for a term of five years.

3. The basis of the International Space Inspectorate shall consist of a corps of inspectors, who shall be selected from among the specialists of the States parties to the Agreement in accordance with the principle of equitable geographical representation.

4. The International Space Inspectorate shall have permanent inspection teams composed of ... persons assigned to the following launching sites of States parties (the list will be agreed upon in the course of negotiations).

5. Ad hoc inspection teams shall be composed of members of the corps of inspectors and of additional specialists assigned as necessary by States parties.

6. The activities of the International Space Inspectorate shall be financed out of the annual proportional contributions of the States parties (to be agreed upon in the course of negotiations).

III. Permanent inspection teams

1. The permanent inspection teams shall be appointed by the Inspector-General, by prior agreement with the receiving State, from among the candidates nominated by the States parties on the principle of equitable geographical representation and totalling not more than ... persons.

2. The heads of the permanent inspection teams shall be appointed by the Inspector-General, by prior agreement with the receiving State, from among the candidates nominated by the States parties.

3. Every permanent inspection team shall include representatives of the State party conducting regular launches of space objects in whose territory the team in question serves.

4. The heads and members of permanent inspection teams shall be accorded the privileges and immunities which are granted to diplomatic representatives in accordance with the Vienna Convention on Diplomatic Relations.

5. The receiving State shall render maximum assistance to the permanent inspection team in the performance of the team's functions.

6. The permanent inspection teams shall be stationed in proximity to the launching sites.

7. The permanent inspection team shall, by agreement with the receiving State, import and use the instruments, materials and equipment needed for the performance of its functions, the list of which will be agreed upon in the course of negotiations.

8. The activities of the permanent inspection teams shall be financed out of the budget of the International Space Inspectorate.

IV. Working procedure of the International Space Inspectorate

1. The receiving State shall submit to the International Space Inspectorate a general observation programme concerning each forthcoming launch of a space object ... days before the launch, at the same time forwarding a copy of the notification to the competent permanent inspection team.

2. A notification of a forthcoming launch shall include the following information: the place, date and time of launch, the type of launch vehicle, the parameters of the orbit and general data on the space object to be launched (the volume of information to be submitted will be agreed upon in the course of negotiations).

3. A reply to each notification of a forthcoming launch shall be transmitted by the International Space Inspectorate to the receiving State not later than ... days after the submission of the notification and shall be accompanied by the sending of instructions to the competent permanent inspection team to hold an inspection.

4. Together with the notification, the receiving State shall provide a general observation programme including the following information:

The date, time and place of the inspectors' access to the space object;

The planned duration of the observation programme;

The languages to be used for interpretation and/or translation;

Other necessary information;

The terms for the supply of any observation equipment that will be made available to the observers by the receiving State.

5. To enable the inspectors to determine with sufficient certainty that the space object is not a weapon and is not equipped with weapons, the receiving State shall in the course of the inspection, in accordance with the observation programme:

Provide the inspectors with the necessary instruments, materials and equipment, the list of which will be agreed in the course of negotiations.

The inspectors may also use their own instruments, materials and equipment, which shall be subject to checking and approval by the receiving State;

Provide the inspectors, in the course of the observation programme, with necessary information directly connected with the performance by the inspectors of their functions;

Provide the inspectors with transport for use in the area of the launching pad;

Admit the inspectors to the sites where space objects are mounted on the launch vehicle and to their launching sites;

Provide the inspectors with facilities for prompt communication with the International Space Inspectorate (the receiving State shall not be bound to bear the cost of the use of the means of communication by the inspectors);

Provide the inspectors with adequate board and lodging at a suitable place for carrying out the observation programme and with medical assistance if necessary.

V. Verification of undeclared launches

1. A State party has the right to ask the International Space Inspectorate for assistance in clarifying any situation which may be considered unclear as a result of suspicion of the undeclared launch of a space object. For the purposes of clarifying the situation, the International Space Inspectorate may request all necessary information from specially designated observatories (the list will be agreed in the course of negotiations).

2. A State party has the right to request the International Space Inspectorate to obtain clarification from any State party regarding a situation which may be considered unclear as a result of suspicions of the undeclared launch of a space object. In this connection the requesting State shall provide the International Space Inspectorate with all the information which has given rise to the suspicions of the undeclared launch of a space object.

In this case the following procedure shall be applied:

(a) The International Space Inspectorate shall forward the request for clarification to the State party concerned within 24 hours after its receipt;

(b) The requested State shall furnish clarification to the International Space Inspectorate within ... days after the receipt of the request. The International Space Inspectorate shall forward the clarification to the requesting State within 24 hours after its receipt;

(c) In the event that the requesting State party considers the clarification insufficient, it may request the International Space Inspectorate to take a decision to hold an ad hoc inspection at the launching site and in the area in which detachable parts of the launch vehicle and spacecraft land.

3. The International Space Inspectorate shall inform the States parties of any requests for clarification of a situation which may be considered unclear as a result of suspicions of the undeclared launch of a space object.

VII. Ad hoc inspections as a result of suspicions of the undeclared launch of a space object

1. The decision to hold an ad hoc inspection in order to clarify a situation which may be considered unclear as a result of suspicions of the undeclared launch of a space object shall be taken by the International Space Inspectorate on the basis of a request from a State party which considers the clarifications received to be insufficient.

2. The ad hoc inspection shall be carried out by an ad hoc inspection team composed, on the principle of equitable geographical representation, of members of the corps of inspectors of the International Space Inspectorate and of the permanent inspection team in the country concerned. The State party which has requested the holding of an ad hoc inspection may nominate not more than two representatives of its own, who shall be included in the team as observers and shall enjoy all privileges and immunities equally with the other members of the team.

3. Within 24 hours after the adoption of the decision to hold an ad hoc inspection, the International Space Inspectorate shall address a request to the State party concerned. In the request for the holding of an ad hoc inspection, the International Space Inspectorate shall inform the receiving State of the following:

The grounds for the request;

The location of the area mentioned, as defined by geographical co-ordinates;

Preferable points of entry for the ad hoc inspection team;

Where in the area mentioned the inspection will begin;

Whether the inspection will be conducted on the ground, from the air or by both methods simultaneously;

In the case of an aerial inspection, what aircraft will be used;

Whether the ad hoc inspection team will use its own ground transport or that of the receiving State;

The particulars needed for the issue of diplomatic visas to the inspectors entering the receiving State.

5. A State which has received a request for the International Space Inspectorate for the holding of an ad hoc inspection shall be bound to afford the ad hoc inspection team from the opportunity to carry out such an inspection without delay.

6. A reply to a request for an ad hoc inspection shall be provided within 24 hours after the receipt of the request.

7. The ad hoc inspection team shall be composed of not more than ... persons. The inspection shall be completed not later than ... days after the arrival of the ad hoc inspection team in the area mentioned.

8. While the inspectors are in the territory of the receiving country in connection with the holding of an ad hoc inspection, they shall be accorded privileges and immunities in accordance with the Vienna Convention on Diplomatic Relations.

9. The receiving State shall provide the team with adequate board and lodging at a place which enables the inspectors to perform their functions and with medical assistance if necessary.

10. The ad hoc inspection team shall use its own maps, instruments, materials and equipment.

11. The ad hoc inspection team shall also have access to the appropriate means of communication of the receiving State, including facilities for maintaining continuous communication between members of the inspection team in an aircraft and others in a ground vehicle used in the inspection.

CONFERENCE ON DISARMAMENT

CD/OS/WP.20
23 March 1988

Original: ENGLISH

Ad Hoc Committee on Prevention
of an Arms Race in Outer Space

1988 PROGRAMME OF WORK

1. Examination and identification of issues relevant to the prevention of an arms race in outer space;

2. Existing agreements relevant to the prevention of an arms race in outer space;

3. Existing proposals and future initiatives on the prevention of an arms race in outer space.

In carrying out its work, the Ad Hoc Committee will take into account developments which have taken place since the establishment of the Committee in 1985.

CONFERENCE ON DISARMAMENT

CD/OS/WP.21
23 March 1988

ENGLISH
Original: SPANISH

Ad hoc Committee on Prevention
of an Arms Race in Outer Space

Statement by the Chairman of the Ad hoc Committee at the third meeting, on 22 March 1988

Although the Committee has been re-established with the same terms of reference as in previous years and it has been agreed to pursue the same programme of work, I do not think this means that the same exercise must be repeated as in the past. Both the Committee's mandate and its programme of work are sufficiently broad and flexible to enable further progress to be made in the examination of item 5.

As I said in my opening statement, it was agreed last year, as recorded in the conclusion to the Committee's report, that the Committee should be re-established with an adequate mandate, taking into account all relevant factors, including the work of the Committee since 1985. That should be a fundamental point to keep in mind in tackling this year's work: on the basis of the work already done, to try to organize the discussions in such a way that this year's work marks a step forward in the multilateral effort to prevent an arms race in outer space. I believe that the terms of the mandate and the programme of work afford ample scope for attaining that objective. Everything depends on the approach taken to the future activity.

I think, first of all, that we should try to work as efficiently and practically as possible. To quote the terms used by Ambassador Morel last Thursday, it is a matter of tackling the prevention of an arms race in outer space "in a specific, concrete and realistic fashion". We should avoid, so far as possible, general statements setting forth or repeating the positions of Governments or groups and try instead to make discrete contributions that will serve to institute a dynamic exchange of views on the questions we are examining. This could be achieved by focusing attention on certain questions that deserve to be examined in more detail.

It occurs to me, for example, that, in the process of examining and identifying issues relevant to the prevention of an arms race in outer space, one issue that should be analysed with a view to arriving at a common approach is that of the object of the exercise in which we are engaged: that is to say, what is the object and what is the scope of the multilateral effort with regard to the prevention of an arms race in outer space? Another issue which comes under the same heading is that of the relationship between the prevention of an arms race in outer space and the efforts being made in connection with other aspects of the disarmament problem. Similarly, we should try to determine what relationship there is between multilateral efforts and bilateral efforts to prevent an arms race in outer space.

In the discussion on agreements relevant to the prevention of an arms race in outer space, the existing instruments on the subject have been analysed in detail. Perhaps we might go a little more deeply into discussion on the scope of the legal rules in force. To that end it would be useful to try to determine the exact sense and significance of some terms and notions. It would also be useful to delimit clearly the field of application of the existing legal instruments and the relationship between them, especially between those of a bilateral nature and those adopted in a multilateral setting. In this way the groundwork could be laid for determining what legislative measures could be taken to supplement the present legal order and make it more effective.

As to the existing proposals, I believe it would be useful to try to examine them more closely and thoroughly. There are some proposals that take a comprehensive, general and broad approach to the problem. Others, in contrast, aim to cover specific aspects of it. In the first category, as we know, there has been talk of the desirability of preparing a comprehensive new treaty. The possibility has also been raised of inserting amendments in the Outer Space Treaty. The idea of an additional protocol to the Outer Space Treaty has also been suggested. In the second category, proposals have been made concerning the prohibition of anti-satellite weapons, and the idea of immunity for space objects has also been suggested.

There has also been talk of the desirability of adopting interim measures, such as the declaration of a moratorium on anti-satellite weapons.

Similarly, and still within the scope of the existing proposals and of future moves, various ideas have been put forward for the adoption of confidence-building measures, such as the establishment of rules of the road

for space objects, the adoption of a code of conduct to govern the stationing of objects in outer space, the strengthening of the Convention on the Registration of Objects Launched into Outer Space and also the exchange of information on space activities.

Last but not least, there is the question of verification, which has been raised and commented on by several delegations. In this connection, it is important to keep in mind the proposal submitted by the USSR delegation last week.

I believe that all these proposals should be examined and commented on in detail by delegations as part of our efforts to move forward in the Committee's work.

The purpose of this enumeration of questions examined in the past - which lays no claim to completeness, but is more of an indicative list - is to serve as a guide for our discussions within the framework of the Committee's mandate and programme of work. It in no way implies any disregard for the variety of views that have been expressed on the problem of preventing an arms race in outer space. On the contrary: the aim is to marshal ideas as a contribution to the deeper examination of the topic so as to direct the Committee's labours towards the attainment of a common approach to the problems involved in preventing an arms race in outer space and to the search for solutions. I am confident that in this way concrete progress could be made in the work of the Conference on item 5.

CONFERENCE ON DISARMAMENT

CD/OS/WP.22
15 April 1988

Original: ENGLISH

Ad Hoc Committee on Prevention
of an Arms Race in Outer Space

GROUP OF 21

Proposed Programme of Work for 1988

A. Examination and identification of issues and activities relevant to the prevention of an arms race in outer space. Definitions and descriptions of activities.

   1. Weapon systems in space or directed against targets in space.

   2. Support of weapon systems and military operations on Earth and surveillance systems.

   3. Other issues and activities.

B. Examination and consideration of current international arrangements and understandings concerning military activities in outer space.

   1. Analysis of relevant existing treaties and arrangements.

   2. Issues of treaty law in relation to issues and activities as identified under A.

   3. Other legal matters relevant to the prevention of an arms race in outer space.

C. Examination and consideration of existing proposals and future initiatives with a view to preventing an arms race in outer space; questions regarding verification and compliance.

D. Examination and identification of concrete measures aimed at preventing an arms race in outer space.

GE.88-61134

CONFERENCE ON DISARMAMENT

CD/OS/WP.23
23 May 1988

Original: ENGLISH

LETTER DATED 23 MAY 1988 ADDRESSED TO THE SECRETARY-GENERAL OF THE CONFERENCE ON DISARMAMENT FROM THE PERMANENT REPRESENTATIVE OF CANADA, TRANSMITTING DOCUMENTS RELATING TO THE PREVENTION OF AN ARMS RACE IN OUTER SPACE */

As you are aware Canada has in the past made available to members of the Conference on Disarmament a compendium of working papers on the prevention of an arms race in outer space tabled in the CD and statements made in Plenary on that subject. I take pleasure in tabling the compendia relating to the work of the Ad Hoc Committee on the Prevention of an Arms Race in Outer Space for 1986 and 1987. It is my hope that the compendia will provide CD delegations with an up-to-date reference tool that will facilitate our work on this agenda item.

I am also taking advantage of the occasion to distribute Volume II of Arms Control and Disarmament in Outer Space put together by the McGill University Centre for Research of Air and Space Law.

I would be grateful if the necessary arrangements could be made for the distribution of these documents to the members of the Ad Hoc Committee on the Prevention of an Arms Race in Outer Space.

(Signed) de Montigny Marchand
Ambassador
Permanent Representative

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*/ A limited distribution of these documents in English only has been made to the members of the Conference on Disarmament. Additional copies are available from the Permanent Mission of Canada at Geneva.

CONFERENCE ON DISARMAMENT

CD/851
CD/OS/WP.24
2 August 1988

ENGLISH
Original: SPANISH

VENEZUELA

Proposed amendment to the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies

Article IV of the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, should be amended as follows:

Insert in the first paragraph:

After the phrase "or any other kinds of weapons of mass destruction", the words "or any kind of space weapon or system of such space weapons".

Insert between the first and second paragraphs:

"The States Parties to the Treaty also undertake not to develop, produce, store or use space weapons.

"For the purposes of the preceding paragraph space weapons are understood to mean any offensive or defensive device, including its operational components, whatever the scientific principle on which its functioning is based:

"(a) Capable of destroying or damaging from its place of deployment in outer space an object situated in outer space, in the air, in water or on land;

"(b) Capable of destroying or damaging from its place of deployment in the air, in water or on land an object situated in outer space.

"The following are also space weapons: any offensive or defensive device, including its operational components, and any system of such devices, whatever the scientific principle on which its functioning is based, that is capable of intercepting, from outer space or from land, water or the atmosphere, ballistic projectiles during their flight."

The amendments to the Treaty should be complemented by a Protocol establishing appropriate verification machinery to ensure observance of the global ban on space weapons.

GE.88-63835/5583G

CONFERENCE ON DISARMAMENT

CD/OS/WP.25
25 August 1988

Original: ENGLISH

Ad hoc Committee on Prevention
of an Arms Race in Outer Space

AUSTRALIA AND CANADA

Working Paper

Strengthening of State Practice Under the Convention on Registration of Objects Launched Into Outer Space, to Provide More Timely and Specific Information Concerning the Function of Satellites Including Whether the Satellite is Fulfilling a Civilian or Military Mission

Given the continuing potential for an arms race in outer space, the increase in the number of countries with significant interests and capabilities in space and the continuing growth in space activities, it is appropriate that the role of the international community on preventing an arms race in outer space take on increasing significance.

Pursuant to this imperative, efforts in the CD to carve out a more substantive role in preventing the development of an arms race in outer space must start from five important considerations:

(a) very great care must be taken to enhance stability and not detract from it;

(b) multilateral negotiations must complement, in the strictest sense of the word, the negotiations between the two major space powers;

(c) there must be recognition that a very considerable measure of prohibition and protection already exists in outer space and any work must be based on that foundation;

(d) it is widely accepted that present military uses of outer space are supportive of peace and stability; and

(e) there must also be recognition of the very useful and practical division of labour that has been established between the CD and UNCOPUOS.

Prevention of an arms race in outer space clearly involves a significant effort in defining legitimate space activities, including military activities

in or directed toward outer space. Problems regarding both the emplacement of weapons in space and the deployment on earth of weapons capable of attacking objects in space are bewilderingly complex. There is also great difficulty in defining the kinds of military activities, not necessarily involving weapons deployment, that might or might not be legitimately conducted in space.

Surmounting these difficulties will to an important extent depend on the degree of transparency that States give to their activities. Unless significant steps in the direction of greater transparency can be made, the chances of preventing an arms race in outer space would not be reassuring.

One obvious area for practical progress in increasing transparency would be multilateral exchanges of data on space objects with military functions. In addition to direct military functions, this latter term could be understood to include functions in support of military operations or on behalf of military organization. There is clearly potential for progress as far as such objects based in space are concerned through taking advantage of the Convention on the Registration of Objects launched into Outer Space. In particular, Article IV 1 (E) thereof stipulates that each State shall furnish to the Secretary-General information on the general function of a space article carried on its registry.

The Registration Convention is not exclusively or even primarily an arms control or disarmament treaty. It does however have a somewhat varied parentage. Its immediate progenitor is the Convention on International Liability for Damage caused by Space Objects; but as both this latter treaty and the Registration Treaty make clear, the ultimate ancestor is the Outer Space Treaty and in particular Article VI thereof which indicates that States Party to the Treaty shall bear international responsibility for national activities in outer space. This point is picked up in preambular paragraph 2 of the Registration Convention.

The Outer Space Treaty, which was also negotiated in the Committee on the Peaceful Uses of Outer Space is in part incontestably an arms control measure. Clearly it is the terms of an agreement and not its negotiating provenance which should determine its purpose and functions.

As noted, Article IV of the 1975 Convention requires, inter alia, that each State furnish information concerning the general function of the space object to be launched. In the past, descriptions furnished to the United Nations Secretary-General under this heading have tended to be extremely vague. In fact, as both the United Kingdom and Canada have pointed

out in working papers to the Conference in 1985, not one of the objects registered has ever been described as having a military function despite the fact that, at a conservative estimate, well over half of all space objects are primarily for military purposes. While the extent and timeliness of information given concerning military space activities may, of necessity, be limited by considerations of national security (although even this point might deserve some examination) this should not extend to a refusal to describe space objects as having military functions. Here again it is a question of using elements of the existing legal régime in outer space to instil further confidence and effectively promote greater transparency.

States Party to the Registration Convention should examine the possibility of taking their reporting responsibilities much more seriously and in meeting the requirement to disclose the "general function of the space objects" provide more timely and specific information concerning the function of a satellite, including whether the satellite is fulfilling a civilian or military mission or both. What is being suggested is strengthening, for international security purposes, of state practice under the Convention.

Assuming that States Party to the Convention could reach an understanding that in the future they will systematically, when making timely registrations, provide information on the military or civilian function of a space object, then space powers that are not party to the Convention could submit the same information under General Assembly Resolution 1721 (XVI) of 1961 which called on all States to provide information on their space objects.

Those countries that have launched space objects and are not party to the Convention or who are party to the Convention but either do not register their space objects or delay several years before doing so should, as appropriate, either become party to the Convention or better observe the spirit of its provisions. If this were to happen it would result in a most significant strengthening of the Registration Convention and of state practice under it.

Clearly the proposal set out above would represent a very small step towards more transparency and openness in outer space. How it could or would be effected would also be a matter of study. Strengthening of state practice under the Registration Convention might even pave the way for eventual establishment of a code of conduct for outer space as advocated by France, the United Kingdom and the Federal Republic of Germany in the CD in 1985. It could also go some way towards advancing suggestions concerning the legal immunity of satellites.

It is useful to recall that agreements on the regulation of activities in outer space that have been concluded thus far have required considerable time and patience in their negotiations. Comparable patience is likely to be required in this forum in its efforts to elaborate measures to prevent an arms race in outer space. Progress is likely to be incremental. A modest start can and should be made now and the elaboration of confidence-building measures would surely constitute a useful beginning.

CONFERENCE ON DISARMAMENT

CD/OS/WP.26
25 August 1988

Original: ENGLISH

Ad hoc Committee on Prevention
of an Arms Race in Outer Space

CANADA

Working Paper

Arms Control and Outer Space

A Retrospective Review: 1982-1987

1.0 Introduction

The last five years have seen a steady growth both in the use of space and in the perception of the importance of space.

This paper provides a succinct review of significant legal, technical, and political developments in the use of space and identify a number of significant issues. These issues tend to reinforce the importance of the Ad hoc Committee on the Prevention of an Arms Race in Outer Space in its continuing mandate to examine issues relevant to the prevention of an arms race.

The growth of the use of space is highlighted by the fact that the number of operational satellites has been increasing steadily. Mature space enterprises such as communications and meteorology are providing ever more innovative and essential services. The COSPAS/SARSAT emergency location system is operating and saving lives. Newer space applications such as those relating to remote sensing and position-location are beginning to show the promise of becoming viable commercial enterprises.

The increasing sophistication of the scientific spacecraft used by the international space community has led to a recognition of the importance of international co-operation in controlling costs. In the next five years it can be expected that international fleets of spacecraft will be investigating various phenomena such as the Earth's climate and biosphere, phenomena of critical interest to all mankind. Indeed, space-based remote sensing may be the only way to understand and combat potential threats such as the greenhouse effect of global warming, ozone depletion, and other potential environmental catastrophes.

Spacecraft have been used for decades by states to enhance their national security. The last five years, however, have seen a large increase in public awareness of this use. While satellites for early warning, communications, and observation have helped to increase confidence and facilitate negotiation, understandable concern has been expressed over the possible role of satellites in the conduct of war and over the role of space in strategic defence.

The importance of spacecraft in the future development of mankind is uncontested. However, understanding of the interrelationship between international security and prosperity on the one hand, and the use of spacecraft on the other, is still evolving. This is an area in which legitimate and reasoned study can do much to alleviate misunderstanding.

One issue of importance in this understanding is the relationship between bilateral superpower interests and multilateral interests in space. Since 1982, this relationship has been aptly illustrated by the contrast between the bilateral nuclear and space talks and multilateral discussions in non-arms control forums of the principles of remote sensing, nuclear power sources in space, and the problem of space debris, among others.

The USA and the USSR have by far the most extensive operations and largest investments in space. Their primary concerns are therefore likely to be different from those of others, since the first responsibility of the superpowers to the international community is to maintain a stable and controlled strategic relationship between themselves. To manage this relationship, they have invested vast resources and developed enviable technologies.

In the multilateral arena, however, space operations have taken a far less prominent role. Only in recent years, have certain strategically significant technologies such as remote sensing become available, and one of the specific challenges in the multilateral context is how to put these technologies to good use.

Because countries other than the super-Powers do not have the same level of immediate involvement and the same vested interests in the strategic use of space as do the super-Powers, the multilateral forum provides the opportunity for farther-reaching longer-term discussions concerning the basic philosophy and guidelines for the use of space. This is why in the Conference on Disarmament (CD), for example, there is an urgent requirement to understand and fortify the current régime, to agree on definitions of key terms, to clarify the issues of stability, and so to set a solid foundation for the

coming years. In this, the CD's efforts should be seen as complementary with, and not in opposition to, the bilateral process.

2.0 The General Importance of Space

Perhaps no other single statistic illustrates the increasing importance of space better than the fact that every year sees an increase in the number of satellites active in orbit. In 1987, over 300 operational satellites were in orbit. In recent years, the United States and USSR alone have been adding six new operating satellites per year each, on average.

Another indicator of the importance of space is the growing number of nations pursuing plans to commission launch vehicles and launch site facilities. Within the next 10 to 20 years not only will the number of launch systems be likely to double, but the variety of launch methods will also proliferate. New systems, ranging from air-, sea-, and ground-launched rockets through to small and large partially or completely reusable shuttles, and perhaps even horizontal take-off single stage to orbit vehicles are likely to emerge.

These launch systems are all designed to support an ever-increasing variety of space missions. I would like to comment on the most prominent of these.

2.1 Communications

Communications is one of the oldest and best established space applications. Communications satellites have provided service under self-sustaining funding for over a dozen years. Although the industry has matured, innovative services such as mobile communications, reconfigurable coverage, inter-satellite connections and smart "switchboards in the sky" are being pursued. Commercial satellite procurement is generally undertaken in an environment of intense international commercial competition, both in the case of national systems and in regional and international systems.

In general, satellite communications service is available almost universally, whether through dedicated national services or through international organizations such as Intelsat, Inmarsat, and Intersputnik.

It is estimated that one-half to two-thirds of long-distance cross-ocean communications traffic is carried by satellites. In addition television and radio broadcasts are transmitted live over long distances, almost exclusively via satellite.

For these reasons, any interruptions or loss of communications satellite services would have strong repercussions for the whole community of nations.

2.2 Remote Sensing

Remote sensing may be divided into observation of the Earth's surface and observation of the Earth's atmosphere. In the latter category is a series of meteorological satellites both in high orbit and in low Earth orbit, data from many of which is shared through the World Meteorological Organization's Global Telecommunications System.

Imaging of the Earth's surface has been undertaken for almost 30 years by the United States and USSR to gather data relevant to their respective national security. Although remote sensing has as long a history as communications as an application of satellite technology, it has taken much longer to develop as a commercially viable enterprise.

One of the reasons for this is that communications satellites fit quite easily into the existing communications infrastructure meeting a clearly defined need and satisfying a sophisticated and well-equipped user base. Remote sensing, on the other hand, provides new forms of data and requires sophisticated processing and analysis for which a large user base has not existed. If present trends in the world-wide growth of specialist remote sensing centres and in the decline of the price of computing hardware continue, however, it has been estimated that remote sensing could be financially self-supporting within the next 10 to 20 years.

Another major trend in remote sensing has been the increasing availability of satellite hardware sophisticated enough to provide images at very fine resolution - images detailed enough that they can be used to detect the presence and character of military forces. While this capability has been utilized by the United States and USSR for over a quarter century, its imminent availability in the multilateral context will challenge the community of nations to use it wisely.

In the bilateral context, overhead imagery obtained from satellites has been used successfully to help verify arms control agreements. Using similar imagery derived from multinational technical means in a multilateral context will likely be more difficult, posing new challenges. Thought should be given to the complex problems which will emerge in the wake of proposals relating to

the creation of a verification organization and verification methodologies, multilateral operation of satellites, gathering and distribution of data, and analysis of imagery.

The potential benefits in terms of setting fresh precedents in international co-operation and institution building will also be commensurably greater.

Finally, it should be recognized that technology to a large extent marches at its own pace, regardless of the state of international deliberations. The near future holds prospects for detailed satellite images being obtained by news organizations for their own purposes using commercial satellites. As sensor technology improves and space launches become cheaper, the news value of photographs of military build-ups, engagements, natural catastrophes, and so on, may well make so called "media-sats" a reality.

2.3 Position, Location and Navigation

Satellites have for some time been used as navigation beacons, allowing users on Earth to determine their location to a high degree of accuracy. Such systems could be used for navigation in land vehicles, ships and boats, airplanes and also in some spacecraft. So far, these capabilities have been used largely in the military context. There are indications, however, that the next generation of navigation satellites (the American Global Position System, GPS, and the Soviet GLONASS system) will stimulate increased commercial participation.

A variant on these satellites is the COSPAS/SARSAT system of spacecraft which receives emissions from Emergency Locator Transmitters which are activated, for example, in the event of an aircraft crash. From the signals received by the COSPAS/SARSAT transponders, the approximate location of the downed aircraft can be deduced, easing the problem of search and rescue teams trying to reach survivors. Since its inception, the system, begun as a co-operative program between the USSR, United States, France and Canada, has been credited with saving hundreds of lives.

2.4 Co-operative Scene/Space Exploration

Co-operative scientific and space exploration programs are almost too numerous to mention. One of the primary factors encouraging international co-operation is the generally high cost of space projects. Another factor is the increasing number of nations that, like Canada, see co-operation as the

best way to participate in large-scale space ventures not otherwise open to them. As both the scope of space projects and the number of nations that are able and willing to participate in them increase, co-operative science and space exploration projects can also be expected to flourish.

Perhaps most important, though, is the growing realisation among scientists that man does have a measurable and often detrimental effect on the Earth's biosphere. Destructive global effects may touch all nations and the only way to measure them may well be from space. Certainly, international co-operation will be required ultimately to correct or prevent them.

3.0 Space and Security

Spacecraft have for many years been used by States to enhance their national security. Space, as the ultimate "high ground" from which to observe the Earth, has hosted a large variety of observation and communications relay platforms. The information gathered and relayed by these platforms has helped to build confidence between States. They have helped also to refine and make more effective intercontinental-range weapon systems.

In the past few years, however, concern has been expressed increasingly over the possible direct role of spacecraft in the conduct of war and over the role of space in strategic defence.

One area of concern has focused on the use of space in strategic defence as a medium from which to launch or direct weapons against intercontinental ballistic missiles. Two aspects of this concern can be traced:

(a) the legitimacy of strategic defence of any kind in creating increased international stability; and

(b) the compatibility between the use of spacecraft as sensors or weapons for ballistic missile defence and the prevention of an arms race in outer space.

The first aspect, the legitimacy of strategic defence of any kind, continues to be discussed by the United States and USSR in their bilateral defence and space talks. (Recognizing the importance of these talks to the deliberations of the CD, they also report periodically on their progress.)

The second aspect has a larger, multilateral dimension, and forms part of the second area of concern, the role of spacecraft in the conduct of war and the resultant implications for the prevention of an arms race in outer space. Even if it were agreed by all that the requirement for international security

would not demand the use of spacecraft to defend against intercontinental ballistic missiles, it can be argued that the problem of potential space weaponization would remain, fuelled by the ever increasing utility and value of space assets.

If, in some future conflict, combatants determined that space assets were providing or could provide a distinct advantage to their opponents, they could well strike out at these assets with anti-satellite weapons, either pre-emptively or as part of ongoing hostilities. As satellites become more valuable, they also become more attractive military and economic targets.

It is essential for the international community to explore the fundamental issues behind these longer-term concerns regarding the ultimate disposition of space.

Canada has submitted to the CD working papers discussing the stabilizing and destabilizing aspects of satellite systems, surveying current international law relevant to arms control and outer space, and, perhaps most importantly, analyzing the basic terminology which underpins the discussion of these higher issues.

Such fundamental discussions can create the understanding of the interrelationship between international security and prosperity on the one hand, and the use of spacecraft on the other, which is a key prerequisite to creating a lasting, comprehensive, internationally agreed régime for activities in outer space.

Here, the complimentarity of the bilateral and multilateral forums can be seen. The United States and the USSR, which have by far the most extensive operations and largest investments in space, have concentrated their efforts on the creation and maintenance of a stable and controlled strategic relationship in an age of rapid world-wide technological, political, and social change. Their concentration is well placed in managing this primary interest.

In the wider arena of general international law applicable to space, several longer-term issues such as the operation of nuclear power sources in space, control of space debris, review of the registration convention and principles of remote sensing have been discussed in appropriate forums in the last five years. However, largely due to major issues as yet unresolved between the major powers, no arms control treaties applicable to outer space have been negotiated.

Even as they strive to resolve those problems, so should all nations strive to examine in depth the fundamental issues and achieve a clear understanding of space and arms control. In this, the pace of technical evolution must also be taken into account.

Just as the advance of technology helped in the verification of important bilateral arms control agreements, so can it help in the multilateral forum. Strategically significant technologies such as space-based remote sensing of spacecraft or of the Earth will certainly be available in the near future, if they are not already available, to multinational bodies. The specific challenge will be how to put these technologies to good use.

CONFERENCE ON DISARMAMENT

CD/OS/WP.27
25 August 1988

Original: ENGLISH

Ad hoc Committee on Prevention
of an Arms Race in Outer Space

CANADA

Working Paper on the Use of Certain Terms Relating to Arms Control and Outer Space

Introduction

Discussions held for the past several years in the Ad Hoc Committee on the Prevention of an Arms Race in Outer Space (AHCOS) reveal a variety of views on the meaning of certain key terms applicable to arms control and outer space. A difference or even a divergence of interpretation may create problems at a later stage in the drafting of any agreement, and even worse, at the stage of its application. Past experience has shown that the strength of an international accord lies in its clarity and lack of ambiguity.

On 16 July 1986, Canada tabled a Working Paper entitled: "Terminology Relevant to Arms Control and Outer Space". 1/ It summarizes views concerning the following terms: (i) military use of outer space; (ii) weaponization of space; (iii) militarization of space; (iv) free for exploration and use; (v) exclusively for peaceful purposes. This document emphasized the use of these terms from a doctrinal and academic perspective. A perusal of government statements both in the Conference on Disarmament (CD) and other international forums further reveals a lack of consensus on a commonly shared understanding of some of these basic terms.

While glossing over differences of interpretation may have been helpful in the past to overcome certain difficulties, such uncertainty can no longer be accepted as it impedes the AHCOS' progress. Depending on the use of these terms, their sense can sometimes be ambiguous if not misleading. Among the many causes for these ambiguities, we find first the interpretations of certain groups of countries, i.e., East-West, North-South, Space Powers-Developing Nations. 2/ Second, imprecision can be linked, within the

same groups of countries or the same language, to confusion about the scope of the concepts or activities covered by the terms. Third, translation problems may add a certain burden on the words used. For example, in Russian, the word for "military" essentially means warlike rather than pertaining to the armed services of a country. In the United States, "peaceful" is not regarded as the opposite of "military", but is equated to "non-aggressive". 3/

Several delegations have underlined the urgent need to reach a clear understanding of certain key terms. 4/

Canada, along with a majority of countries, considers that the first and essential step to be taken by the CD is therefore to be able to agree on such key expressions which constitute the building blocks for arms control discussions. This paper will discuss three terms: (i) military use; (ii) weaponization; (iii) militarization, placing emphasis on governmental statements which reflect general usage of those terms, rather than a doctrinal study of them.

Military use

This term has been used to cover a wide range of activities and concepts. As are many of the applications resulting from scientific discoveries of this century, space technology is clearly "dual-purpose" in nature. Thus, even when originally developed for civilian or commercial use, it can be adapted for military purposes. This duality of space technology makes it extremely difficult to distinguish civilian from military activities in outer space. This fact has been recognized since the beginning of the space age. 5/

Article IV of the 1967 Outer Space Treaty states that the "use of military personnel for scientific research or for any other peaceful purposes shall not be prohibited". This sentence closely repeats Article 1, paragraph 2, of the Antarctic Treaty of 1 December 1959. Even prior to the 1959 Treaty, many eventual signatories had and still have scientific bases operated by military personnel in Antarctica in total conformity with their obligations. Therefore, a military presence is acceptable and does not entail a breach to the "peaceful purposes" rule either in Antarctica or in Outer Space. Both Treaties' provisions recognize that peaceful use does not become non-peaceful simply because it is performed by a military entity. Therefore, "peaceful use" vs. "non-peaceful use" is not the same dichotomy as "civilian" vs. "military". Moreover, some military uses of military satellites, such as,

for example, in the verification of arms control agreements, communications, and early warning, are considered by a majority of countries to have strategically and politically stabilizing effects. 6/

Therefore, the military or civilian nature per se of space activities should not be a preoccupation. The most important criteria should be their support in stabilizing international relations and contributing to the goal of maintaining international peace and security. 7/

Many States recognize that many present military uses of outer space are passive or benign, and thus acceptable, 8/ and for over two decades no State asked for the general prohibition of military satellites. However, more recently, a number of countries have begun to favour restrictions on the use of military satellites. They insist that these satellites have become an integral part of the super-Powers' weapons systems and have been used in support of military operations on Earth. 9/ After many years of relative mutual restraint on the activities conducted in outer space, it has been argued, the functions performed by these satellites have crossed or are in danger of crossing an invisible threshold, inviting unrestrained competition. 10/

Other delegations maintain that the basic texts of international law dealing with outer space, notably the Outer Space Treaty of 1967 were never intended to prohibit all military uses of outer space. 11/ It is argued that, under current international law, military use would easily be justifiable in the interest of maintaining international peace and security, pursuant to Article 51 of the United Nations Charter, which recognizes the right of self-defence. Analogies have also been made with provisions of the Law of the Sea Convention which, while preserving the high seas for peaceful purposes, does not exclude weapons testing or the passage of warships for military manoeuvres. 12/

However, while this may be the case today, it has also been stated that if a legal framework similar to that applicable to the high seas were all that could be established for outer space, the goal of using space for peaceful purposes would not have been met. 13/

The term "military use" can thus be interpreted as a broad term encompassing many activities some of which may be destabilizing, but many of which can lead to increased international peace and security, arguably at lower levels of armament.

Weaponization

Weaponization is one of the newest expressions to be found in arms control and outer space discussions. This term came into use when discussion of the introduction of deliberately destructive space systems began. It is clear that, for many States, a step towards weaponization was initiated with the testing of anti-satellite (ASAT) systems. Weapons would therefore include all devices or installations capable of attacking, damaging or disrupting the functioning of spacecraft in space, or of objects in air, on land or at sea. 14/ Concerns have been expressed about the various programmes for the research and development of new weapons systems such as space mines, laser weapons or anti-missile defence systems to be based in outer space. 15/ In fact, "non-weaponization" has by some States been given priority over non-militarization, of which the latter is to be achieved as a final goal. 16/

Given the present state of international law as regards "weaponization" of outer space, countries have called for an effective legal framework for the prevention of the stationing in outer space of weapons not already covered by existing prohibitions on nuclear weapons and weapons of mass destruction. 17/ Additionally, certain States have proposed the prohibition not only of the stationing but of the research, production and deployment of all types of outer space weapons. 18/

Regarding the use of the word "weapon", a certain gradation has appeared as to the type of devices this would encompass. On one side, military satellites for command, control and communications are de facto accepted, and hundreds of such satellites have been deployed over the past decades. These satellites have not been considered as weapons, since they are not designed to attack or damage other objects. They can be, however, elements of weapon systems in that they can facilitate the flow of information to and from weapons. These satellites, as well as others such as Earth observation satellites, do not fulfil the criterion of being able to attack or cause damage, a criterion which seems to have been established in definitions of "weapon" suggested by certain members of the Conference on Disarmament. 19/ They can, however, be critical elements of weapon systems, and therefore invite the development of anti-satellite weapons for use against them.

Because these intrinsically harmless components of weapon systems serve other functions such as early warning, arms control verification, and

communications, some of which are clearly beneficial to international peace and security, and because they are often similar to civilian or commercial satellite, it is difficult to argue that their use be restricted or banned.

Moving towards more distinctly weapon-like spacecraft, a majority of countries feels that anti-satellite weapons, ground- or space-based devices designed specifically to attack or damage satellites, are destabilizing to international peace and security. It is argued therefore, that spaceborne ASATs should be banned as a first step toward a ban on all types of spaceborne devices designed to inflict injury or cause any damage to objects on Earth, in the air or in space.

Finally, it can be argued that since longer-range surface-to-surface ballistic missiles are designed to traverse outer space in order to attack their targets from above, they are weapons designed for use from outer space. In this case, the question is not whether these are weapons, but whether they can be called space weapons, and whether they thus have a role in space "weaponization".

Clearly, therefore, the term "weaponization" is quite broad, contingent on what is meant by the term "weapon". More precise terminology specifying which element of the broader category of "weaponization" is being considered would therefore facilitate discussion.

Based on statements made in the CD regarding spece weapons, three descriptive criteria may be particularly useful in describing devices which may be weapons:

1. The degree of harmfulness designed into the device in question, i.e. whether an object is designed to cause harm (e.g. space mine), designed to facilitate other devices in causing harm (e.g. targeting sensor), or not specifically designed but, nevertheless, used to facilitate other devices in causing harm (e.g. communications relay);
2. The location of the device, i.e. whether it is based on Earth (and if so whether it is launched from land, sea or air), or based in space;
3. The location of the damage or harm caused by the device.

Militarization

Whether at the Committee for Peaceful Uses of Outer Space (COPUOS) or at the CD, several delegations have expressed the opinion that the militarization of outer space began when the first artificial satellite was launched. Thus, the use of military satellites is considered by some as a form of

militarization. 20/ Nevertheless, some declarations are contradictory about the situation: while certain delegations state that world public opinion already knows that the space Powers have steadily militarized outer space, they are in favour of the studying and negotiating of agreements to prevent the militarization of outer space. 21/ Besides specific contradictions, the common premise appears to be that militarization is taking place.

Following the reasoning applied earlier in the text to the term "military use" which suggests that military satellites can and do perform stabilizing functions, it can be argued that the demilitarization of outer space is neither realistic nor desirable. For many, however, demilitarization is desirable and should be a goal. 22/ Although certain delegations have proposed that effective measures should be taken to ensure complete demilitarization of outer space or that prompt action should be advocated now, they do not indicate precisely the type of measures or actions to be taken. 23/

When speaking of demilitarization, it is logically thought that only what has been militarized can be demilitarized. Certain countries note that since space has not been militarized, the terminology should therefore be "non-militarization". 24/ Certain groups of countries do advocate the non-militarization and prevention of outer space militarization. 25/

More specifically, for some, the non-militarization of outer space includes the refraining from developing (including scientific research work), testing and deploying of offensive space weapons. 26/

Some delegations propose not to allow outer space to become the point of departure for acts of aggression and a base for military actions. 27/ Others advocate an outer space free from killer-mechanisms, 28/ an expression which borders on the notion of weapons.

In conventional usage, "militarization" is used to connote the introduction of undue military activity. Two elements of subjectivity enter into this definition: the choice of definition of "military", meant as "warlike" or "aggressive" on one hand or simply "pertaining to the armed services of a country" on the other; and the subjective valuation of the concept "undue". These subjective elements make possible seemingly contradictory statements.

Historically, the majority of efforts in space have been undertaken through military organizations. This basic fact does not impinge significantly on the deliberations of the CD, since it does not matter which organization tests and deploys a system in space but rather what is tested and deployed there and what its effects are.

It has been argued that an "undue" military activity would be one which would demand a right of approval of satellite launch and operations. Since commercial and civilian satellites, comprising approximately half of all operational satellites in space, are launched and operated routinely without the direct approval of any military organization, space is not militarized.

Conclusions

Clarity in discussion is not possible without agreed definitions for key terms. In this paper, the terms "military use", "weaponization", and "militarization", have been examined in terms of their application in statements made in the CD.

Clearly, there is no basic agreement in the CD on what these terms mean. A broad analysis suggests the following:

1. "Military Use" is a general term which covers many activities, some of which can be destabilizing, and others of which can further the aims of the international community.
2. "Weaponization" refers to the introduction or proliferation of objects which are designed to attack or cause damage to other objects. It is generally felt that "weaponization" of space is inimical to the goal of preventing an arms race in outer space.
3. "Militarization" of space describes undue military activity in the space arena. Because of the subjective nature of the terms, there is not general agreement as to whether space is currently militarized, though there is a general feeling that it is either becoming or in the danger of becoming so. It has been argued that if space were to be militarized, some form of military authorization would be required to place and operate objects in space. Clearly, no such requirement exists today.

These observations reveal that much substantive work remains to be done in the creation of an agreed vocabulary to serve as the foundation for fruitful discussion regarding the prevention of an arms race in outer space.

Notes

1/ See Canadian Working Paper on Terminology Relevant to Arms Control and Outer Space, CD/716, 16 July 1986, p. 10.

2/ As stated in a Canadian working paper submitted to the CD: "It is important to identify criteria which are objective, logical and free of the subjective characteristics often introduced into the discussions by advocates motivated more by idealism, opportunism or cynicism than by a desire to analyse the problems on a rational basis". Canada, CD/320, 26 August 1987, p. 2.

3/ See supra, note 1.

4/ United States CD/PV.349, 20 March 1986, p. 10; Canada CD/716, 16 July 1986; France statement made on 30 June 1987; Sri Lanka CD/PV.354, 8 April 1986, p. 7; Venezuela CD/PV.377, 7 August 1986, pp. 15-16; Australia statement made on 28 July 1987; Federal Republic of Germany statement made on 16 June 1987.

5/ Sri Lanka CD/PV.183, 31 August 1982, p. 14; USSR United Nations document A/C.1/PV.1342, 2 December 1963, p. 41. Treaty on Outer Space Hearings before the Committee on Foreign Relations, United States Senate, 90th Congress, first session, March-April 1967, p. 76.

6/ Federal Republic of Germany, CD/PV.345, 6 March 1986, p. 6; USSR CD/PV.347, 13 March 1986, p. 20; Sweden CD/PV.252, 22 March 1984, p. 15; France CD/375, 14 April 1983, p. 2.

7/ Italy CD/PV.348, 18 March 1986, p. 17. For the stabilizing and destabilizing characteristics of satellite systems, see Canada CD/320, 26 August 1982, pp. 7-10.

8/ Sri Lanka CD/PV.183, 31 August 1982, p. 13; Australia CD/PV.369, 10 July 1986, p. 10.

9/ Argentina, United Nations document A/SPC/40/SR.43, p. 3; Argentina CD/PV.348, 18 March 1986, p. 8; Venezuela CD/PV.180, 19 August 1982, p. 21-22; Iran, United Nations document A/C.1/42/PV.17, 22 October 1987, p. 12-13.

10/ Australia CD/PV.374, 29 July 1986, p. 16.

11/ USSR CD/639, 21 August 1985, p. 5; Pakistan CD/PV.358, 22 April 1986, p. 15; Treaty on Outer Space, Hearings before the Committee on Foreign Relations, United States Senate, 90th Congress, first session, March-April 1967, p. 76; Poland CD/PV.235, 18 August 1983, p. 15; France CD/PV.184, 2 September 1982, p. 10 and CD/375, 14 April 1983, p. 4; Netherlands CD/PV.170, 8 April 1982, p. 11.

12/ Canada CD/PV.371, 17 July 1986, pp. 18-19.

13/ Argentina, United Nations document A/C.1/42/PV.14, 21 October 1987, pp. 17-18.

14/ China CD/579, 19 March 1985, pp. 5-6.

15/ Mongolia CD/PV.170, 8 April 1982, p. 14.

16/ China CD/PV.372, 22 July 1986, p. 6, Peru CD/PV.373, 24 July 1986, pp. 5-6. China CD/579, 19 March 1985, p. 5; also Venezuela CD/PV.366, 1 July 1986, p. 14.

17/ USSR CD/PV.184, 2 September 1982, p. 13.

18/ China CD/PV.233, 11 August 1983, p. 11, and especially p. 12.

19/ China, supra, note 21; USSR, ibid. and Venezuela CD/PV.369, 10 July 1986, pp. 5-6.

20/ Argentina, Brazil, Chile, Colombia, Ecuador, Mexico, Uruguay and Venezuela: Working Paper, United Nations document A/AC.105/C.2/L.142, 6 April 1983.

21/ Argentina CD/PV.348, 18 March 1986, p. 6; Mexico letter dated 8 July 1985 addressed to the President of the CD, CD/609, 8 August 1985, pp. 4-5.

22/ Pakistan, United Nations document A/SPC/40/SR.44, 1985, p. 4; China CD/PV.233, 11 August 1983, p. 11; Argentina CD/PV.215, 26 April 1983, p. 8.

23/ Romania CD/PV.347, 13 March 1986, pp. 13-14; Brazil, CD/PV.152, 9 February 1982, p. 46.

24/ Boris Mayorsky, International Colloquium on the Militarization of Outer Space, Brussels, 28-29 June 1986, Centre de droit international de l'Institut de sociologie de l'Université libre de Bruxelles and Association internationale des juristes démocrates, published in 1988, p. 212.

25/ Mongolia CD/410, 9 August 1983; Group of 21, CD/513, 29 June 1984, p. 2; USSR CD/497, 11 April 1984 and CD/510, 18 June 1984; Poland, First Committee, Forty-second Session, 12-23 October 1987, 13 October 1987, A/C.1/42/PV.4, p. 21; Egypt, idem., 14 October 1987, A/C.1/42/PV.5, pp. 18-20.

26/ USSR CD/769, pp. 4-5. This position supposes that militarization has not taken place. Egypt CD/PV.156, 18 February 1982, p. 16: "First, the objective of our endeavours would be to reserve outer space for peaceful uses and to safeguard against its militarization. Consequently, we have to avoid the risk of finding ourselves being dragged into an exercise that may lead to the legitimation of some military uses of outer space".

27/ France CD/PV.184, 2 September 1982, p. 9 and CD/375, 14 April 1983, p. 3; also USSR CD/PV.184, 2 September 1982, p. 14; CD/OS/Working Paper 3, 5 August 1985, p. 1; Algeria CD/PV.213, 19 April 1983, p. 23.

28/ Italy CD/PV.183, 31 August 1982, p. 21.

CONFERENCE ON DISARMAMENT

CD/905
CD/OS/WP.28
21 March 1989

ENGLISH
Original: RUSSIAN

LETTER DATED 21 MARCH 1989 FROM THE PERMANENT REPRESENTATIVE OF THE MONGOLIAN PEOPLE'S REPUBLIC ADDRESSED TO THE SECRETARY-GENERAL OF THE CONFERENCE ON DISARMAMENT TRANSMITTING A WORKING PAPER ENTITLED "REVIEW OF PROPOSALS AND INITIATIVES OF THE STATES MEMBERS OF THE CONFERENCE ON DISARMAMENT UNDER AGENDA ITEM 5, 'PREVENTION OF AN ARMS RACE IN OUTER SPACE'"

I have the honour to transmit herewith a working paper entitled "Review of proposals and initiatives of the States members of the Conference on Disarmament under agenda item 5, 'Prevention of an arms race in outer space'".

I should be grateful if you would arrange for the distribution of this working paper as an official document of the Conference on Disarmament and the Ad Hoc Committee on Prevention of an Arms Race in Outer Space.

(Signed) L. BAYART
Ambassador

MONGOLIA

Working paper

Review of proposals and initiatives by States members of the Conference on Disarmament under agenda item 5, "Prevention of an arms race in outer space"

Contents

Contents (continued)

I. INTRODUCTION

The prevention of an arms race in outer space is one of the highest priorities of disarmament negotiations.

In view of the importance and urgency of this task, the Conference on Disarmament, in the exercise of its responsibilities as the multilateral disarmament negotiating forum in accordance with paragraph 120 of the Final Document of the first special session of the General Assembly devoted to disarmament, decided in 1985 to establish an Ad hoc Committee under item 5 of its agenda, entitled "Prevention of an arms race in outer space", and requested it "to examine, as a first step at this stage, through substantive and general consideration, issues relevant to the prevention of an arms race in outer space".

At its 1986 session, the Conference re-established an Ad hoc Committee and requested it "... to continue to examine, and to identify, through substantive and general consideration, issues relevant to the prevention of an arms race in outer space ... [taking into account] all existing agreements, existing proposals and future initiatives as well as developments which have taken place since the establishment of the Ad hoc Committee, in 1985 ...". At the 1987 and 1988 sessions, the Committee was re-established with the same mandate as in 1986.

The work of the Ad hoc Committee has been governed by that mandate.

As from 1986 the Committee proceeded in accordance with the following programme, which contained minor changes as compared to the initial one adopted in 1985:

"1. Examination and identification of issues relevant to the prevention of an arms race in outer space;

2. Existing agreements relevant to the prevention of an arms race in outer space;

3. Existing proposals and future initiatives on the prevention of an arms race in outer space.

In carrying out its work, the Ad hoc Committee will take into account developments which have taken place since the establishment of the Committee in 1985."

In the course of the Ad hoc Committee's work in the period 1985-1988, delegations of the States members of the Conference on Disarmament drew attention to a number of issues, such as: the status of outer space as the

common heritage of mankind which should be used exclusively for peaceful purposes; the need to prevent an arms race in outer space; the absence at present of weapons in space; the identification of the dangers which threaten space objects; the relationship between the prevention of an amrs race in outer space and arms limitation and disarmament measures in other areas; the relationship between bilateral and multilateral efforts to prevent an arms race in outer space; the definition of space weapons; the improvement of work procedure; the necessity of strengthening the existing treaty régime; and questions relating to verification and compliance.

Many delegations, considering that the stage of examining issues relating to the prevention of an arms race in outer space had passed and that transition towards a stage of more practical work was required, declared themselves in favour of a mandate that would provide for negotiations.

Virtually all the States members of the Conference on Disarmament expressed their views on the idea of launching multilateral negotiations. By way of example, the following list will help to give an idea of delegations' positions:

Algeria (CD/PV.402, 2 April 1987); Argentina (CD/PV.465, 14 July 1988); Australia (CD/PV.440, 16 February 1988); Belgium (CD/PV.424, 23 July 1987, L. Tindemans, Minister for Foreign Affairs); Bulgaria (CD/PV.413, 16 June 1987); Burma (CD/PV.310, 23 April 1985); Canada (CD/PV.468, 26 July 1988); China (CD/PV.423, 21 July 1987); Czechoslovakia (CD/PV.410, 30 April 1987); Egypt (CD/PV.459, 21 April 1988; France (CD/PV.390, 19 February 1987); German Democratic Republic (CD/PV.454, 5 April 1988); Germany, Federal Republic of (Ad hoc Committee, 15 August 1988); Hungary (CD/PV.388, 12 February 1987); India (CD/PV.392, 26 February 1987); Indonesia (CD/PV.437, 4 February 1988, M. Kusuma-Atmadja, Minister for Foreign Affairs); Iran, Islamic Republic of (CD/PV.425, 28 July 1987, A. Velayati, Minister for Foreign Affairs); Italy (CD/PV.296, 5 March 1985); Japan (CD/PV.419, 7 July 1987); Kenya (CD/PV.477, 25 August 1988); Mexico (CD/PV.336, 4 February 1986); Mongolia (CD/PV.389, 17 February 1987); Morocco (CD/PV.451, 24 March 1988); Netherlands (CD/PV.418, 2 July 1987, H. Van den Broek, Minister for Foreign Affairs); Nigeria (CD/PV.391, 24 February 1987);

Pakistan (CD/PV.460, 26 April 1988); Poland (CD/PV.402, 2 April 1987); Romania (CD/PV.388, 12 February 1987); Sri Lanka (CD/PV.453, 31 March 1988); Sweden (CD/PV.463, 7 July 1988); USSR (CD/PV.385, 3 February 1987); United Kingdom (CD/PV.298, 12 March 1985); United States of America (CD/PV.478, 30 August 1988); Venezuela (CD/PV.397, 19 March 1987); Yugoslavia (CD/PV.438, 2 February 1988); and Zaire (CD/PV.409, 28 April 1987).

The delegation of Mongolia, in submitting this review, hopes that it will make an appropriate contribution to the efforts of the States members of the Conference on Disarmament directed towards substantive elaboration of the proposals and initiatives before the Ad hoc Committee, and will promote an in-depth analysis of the complex range of political, military, scientific, technical and international legal problems they involve, taking into account the necessity of examining ways of moving on to the holding in the Conference on Disarmament of multilateral negotiations aimed at preventing an arms race in outer space.

The official documents and records of the United Nations General Assembly and the Conference on Disarmament and statements made in the Ad hoc Committee were used in compiling this review, on the understanding that this review does not purport to be a complete presentation of the position of any delegation.

II. COMPREHENSIVE PROPOSALS

The Ad hoc Committee has before it comprehensive proposals submitted by Italy, Venezuela and the Soviet Union.

Amendment to Article IV of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies

On 9 September 1968, Italy proposed in the United Nations that article IV of the 1967 Treaty should be reviewed (doc. A/7221). On 1 February 1978, both in New York and Geneva, Italy proposed the adoption of further measures to prevent the extension of the arms race (working paper A/AC.187/97). This is reflected in paragraph 80 of the Programme of Action contained in the Final Document of the first special session of the United Nations General Assembly devoted to disarmament. On 26 March 1979, Italy distributed in the Committee on Disarmament, as an official document, an "Additional Protocol to the 1967 Treaty on Principles Governing the Activities of States

in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, with a view to preventing an arms race in outer space" (CD/9).

A revision of the régime established by the 1967 Treaty was suggested in order to prohibit "the development and use of earth- or space-based systems designed to damage, destroy or interfere with the operations of other States' satellites". As suggested by Italy, the additional protocol to the 1967 Treaty would extend the prohibition contained in article IV of the Treaty explicitly to the launching and stationing in orbit or elsewhere in outer space of all weapons and not merely of nuclear weapons and weapons of mass destruction.

In 1987, the delegation of Venezuela again drew the attention of the Conference to the possibility of amending article IV of the 1967 Treaty (CD/398, 19 March 1987). On 2 August 1988, Ambassador A. Taylhardat submitted an official document, "Proposed amendment to the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies" (CD/851). The substance of the amendment is to broaden the prohibition in article IV of the Treaty on the stationing in orbit around the Earth of any objects carrying nuclear weapons by extending it to all kinds of weapon or weapons system as well as to introduce an obligation not to develop, produce, store or use such weapons. A definition of such "space weapons" was also suggested.

The delegations of Bulgaria (CD/PV.402, 2 April 1987), Egypt (CD/PV.459, 21 April 1988), Mongolia (CD/PV.400, 26 March 1987), Peru (CD/PV.428, 6 August 1987), Poland (CD/PV.402, 2 April 1987) and Zaire (CD/PV.461, 28 April 1988) supported the proposals of Italy and Venezuela.

At the same time, the delegation of the USSR stated that "the proposal by the delegation of Venezuela requires serious, expert study. The attractiveness of the proposal is that it offers an outwardly relatively uncomplicated way of filling a gap in the arrangements for preventing the intrusion of weapons into space. At the same time, we should not ignore the difficulties that will arise in amending an important international agreement that is in force. It would seem that development of this initiative could only take place if the Ad hoc Committee reached a consensus decision to that effect" (Ad hoc Committee, 16 August 1988).

Treaty on the prohibition of the stationing of weapons of any kind in outer space

In 1981, the Soviet Union, in a letter to the United Nations Secretary-General (A/36/192, 11 August 1981), proposed the conclusion of a treaty on the prohibition of the stationing of weapons of any kind in outer space. That proposal was submitted to the Committee on Disarmament for consideration at its 1982 session (CD/274, 7 April 1982). The substance of the proposal is to preclude all possibility of outer space becoming an arena for the arms race and an additional source of tension in relations between States.

The draft treaty provides for States parties to undertake not to place in orbit around the Earth objects carrying weapons of any kind, install such weapons on celestial bodies or station such weapons in outer space in any other manner, including on reusable manned space vehicles of an existing type or of other types which States parties may develop in the future. The document provides for each party to the future treaty to undertake not to assist, encourage or induce any State, group of States or international organization to engage in activities contrary to the goal of the non-stationing of weapons of any kind in outer space.

On 9 December 1981, the United Nations General Assembly adopted resolution 36/99 on "Conclusion of a treaty on the prohibition of the stationing of weapons of any kind in outer space", which referred to the need to take effective steps, by concluding an appropriate ... treaty, to prevent the spread of the arms race to outer space.

The draft treaty was supported by a number of delegations of socialist countries in the Conference on Disarmament, including Mongolia (CD/PV.170, 8 April 1982), Czechoslovakia (CD/PV.173, 21 April 1982), German Democratic Republic (CD/PV.183, 31 August 1982), and Hungary (CD/PV.184, 2 September 1982).

At the same time, a number of Western States voiced criticism regarding the draft treaty.

On 15 April 1982, the representative of the Federal Republic of Germany said that the Soviet draft did not appear to his delegation to be a suitable basis for negotiations within the Committee on Disarmament since:

"... article 3 of the draft makes it legitimate to intercept space objects if these are not operated for peaceful purposes. However, the

determination and decision whether interception should take place lies with the interceptor alone, who would thus take on the role of a self-appointed space police. In the absence of firm criteria and of any objective determination of prerequisites for such a police role, this draft provision would seem to pave the way for misuse and serve, rather, as an incentive for the development and testing of additional anti-satellite systems. Secondly, the rules on verification contained in article IV appear to be insufficient, even in the light of other existing multilateral disarmament agreements and certainly in relation to the purposes of the draft treaty. In the view of my delegation it would be indispensable to have a substantially more detailed verification régime ..." (CD/PV.171).

On 20 April 1982, the representative of France also expressed concern that articles 1 and 3 of the draft treaty gave every State "freedom to destroy a space object which it decides of its own accord, without consultation or reference to any pre-established criterion, is carrying weapons ... Furthermore, the draft treaty makes provision only for national technical means of verification of compliance with its provisions" (CD/PV.172).

Treaty on the prohibition of the use of force in outer space and from space against the Earth

In 1983, the Soviet Union submitted for consideration by the United Nations General Assembly at its thirty-eighth session a draft treaty on the prohibition of the use of force in outer space and from space against the Earth (A/38/194, 23 August 1983). The draft was later referred to the 1984 session of the Conference on Disarmament (CD/476, 20 March 1984). As the Soviet delegation stressed, that draft took into account positions and views expressed by States members of the Conference on Disarmament in the discussion of the 1981 draft treaty on the prohibition of the stationing of weapons of any kind in outer space.

The draft treaty proposed that States parties should undertake:

"Not to test or deploy by placing in orbit around the Earth or stationing on celestial bodies or in any other manner any space-based weapons for the destruction of objects on the Earth, in the atmosphere or in outer space;

Not to utilize space objects in orbit around the Earth, on celestial bodies or stationed in outer space in any other manner as means to destroy any targets on the Earth, in the atmosphere or in outer space;

Not to destroy, damage, disturb the normal functioning or change the flight trajectory of space objects of other States;

Not to test or create new anti-satellite systems and to destroy any anti-satellite systems that they may already have;

Not to test or use manned spacecraft for military, including anti-satellite, purposes".

On 15 December 1983, the United Nations General Assembly adopted by an overwhelming majority resolution 38/70, "Prevention of an arms race in outer space", in which it urged that negotiations should begin in the Conference on Disarmament on the elaboration of agreements on the prevention of an arms race in outer space.

The proposal of the USSR attracted the interest of the delegation of Sweden (CD/PV.252, 22 March 1984), Czechoslovakia (CD/PV.253, 27 March 1984), Sri Lanka (CD/PV.254, 29 March 1984), Yugoslavia (CD/PV.255, 3 April 1984), and Poland (CD/PV.255, 3 April 1984).

At the same time, some delegations did not support the USSR proposal. Thus, the representative of the United Kingdom said that "the proposed comprehensive draft treaties presented by the Soviet delegation (CD/274 and CD/476) may also serve the negotiating position of the Soviet Union at their bilateral talks with the United States and have some propaganda value for public relations purposes, but they do not help us to carry out the mandate of this Committee" (Ad hoc Committee, 28 July 1987). The representative of the United States pointed out that "the existing legal régime both flatly bans all aggressive uses of force and permits a State to defend itself in the event of an armed attack. Consequently, the Soviet proposal to ban the use of force in outer space is either redundant to the existing legal régime or undercuts a significant portion of contemporary international law" (Ad hoc Committee, 30 June 1987).

On 3 February 1987, the USSR delegation reiterated its appeal for the States members of the Conference on Disarmament to:

"engage in businesslike consideration of the question of the prohibition of the use of force in outer space and from space against the Earth. ... The Conference could also consider the possibility of creating a system of international verification guaranteeing unswerving compliance with an agreement of the kind in question and, in particular, study the idea of an international inspectorate" (CD/PV.385).

III. PROPOSALS RELEVANT TO SPECIFIC ASPECTS OF THE PROBLEM OF PREVENTING AN ARMS RACE IN OUTER SPACE

Along with comprehensive proposals, proposals on specific issues also have an important role to play in resolving the problem of preventing an arms race in outer space.

1. Ensuring the immunity of artificial Earth satellites

Many delegations took interest in the important problem of ensuring the immunity of satellites. Thus, in addressing the Conference on Disarmament on 23 July 1987, L. Tindemans, the Belgian Minister for Foreign Affairs, said:

> "The problem of the protection of satellites [and] the elaboration of an appropriate ... international code of conduct are, in particular, the questions that the Conference on Disarmament could usefully debate at the multilateral level. They are independent of the ABM Treaty and the SDI, which, in our opinion, remain within the direct competence of the two super-Powers concerned" (CD/PV.424).

A similar approach was adopted on 4 February 1988, by P. Varkonyi, Minister for Foreign Affairs of Hungary, who said:

> "We would find it appropriate for the Committee to start devising a system that would guarantee the safety of satellites in orbit around the Earth, that is, the immunity necessary for their smooth operation" (CD/PV.437).

Views on the issue of immunity were also expressed by the delegations of Australia, the Federal Republic of Germany, France, Japan, Poland and the USSR.

On 2 April 1987, the representative of Poland said that immunity:

> "should be granted for all [satellites]. Sometimes the problem of the dual nature of military functions of satellite happens to be raised. It is argued that satellites that are deployed to verify arms control obligations could be simultaneously used for the gathering of sensitive military information. Yes, that can be the case. But to draw the precise line between different functions of satellites is almost impossible, and could be compared to the question of verification of what goes on in laboratory work on any subject. It is impossible to monitor what happens in a scientist's brain, and it is likewise impossible to know in advance in what manner a satellite computer has been programmed. Hence, the only way out is to grant immunity for all satellites" (CD/PV.402).

On 3 February 1987, the delegation of the USSR said, at the Conference on Disarmament, that "the Conference could consider the possibility of drawing up an international agreement guaranteeing immunity for artificial Earth satellites which do not carry weapons of any sort on board" (CD/PV.385).

On 7 July 1987, the representative of Japan said:

"Up to now, Japan has launched 36 satellites for such purposes as experimental launching, weather forecasting, communication and broadcasting. We are planning to launch about 10 more satellites by 1990. Japan thus has a keen interest in this issue of satellite protection. My delegation believes that space objects and their activities for peaceful purposes should not be attacked and should be duly protected" (CD/PV.419).

Document CD/375, submitted by the delegation of France on 14 April 1982 and entitled "Prevention of an arms race in outer space", said inter alia:

"The efforts of the international community as regards the problems of an arms race in outer space ought to be aimed at two things:

Not to allow outer space to become a base for military actions;

To protect space vehicles and in particular to ensure the immunity of satellites.

In fact the first objective, which concerns the technologies of the future, can be attained only if the second, which concerns innumerable vehicles at present in orbit, is ensured.

Hence the importance of ensuring the immunity of satellites."

The same document suggested that immunity should be "made more specific and should be broadened and extended beyond the scope of bilateral arrangements" to apply to all existing satellites, if they are "equipped" only with passive means of defence.

As a follow-up to its proposal, France suggested in 1984 that the United States and the USSR should extend to the satellites of third countries the provisions concerning the immunity of certain space objects on which they had reached bilateral agreement between themselves (CD/PV.263, 12 June 1984). The delegation of the United Kingdom also found that an interesting idea (CD/PV.331, 20 August 1985).

The representative of the Federal Republic of Germany, in his statement of 6 March 1986 (CD/PV.345), suggested that a special protection régime should be established for satellites to compensate for their vulnerability. He further suggested that such a régime could be conceived on, as it were,

two levels. "Hardware" limitations would be agreed in bilateral talks between the USSR and the United States, while the legal immunization of artificial Earth satellites would be dealt with under multilateral auspices. It was further suggested that a negotiated protection régime for satellites should have two dimensions: one agreement would deal with the legal immunity of satellites proper, while another would cover parallel confidence-building measures, possibly within the framework of a "rules of the road" agreement.

The delegation of the Federal Republic of Germany also advanced proposals relevant to the categorization of artificial Earth satellites when elaborating a legal régime for their protection. At the meeting of the Ad hoc Committee on 16 June 1987, the representative of the Federal Republic of Germany said that:

> "There is no controversy that satellites with verification, observation, communication and command functions are vital components of strategic stability; that satellites in most of these roles need a degree of protection ...; that there are other, combat-related, satellites which in their strictly military function would be subject to the law of war and could not profit from legal immunization."

The delegation of the Federal Republic of Germany also suggested that the consideration of the satellite-protection issue should be divided between the legal Sub-Committee of the United Nations Committee on the Peaceful Uses of Outer Space, which would be charged with civilian activities, and the Ad hoc Committee of the Conference on Disarmament, which would be entrusted with the military aspects of protection for satellites (CD/PV.345, 6 March 1986).

There was another proposal on ensuring the immunity of artificial Earth satellites. On 7 August 1984, W.D. Hayden, Minister for Foreign Affairs of Australia, suggested that the Conference on Disarmament should consider measures to protect from attack all satellites (and their associated ground stations) that contributed to strategic stability and to the verification of arms control agreements (CD/PV.279). On 29 July 1986, the representative of Australia suggested a step-by-step solution for the problem of artificial Earth satellite protection, including the question of which types of artificial Earth satellites should be protected, with the subsequent elaboration of an appropriate protection régime for such artificial Earth satellites (CD/PV.374).

The idea of immunizing artificial Earth satellites and adopting specific measures was also supported by the delegations of Argentina (CD/PV.423, 21 July 1987), Bulgaria (CD/PV.402, 2 April 1987), Canada (CD/PV.471, 17 July 1986), Czechoslovakia (CD/PV.371, 17 July 1986), German Democratic Republic (CD/PV.425, 28 July 1987, and CD/777, 31 July 1987), Mongolia (CD/PV.389, 17 February 1987, and CD/777, 31 July 1987), Netherlands (CD/PV.396, 12 March 1987), Pakistan (CD/PV.413, 16 July 1987), Sri Lanka (CD/PV.404, 9 April 1987), and Sweden (Ad hoc Committee, 22 March 1988).

At the same time, the representative of the United States of America stated, on 2 August 1988, that:

"Those who have made these proposals are apparently unaware that international legal instruments already exist intended to ensure the immunity of satellites. These instruments prohibit the use of force against satellites except in cases of self-defence. Indeed, these international agreements go further than the proposals because they also prohibit the threat of the use of force against satellites. On the other hand, if these proposals mean to prohibit nations from taking actions against satellites in legitimate cases of self-defence, then they undermine the Outer Space Treaty, the United Nations Charter, and the inherent right of sovereign States to take adequate measures to protect themselves in the event of the threat or use of force" (Ad hoc Committee, 2 August 1988).

2. Banning anti-satellite weapons

The ideas expressed by delegations as to the banning of anti-satellite weapons could be grouped as follows:

Total ban on anti-satellite weapons

The idea of a total ban on anti-satellite weapons enjoys the support of quite a number of proponents.

Views on the issue of a total ban on anti-satellite weapons were expressed by the delegations of China, the Federal Republic of Germany, India and Sweden.

On 21 March 1985, the representative of Sweden stated that:

"The main task of the Conference ... should be to aim at achieving a total ban on ASAT weapons. That implies a ban on development, testing, production and deployment as well as on use of such weapons" (CD/PV.301).

The representatives of the Federal Republic of Germany, in turn, in their statements on this issue on 6 March 1986 (CD/PV.345) and in the meeting of the Ad hoc Committee on 16 June 1987, pointed out that their delegation proceeded from the fact that:

> "a comprehensive ASAT-ban would have to include almost all means technically able to hit, damage, destroy or seriously impair satellites in their assigned function by kinetic, explosive, electronic and thermodynamic effects. That would involve inter alia intercontinental ballastic missiles, as well as satellites themselves which could without high cost be guided to collision with other satellites in their orbit".

On 23 April 1987, K. Natwar Singh, Minister for Foreign Affairs of India, said:

> "In the area of preventing an arms race in outer space, priority should be accorded to halting the development of anti-satellite weapons, dismantling existing systems, prohibiting the introduction of new weapon systems in outer space and ensuring that the existing treaties safeguarding the peaceful uses of outer space, as well as the 1972 ABM Treaty, are fully honoured and extended as required in the light of new technological advances" (CD/PV.408).

The same year, the delegation of India proposed the elaboration of a treaty banning development, testing and deployment of all anti-satellite weapons as well as eliminating existing systems of such weapons. The treaty should be accompanied by specific protocols concerning different categories of space objects - those in near-Earth orbits, those in high-Earth orbits and those in geosynchronous orbits (CD/PV.423, 21 July 1987).

The delegation of China held the view that:

> "Since ASAT weapons are the space weapons that exist at present, to start with their prohibition is of certain practical significance. The Chinese delegation, therefore, can go along with this proposal. However, I wish also to point out that the prohibition of other types of space weapons should by no means be ignored" (CD/PV.423, 21 July 1987).

On 4 February 1988, M. Kusuma-Atmadja, Minister for Foreign Affairs of Indonesia, suggested that "the ABM Treaty should be reinforced in the context of new technological developments, including provisions to prohibit anti-satellite weapons" (CD/PV.437, 4 February 1988).

The idea of a total ban on anti-satellite weapons was also supported by the representatives of Burma (CD/PV.358, 22 April 1986), Czechoslovakia (CD/PV.418, 2 July 1987), Egypt (CD/PV.389, 17 February 1987), Morocco (CD/PV.367, 3 July 1986), Romania (CD/PV.296, 5 March 1985), Venezuela (CD/PV.398, 19 March 1987) and Zaire (CD/PV.461, 28 April 1988).

Limitation of anti-satellite weapons

The limitation of anti-satellite weapons is the subject of a whole series of proposals (France, Netherlands, Pakistan, Sri Lanka, United Kingdom).

In particular, a French proposal of 12 June 1984 (CD/PV.263) to this effect was subsequently reiterated and elaborated on several occasions.

The delegation of France proposed the adoption of measures to achieve multilateral agreement on the limitation of anti-satellite systems, including in particular the prohibition of all such systems capable of hitting satellites in high orbit, the preservation of which, in the view of France, was most important from the point of view of strategic balance. Simultaneously, the delegation of France proposed the prohibition, for a renewable period of five years, of the deployment on the ground, in the atmosphere or in space of beam-weapon systems capable of destroying ballistic missiles or satellites at great distances and, as a corollary to this, the banning of corresponding tests.

The French proposal was supported by the delegations of Sri Lanka and Netherlands.

In 1985, the representative of Sri Lanka said:

> Another area in which my delegation thinks we can commence work with a good prospect of making substantial progress is high-altitude ASATs. A ban on these, including their development, deployment and testing, is feasible at the present stage when only low-altitude ASATs are in existence. Inevitably we have to engage in a collective quest for clear definitions of what we mean by high-altitude ASATs" (CD/PV.325, 30 July 1985).

On 2 July 1987, H. van den Broek, Minister for Foreign Affairs of the Netherlands, set out the position of his country:

> "Banning all anti-satellite weapons would therefore pose serious problems. Moreover, it would hardly seem feasible because there are so

many ways to destroy a satellite. But maybe it is not too late to seek some way of protecting satellites in high orbit, which are generally of a stabilizing nature" (CD/PV.418).

The delegations of Pakistan and the United Kingdom also suggested that consideration should be given to issues of limiting anti-satellite activities.

The representative of the United Kingdom stated at the meeting of the Ad Hoc Committee on 28 July 1987 that "the possibility of placing constraints on some elements of anti-satellite activity, consistent with the security interests of all States" deserved serious study at an appropriate point.

The delegation of Pakistan pointed out that:

"The importance of a ban on ASAT weapons is widely recognized. Needless to say, such a ban should give protection only to satellites performing peaceful functions, and not those which threaten the security of other States. An ASAT ban, therefore, presupposes an agreed definition of peaceful functions and a verification system aimed at determining whether objects launched into space fulfil this criterion" (CD/PV.460, 26 April 1988).

Banning of anti-satellite weapons in combination with immunity for artificial Earth satellites

A number of delegations suggested a third course for resolving the issue of banning anti-satellite weapons, one assuming the possibility of the simultaneous solution of two interrelated problems: on the one hand, that of banning anti-satellite systems and on the other, that of immunizing artificial Earth satellites. This combined course of action, involving the linking of a ban on ASAT weapons with immunity for artificial Earth satellites, is reflected in document CD/777, "Main provisions of a treaty on the prohibition of anti-satellite weapons and on ways to ensure the immunity of space objects", which was submitted on 31 July 1987 by the delegations of the German Democratic Republic and the Mongolian People's Republic.

In the opinion of the delegations of the German Democratic Republic and the Mongolian People's Republic:

"It should be within the scope of the treaty to:

(a) ban the use of force against any space object; (b) prevent the deliberate destruction or damaging of space objects; (c) prohibit interference with the normal functioning of any space object;

(d) proscribe the development, production or deployment of ASAT weapons; and (e) provide for the destruction under international control of any ASAT weapons that may already exist" (CD/PV.425, 28 July 1987).

Similar proposals were advanced by the delegations of Argentina (CD/PV.296, 5 March 1985), Australia (CD/PV.329, 13 August 1985), Bulgaria (CD/PV.471, 4 August 1988), Hungary (CD/PV.388, 12 February 1987), Poland (CD/PV.402, 2 April 1987) and the USSR (CD/PV.385, 3 February 1987).

Elimination of existing anti-satellite weapons

On 3 February 1987, the Soviet delegation stated that:

"the Conference could consider the possibility of drawing up an international agreement guaranteeing immunity for artificial Earth satellites which do not carry weapons of any sort on board. In this connection, it would also be desirable to study the possibilities of eliminating existing anti-satellie systems ... [The] USSR, manifesting good will, continues to refrain from placing anti-satellite systems in outer space" (CD/PV.385).

Similar proposals and appeals to the United States and the USSR to eliminate their existing ASAT weapons came from the delegations of Bulgaria (CD/PV.402, 2 April 1987), Egypt (CD/PV.389, 17 February 1987), the German Democratic Republic (CD/777, 31 July 1987), India (CD/PV.408, 23 April 1987, K. Natwar Singh, Minister for Foreign Affairs), Mongolia (CD/777, 31 July 1987), Morocco (CD/PV.367, 3 July 1986) and Poland (CD/PV.402, 2 April 1987).

In response, the United States representative to the meeting of the Ad hoc Committee on 2 August 1988 stated:

"In spite of the fact that the existing legal régime already regulates the use and types of ASATs, some have proposed the additional step of eliminating all existing anti-satellite weapons and banning any such weapons in the future. Such proposals raise a host of problems.

A key problem concerns the verification of compliance with such an agreement. We do not believe that verification schemes proposed to date are adequate to this purpose.

Another problem with a comprehensive ASAT ban concerns the legal issue of how anti-satellite weapons are to be defined and categorized. In addition to systems that a State would choose to identify as an

anti-satellite weapon, there are many different types of weapons systems that could be used to destroy, damage or disable satellites. Such systems could include, inter alia, manoeuvering space objects, direct-ascent ABM interceptors, ground-based directed-energy weapons, long-range ballastic missiles, and weapons that could be carried by orbital complexes."

3. Confidence-building measures, verification and control issues

A third group of proposals before the Ad hoc Committee concern issues of verification and control.

International space inspectorate (ISI)

In 1987, the delegation of the USSR advanced the idea of creating an international space inspectorate (CD/PV.385, 3 February 1987).

On 6 August 1987, E.A. Shevardnadze, Minister for Foreign Affairs of the USSR, stated, in addressing the Conference on Disarmament:

"In our opinion, verification will have a particularly important role to play in preventing an arms race in space.

We would be extremely grateful if you took a close look at the proposal for the establishment of an international verification system to make sure that outer space remains peaceful. Is not the idea of inspecting every space launch a reasonable one? There are as yet not that many space launch centres in the world, and the presence of international inspectors there would reliably guarantee that the objects placed in outer space are not weapons and are not equipped with any weapons. But we go further, and propose not merely a presence but a permanent presence of groups of inspectors at all space launch sites. Information about each upcoming launch, including the location of the site, the type of launch vehicle, general information about the object to be launched and the time of launch would be given in advance to representatives of the inspectorate ...

our proposal provides for the right to conduct an on-site inspection should suspicion arise that a launch was carried out from an undeclared launch site.

And, in the event of a total ban on space strike arms, the Soviet Union would be willing to extend inspections to storage facilities, industrial plants, laboratories, testing centres, etc." (CD/PV.428, 6 August 1987).

On 17 March 1988, the representative of the USSR submitted for consideration by the Conference on Disarmament a document entitled "Establishment of an international system of verification of the non-deployment of weapons of any kind in outer space" (CD/817, which detailed a verification system, the structure of an international space inspectorate and the modalities of its operation.

The need for inspections at launch sites was referred to in a statement made by a representative of Argentina on 21 March 1987.

> "The space Powers, which are few in number, also have only a few places for launching objects into space. Verification of the nature of the objects that are placed in space could be affected at the launch sites themselves and that would entirely dispel all doubts as to the military or peaceful nature of an object sent into space" (CD/PV.423).

The delegations of Bulgaria (CD/PV.402, 2 April 1987), Canada (CD/PV.433, 25 August 1987), Czechoslovakia (CD/PV.390, 19 February 1987), German Democratic Republic (CD/PV.425, 28 July 1987), Mongolia (CD/PV.400, 26 March 1987), Pakistan (CD/PV.460, 26 April 1988), Poland (CD/PV.402, 2 April 1987), Sri Lanka (CD/PV.404, 9 April 1987) and Sweden (Ad hoc Committee, 23 March 1988) also supported the proposal by the USSR concerning the establishment of an international space inspectorate and indicated the need for further work on verification and control issues.

The United States delegation voiced its opposition to the idea of the creation of an international space inspectorate at the meeting of the Ad hoc Committee on 9 August 1988, state, in particular, that:

> "The United States foresees substantial legal, technical, political and organizational difficulties associated with any type of international verification inspectorate. First, the United States believes that treaties already in place adequately regulate military activities in space, while also permitting the conduct of important national security and self-defence activities such as early warning of attack ... Second, the United States believes that the Soviet proposal could be more destabilizing than stabilizing because it could circumvent the development or compromise the effectiveness of strategic defence capabilities that actually threaten no one."

International satellite monitoring agency (ISMA)

In 1978, at the first special session of the United Nations General Assembly devoted to disarmament, France proposed the establishment of an international satellite monitoring agency (ISMA) to verify compliance with certain bilateral arms control agreements and monitor crisis situations.

In the Final Document adopted by that session, the Assembly took note of France's proposal and later that year, at its thirty-third regular session, it adopted resolution 33/71 J, in which it requested the Secretary-General to obtain the views of member States on this question and appoint a group of qualified governmental experts to undertake a study on the technical, legal and financial implications of establishing such an agency. In compliance with that mandate, the Secretary-General appointed experts from Argentina, Austria, Burkina Faso, Colombia, Egypt, France, India, Indonesia, Italy, Romania, Tunisia, Sweden and Yugoslavia.

In its report entitled "Study on the implications of establishing an international satellite monitoring agency" (A/AC.206/14, 6 August 1981) and submitted in 1981 for consideration by the second special session devoted to disarmament the group of experts identified two main sets of technical tasks the ISMA would be charged with:

(a) Verification of compliance with existing and future international arms control and disarmament agreements;

(b) Monitoring of crises.

The report also indicated that the ISMA's facilities could be acquired in stages. It was suggested that phase I could comprise the establishment of an image processing and interpretation centre, i.e. the use of video data obtained from existing civilian and non-civilian satellite systems. Phase II was envisaged as comprising the establishment of ground-based data-receiving stations that could receive data from appropriate civilian and non-civilian satellite systems. Phase III, according to the authors, would allow the agency to acquire its own space segment, i.e. ISMA's own monitoring satellites, in addition to national systems.

No decision on the ISMA was taken at the second special session of the General Assembly devoted to disarmament (1982).

As a follow-up to this proposal, J.B. Raimond, Minister for Foreign Affairs of France, stated on 19 February 1987, at the Conference on Disarmament that "At the institutional level, the idea of entrusting

responsibility for seeing to the application of transparency measures and the code of conduct for space activities to the International Satellite Monitoring Agency might be considered" (CD/PV.390).

The proposal by France to establish an ISMA attracted interest in the Conference on Disarmament from the delegations of Argentina (CD/PV.296, 5 March 1985), Australia (CD/PV.329, 13 August 1985), German Democratic Republic (CD/PV.425, 28 July 1987), India (CD/PV.450, 22 March 1988), Japan (CD/PV.419, 7 July 1987), Pakistan (CD/PV.413, 16 July 1987), Poland (CD/PV.402, 2 April 1987), Sri Lanka (CD/PV.404, 9 April 1987) and Sweden (Ad hoc Committee, 22 March 1988).

The representative of the Federal Republic of Germany, in particular, said on 26 July 1985 that:

> "The involvement of international verification organizations is ... an urgent requirement for such future international legislation. Despite the considerable cost such mechanisms may entail, the projected International Satellite Monitoring Agency, planned and developed by France or - in a regional context - the European Space Agency, might be called upon to take on practical responsibilities in this field" (CD/PV.318, 26 July 1985).

At the third special session of the United Nations General Assembly devoted to disarmament, E.A. Shevardnadze, Minister for Foreign Affairs of the USSR, suggested in furtherance of the French idea proceeding to the establishment of an international space monitoring agency.

At the third special session of the United Nations General Assembly devoted to disarmament, the delegations of Bulgaria, Czechoslovakia and the USSR submitted a working paper (A/S-15/AC.I/15, 13 June 1988), paragraph 6 of which reads:

> "In order to provide the international community with reliable and comprehensive information on compliance with multilateral treaties and agreements in the area of disarmament and the reduction of international tension, and also to monitor the military situation in areas of conflict, it would be possible in pursuance of the idea put forward by France to establish an international space monitoring agency which in future would become an integral part of the international verification agency. The Conference on Disarmament should be instructed to begin detailed negotiations on the establishment of the international space monitoring

agency, including programming and material technical facilities for its work. The Soviet Union would be prepared to consider the question of launching satellites belonging to the agency from Soviet carrier rockets on mutually acceptable terms".

No decision on establishing an international space monitoring agency was taken at the third special session of the United Nations General Assembly devoted to disarmament either.

PAXSAT concept

On 30 April 1987, the representative of Canada stated that a concept termed PAXSAT had been prepared under the authority of Canada's Department of External Affairs.

Two alternatives were proposed for using space-based remote sensing for verification purposes:

PAXSAT-A - use of third countries' satellites to verify non-deployment of weapons in space; and

PAXSAT-B - use of third countries' satellites to assist in the verification of confidence-building agreements and conventional forces limitation agreements in a regional context, primarily in the context of Europe.

Certain themes, whose examination contributed to the prospects of actually realizing such a multilateral verification system, had been identified as core elements of the PAXSAT concept. They included the following:

"Firstly, there must be the prospect of a significant multilateral agreement to warrant the level of sophistication of technology and the expenditure of funds required for the actual development of such an advanced technical verification system.

Secondly, parties to such a multilateral agreement should have the option, at least, of participating in its verification procedures.

Thirdly, use of the PAXSAT system should be treaty-specific: it would be used only with respect to the agreements to which it expressly applied, as part of an overall verification process for those agreements alone.

Fourthly, the treaty being verified would establish the requisite political authority for the verification mechanism and its operation.

Fifthly, technology requirements would be met collectively by participants and would, of course, be open to all States.

Sixthly, PAXSAT should be based, to the extent possible, on existing openly available technology, without requiring major costly improvements" (CD/PV.410, 30 April 1987).

The positions taken by the delegations of the USSR and the German Democratic Republic with regard to that proposal merit attention.

Thus, the representative of the USSR stated that:

"... realization of the PAXSAT-A alternative would promote further confidence and mutual trust; at the same time, this alternative could be viewed as a certain addition in the field of space issues to our proposal for an international space inspectorate which would carry out activities on the ground. As for the PAXSAT-B alternative, it could be useful in implementing the idea put forward by the USSR of setting up under United Nations auspices machinery for wide-ranging international verification" (Ad hoc Committee, 9 August 1988).

For his part, the representative of the German Democratic Republic observed that:

"with this Soviet proposal and the French suggestion that an international satellite monitoring agency be set up, plus Canada's PAXSAT concept, a full-fledged system of possible verification measures is shaping up. At this stage, it would seem desirable to probe its potential. Therefore, the Ad hoc Committee should have a closer look, in the near future, at all the issues related to that matter, preferably by enlisting the help of experts, who could function as a working group of the Committee" (CD/PV.425, 28 July 1987).

Canada's proposal was also supported by the delegations of Australia (CD/PV.426, 30 July 1987, China (CD/PV.423, 21 July 1987), Czechoslovakia (CD/PV.418, 2 July 1987), India (CD/PV.450, 22 March 1988, K. Natwar Singh, Minister for Foreign Affairs), Japan (CD/PV.419, 7 July 1987), Poland (CD/PV.432, 20 August 1987) and Sweden (Ad hoc Committee, 22 March 1988).

"Rules of the road" - Code of conduct

On 26 July 1985, the representative of the Federal Republic of Germany suggested in the Conference on Disarmament the establishment of a code of conduct for outer space, which "could contain the mutual renunciation of measures that would interfere with the operation of space objects of other

States, the establishment of minimum distances between space objects, speed limits imposed on space objects that approximate one another, as well as related measures" (CD/PV.318).

In 1986, the delegation of the Federal Republic of Germany submitted to the Conference on Disarmament a new code of "rules of the road" which:

> "could contribute in large measure to attenuating the effects of unintended escalation and to limiting the risks arising from misunderstandings in crisis situations. Additional rules that could be comprised in such a code might include: restrictions on very low altitude overflight by manned or unmanned spacecraft; new stringent requirements for advanced notice of launch activities; specific rules for agreed, and possibly defended, keep-out zones; grant or restriction of the right of inspection; limitation on high velocity fly-bys or trailing of foreign satellites; and established means by which to obtain timely information and consult concerning ambiguous or threatening activities" (CD/PV.345, 6 March 1986).

In the view of the Federal Republic of Germany, the necessity of elaborating "rules of the road" was also conditioned by the "over-population" of outer space and the resulting risks of unintended collisions of satellites with space debris.

A proposal of a similar nature was advanced by France, which suggested in 1987 the elaboration of "a number of specific measures ... concerning the registration and notification of space objects, as well as the multilateral code of conduct applicable to space activities" (CD/PV.390, 19 February 1987, J.B. Raimond, Minister for Foreign Affairs).

The Polish delegation considered that the "two different proposals coming from different delegations compose a logical whole" (CD/PV.402, 2 April 1987).

The proposals of the Federal Republic of Germany and France were supported by a number of delegations, including Belgium (CD/PV.422, 23 July 1987, L. Tindemans, Minister for Foreign Affairs), the German Democratic Republic (CD/PV.425, 28 July 1987), Sri Lanka (CD/PV.354, 8 April 1986), Sweden (Ad hoc Committee, 23 March 1988), the United Kingdom (Ad hoc Committee, 28 July 1987) and the USSR (Ad hoc Committee, 9 August 1988).

Proposal concerning declarations of non-deployment of weapons in outer space on a permanent basis

On 21 July 1987, the representative of Argentina stated:

"We believe that the international community would be truly relieved to hear that so far there are no weapons deployed in outer space. In our view, the means to be used to inform public opinion of that situation, that is, that no weapons have been placed permanently in outer space could well be the report that the Conference on Disarmament submits to the General Assembly. It would be sufficient in that respect for the Ad hoc Committee to include a paragraph stating that none of the member States represented in the Conference on Disarmament has permanently deployed weapons in outer space. That assertion avoids the complex issue of defining what a space weapon is, since what is sought is a simple statement to the effect that the member States represented in the Conference on Disarmament have not deployed weapons of any nature or kind. It is simply a matter of asserting that there have been no weapons deployed. It would then be enough, as we have said, for such an assertion to appear in the report of the Conference on Disarmament, and we hope that none of the States members of the Conference on Disarmament will refuse to include such a paragraph. A declaration to that end could well constitute the point of departure for more specific and binding initiatives in future with appropriate verification measures" (CD/PV.423).

This proposal by Argentina was confirmed on 14 July 1988 (CD/PV.465).

The proposal by Argentina was supported in principle by the delegations of Sweden (CD/PV.430, 13 August 1987), Sri Lanka (CD/PV.432, 20 August 1987) and the Soviet Union, whose representative in the Ad hoc Committee referred on 16 August 1988 to the statement of 6 June 1985 by M.S. Gorbachev, General Secretary of the Central Committee of the CPSU, to the effect that "the Soviet Union will not be the first to take arms to outer space".

At the same time, the United States delegation questioned the usefulness of this proposal because:

"Unilateral non-verifiable declarations on the non-deployment of weapons in space on a permanent basis raise a host of problems. For example, the issue of how 'weapons' are to be defined and categorized is a serious one for national security and should not be dismissed lightly. As I noted earlier in my presentation, for example, there are many

different kinds of weapon systems that could be used against space objects, and not all of them need necessarily be placed in space. These are precisely the kinds of issues that are under discussion in the bilateral negotiations. One must also keep in mind that information which is presented can only facilitate work if it is accurate; inaccurate declarations decrease confidence and complicate work" (Ad hoc Committee, 2 August 1988).

4. Strengthening the 1975 Convention on Registration of Objects Launched into Outer Space

A number of delegations suggested strengthening the Convention on Registration of Objects Launched into Outer Space.

In his statement on 26 July 1988, the representative of Canada said:

"What we are suggesting ... is that States parties to the Convention on Registration of Objects Launched into Outer Space should take their reporting responsibilities more seriously and go beyond the requirement to disclose the general function of space objects, to provide more detailed and timely information concerning the function of a satellite, including whether the satellite is fulfilling a civilian or military mission or both. What we are in fact suggesting is the strengthening of the application of the Convention for arms control purposes" (CD/PV.468).

A similar attitude was expressed by India at the meeting of the Ad hoc Committee on 9 August 1988:

"The Registration Convention specifies a limited number of parameters on which information is voluntarily provided by launching States. This registry of space objects does not, in its present form, serve as a useful data base for a disarmament agreement".

The proposal to extend the scope of the Registration Convention met a critical response from the United States delegation:

"The Registration Convention is not an arms control or confidence-building instrument. It was negotiated in order to establish an international registry of objects for the purpose of giving practical effect to the 1972 Convention on liability for damage caused by space objects. Its consideration falls properly within the venue of COPUOS, and not the Ad hoc Committee on outer space of the Conference on Disarmament. Moreover, in 1986, the General Assembly conducted a review of the Convention and agreed that revisions were unnecessary. The Convention is working effectively" (Ad hoc Committee, 2 August 1988).

Concerning the above question, the Soviet representative in the Ad hoc Committee stated on 16 August 1988:

"The Registration Convention was negotiated in the Committee on the Peaceful Uses of Outer Space and mainly falls within its purview. The Committee on the Peaceful Uses of Outer Space has the necessary expertise to analyse the status of implementation of the Registration Convention and it would seem more appropriate to tackle the issue of the amendment of that instrument within that body".

Various ideas concerning the question were advanced at different times by the delegations of Argentina (CD/PV.423, 21 July 1987), Australia (CD/PV.408, 23 April 1987), China (CD/PV.372, 22 July 1986), France (CD/PV.390, 19 February 1987, J.B. Raimond, Minister for Foreign Affairs), Japan (CD/PV.419, 7 July 1987), Netherlands (CD/PV.481, 13 September 1988), Pakistan (CD/PV.460, 26 April 1988), Sri Lanka (CD/PV.404, 9 April 1987, Sweden (CD/PV.301, 21 March 1985) and Zaire (CD//PV.461, 28 April 1988).

On 25 August 1988, Australia and Canada submitted working paper CD/OS/WP.25, in which, in amplification of the Convention's provision concerning the responsibility of each State party for disclosing the general function of space objects, they suggested that States parties to the Registration Convention should examine the possibility of providing more timely and specific information concerning the function of a satellite, including whether the satellite was fulfilling a civilian or military mission or both, and that space Powers that were not parties to the Convention could also submit the same information under General Assembly resolution 1721 (XVI) of 1961, which called on all States to provide information on their space objects.

5. Proposal relating to a multilateral instrument to supplement the USSR/United States ABM Treaty of 1972

On 26 June 1986, the delegation of Pakistan presented for consideration by the Conference on Disarmament a document entitled "Proposal relating to the prevention of an arms race in outer space: international instrument to supplement the ABM Treaty" (CD/708), in which it suggested, as an interim measure and until the conclusion of a comprehensive treaty to prevent an arms race in outer space, the adoption of an international instrument to supplement the ABM Treaty:

"with a view to ensuring that the self-restraint accepted by the two super-Powers in that Treaty is not negated by acts of omission or

commission by either of these Powers or by other technologically advanced States. The instrument that my delegation has in mind should, inter alia: (a) recognize and reconfirm the importance of the United States-USSR ABM Treaty in preventing the escalation of an arms race, especially in outer space; (b) note the commitment of the two Powers to continue to abide strictly by the provisions of this treaty, in particular its Article V under which they have undertaken not to develop, test or deploy ABM systems or components of such systems that are sea-based, air-based, space-based or mobile-land-based; (c) provide a clear interpretation of the research activities permissible under the ABM Treaty, not only for the two parties but also for other technologically advanced States, so as to facilitate an impartial interpretation of ambiguous aspects of the Treaty such as the definition of 'research' and the phrase 'use of other physical principles'; (d) include a commitment by other technologically advanced States not to take their own research beyond the limits accepted by the United States and the USSR; and (e) include a mechanism to provide for the redress of such activities that are contrary to the limitations contained in the ABM Treaty" (CD/PV.367, 3 July 1986).

The delegations of Indonesia (CD/PV.437, 4 February 1988, Mr. Kusuma-Atmadza, Minister for Foreign Affairs) and Peru (CD/PV.428, 6 August 1987) suggested that the ABM Treaty should be supplemented by provisions banning anti-satellite weapons.

IV. CONCLUSION

The primary objective of the authors of this document has been to help to identify and reveal the negotiating capacity of the Ad hoc Committee, whose task it is to contribute towards preventing an arms race in outer space.

In the course of its work the Ad hoc Committee has accumulated a wealth of useful ideas and proposals. Most of the proposals contain constructive provisions acceptable to a large number of delegations and constituting a good basis for specific and goal-oriented negotiating activity. It is symptomatic that proposals and ideas aimed at such activity came from all groups of States, including the delegations opposing the early start of talks.

The above comparative analysis of proposals, opinions and views is aimed at making it possible to outline common approaches towards resolution of the problems confronting the Ad hoc Committee.

In submitting this document for consideration by the Conference on Disarmament, the delegation of Mongolia invites the representatives of all the States participating in the work of that body to pursue in a constructive spirit creative dialogue in the quest for common ground for multilateral negotiations on the issue of preventing an arms race in outer space.

This review is intended to make it possible to outline common approaches towards resolving the problems before the Ad hoc Committee, to introduce analytical methods and to streamline the approach towards discussing the various aspects of the problem of preventing an arms race in outer space.

CONFERENCE ON DISARMAMENT

CD/908
CD/OS/WP.29
31 March 1989

Original: ENGLISH/SPANISH

LETTER DATED 31 MARCH 1989 ADDRESSED TO THE SECRETARY-GENERAL OF THE CONFERENCE ON DISARMAMENT FROM THE PERMANENT MISSION OF VENEZUELA TRANSMITTING A LIST OF EXISTING PROPOSALS ON THE PREVENTION OF AN ARMS RACE IN OUTER SPACE

The Permanent Mission of Venezuela presents its compliments to the Secretary-General of the Conference on Disarmament and has the honour to request him to arrange for the attached paper to be distributed as an official document of the Conference on Disarmament.

The paper presented by Venezuela contains a list of proposals submitted to the Conference on Disarmament as of 23 August 1988 concerning item 5 of the agenda. This document is being submitted as a contribution to the structured discussion of item 3 of the programme of work of the Ad hoc Committee on the Prevention of an Arms Race in Outer Space.

VENEZUELA

EXISTING PROPOSALS ON THE PREVENTION OF AN ARMS RACE IN OUTER SPACE

Following is a list of the various proposals submitted as of 23 August 1988 to the Conference on Disarmament on the Prevention of an Arms Race in Outer Space. In each case, reference is made to the document containing the proposal or to the verbatim record of the session in which the proposal was presented.

This document is presented as a contribution to the structured discussion of point 3 of the work programme of the Ad hoc Committee on the Prevention of an Arms Race in Outer Space.

I. Comprehensive proposals

- Treaty prohibiting the use of force in outer space or from space against the Earth (Union of Soviet Socialist Republics, CD/476)
- Treaty prohibiting the stationing of weapons of any kind in outer space (Union of Soviet Socialist Republics, CD/274)
- Amendment to Article IV of the 1967 Outer Space Treaty or additional protocol thereto (Venezuela, CD/PV.398, CD/PV.471, CD/851)
- Amendment to the Outer Space Treaty, Multilateralization of the ABM Treaty and ban of ASAT systems other than space-based systems (Peru, CD/PV.428, CD/PV.472).

II. Proposals addressing specific aspects of the problem of preventing an arms race in outer space

- Definition of space weapons (Venezuela, CD/709/Rev.1 and CD/OS/WP.14/Rev.1; Bulgaria and Hungary, CD/OS/WP.14/Rev.1; China, CD/OS/WP.14/Rev.1; Sri Lanka, CD/OS/WP.14/Rev.1; Union of Soviet Socialist Republics, CD/OS/WP.14/Rev.1; German Democratic Republic, CD/OS/WP.14/Rev.1/Add.1)
- Declarations on the non-deployment of weapons in space (Argentina, CD/PV.423 and CD/PV.465)
- Main provisions of a treaty on the prohibition of ASAT weapons and ways to ensure the immunity of space objects (German Democratic Republic and Mongolia, CD/777)
- General treaty on the prohibition of anti-satellite weapons with specific protocols applicable to different categories of satellites (India, CD/PV.423)
- Prohibition of untested anti-satellite system (France, CD/PV.263, CD/PV.303)

- Prohibition of dedicated ASAT weapons (Sri Lanka, CD/PV/404)
- Multilateral instrument to supplement the 1972 ABM Treaty (Pakistan, CD/708)
- Step-by-step approach to the protection of satellites, including identifying which satellites should be subject to protection, followed by identification of an appropriate protection régime for such satellites (Australia, CD/PV.374)
- Protection régime for satellites that contribute to stability and to verification, and their associated ground stations (Australia, CD/PV.279)
- Multilateralization of provisions of bilateral agreements relating to the immunity of satellites (France, CD/375, CD/PV.263 and CD/PV.339; United Kingdom, CD/PV.311)
- "Rules-of-the-road" agreement (Federal Republic of Germany, CD/PV.318 and CD/PV.345)
- Code of conduct (France, CD/PV.390)
- Confidence-building measures (France CD/375)
- Measures aiming at greater transparency in space activities (Japan CD/PV.419; Australia CD/PV.374; Canada, CD/PV.468)
- Strengthening of the 1975 Registration Convention (France, CD/PV.263, CD/PV.303; Sweden, CD/PV.252; Sri Lanka, CD/PV.404; Pakistan, CD/PV.413, CD/PV.460; Argentina, CD/PV.423; India, CD/PV.423; Canada, CD/PV.468)
- International satellite monitoring agency (France, A/S-10/AC.1/7)
- World space organization (Union of Soviet Socialist Republics, CD/PV.337)
- International Space Inspectorate (Union of Soviet Socialist Republics, CD/817)
- Establishment of a group of experts (Sri Lanka, CD/PV.325, CD/PV.354; Sweden CD/PV.385, CD/PV.430; India, CV/PV.423).

III. Interim measures

- ASAT moratorium (Pakistan, CD/708; Sweden, CD/PV.288 and CD/PV.301; Mongolia CD/PV.297; Union of Soviet Socialist Republics, CD/PV.302).

CONFERENCE ON DISARMAMENT

CD/OS/WP.30
17 April 1989
Original: ENGLISH

Ad Hoc Committee on Prevention
of an Arms Race in Outer Space

GERMAN DEMOCRATIC REPUBLIC

Proposals and Comments by Member States of the Conference on Disarmament concerning the participation of technical and other experts in the work of the Ad Hoc Committee on Prevention of an Arms Race in Outer Space

1. On 3 February 1987, Ambassador Theorin, Head of the Delegation of Sweden, stated, in particular: (CD/PV.385)

"The existing body of international law relating to an arms race in outer space is in many aspects inadequate. We must negotiate additional measures, for example, a ban on space weapons, including development, testing and deployment of ASAT systems and their destruction. Existing agreements, both bilateral and multilateral ones, must be strictly adhered to. The ABM Treaty is a case in point. The Ad hoc Committee should continue its work during this years session. Its consideration can be further broadened and deepened within the framework of its mandate. There are still a variety of legal aspects that should be further analysed. An overview of the technical aspects of space weapon developments is called for. The setting up of an informal working group of technical experts could be considered."

On 7 July 1988, Ambassador Theorin again took up the question concerning the participation of technical experts in the work of the Committee: (CD/PV. 463)

" In order to make further progress in the work of the Ad hoc Committee there is an urgent need for some technical groundwork to be done. I want to take this opportunity to reiterate the Swedish proposal to organize within the Conference a governmental experts' meeting of limited duration to adress, for example, definitions and verification techniques relevant to our common efforts to prevent an arms race in outer space."

2. Other Proposals and Comments:

German Democratic Republic (Statement in the Committee on 2 August 1988):

"We ... hold the view that expert meetings of short duration (from 2 to 4 days) should be organized as soon as possible. Such a meeting could cover a multitude of substantive issues. With a view to making headway in our committee's work, we deem it appropriate to start with terminological aspects and definitions as well as with similar subjects. (Proposals to the Committee: Bulgaria, Canada, China, GDR, Hungary, Sri Lanka, Sweden, Venezuela and others).
A favourable step to this effect would also be the presentation of short position papers on practical issues for the purpose of rendering the discussion of experts more effective. There do exist a number of useful and valuable proposals and working papers, which are all in all not completely sufficient. They can, however, serve as a basis for first expert discussions."

Australia (CD/PV. 497, 23 March 1989)

Ambassador David Reese from Australia stated, referring to the negotiations on a Chemical Weapons Convention, but also to a range of nuclear testing and space issues, that these are areas"where the participation of experts at the delegation level continues at this stage to be the most productive use of the resources available to us, and the most effective organisational format for making substantive progress on the full range of items on our agenda".

Burma (CD/PV.452, 29 March 1988):

" The overwhelming importance of this question ('of the prevention of an arms race in outer space') is recognized by us all. This question encompasses two basic aspects - the technical aspect and the political and legal aspect. In dealing with the technical aspect of the question, we will find the expertise of scientific experts useful. My delegation therefore supports the proposal for the establishment of an expert group to provide technical assistance to the Conference on Disarmament on agenda item 5."

Bulgaria (CD/PV.471, 4 August 1988):

"There are a number of complicated issues of definition and technical issues which will to be addressed in dealing with an ASAT ban. Such problems should be considered by an appropriate group of governmental experts to provide technical expertise and guidance to the Ad hoc Committee in overcoming possible difficulties."

Venezuela (CD/PV. 398, 19 March 1987):

"Within the Conference there has been talk of the need to create a group of scientific experts in the Conference on Disarmament to consider the technical questions involved in the prevention of an arms race in outer space. My delegation does not object to such an idea, of course, but we feel that the technical aspect of the question should not be overvalued."

India (CD/PV. 431, 18 August 1987):

" A number of proposals of a substantive nature have been submitted. Reference can be made to CD/777 submitted by the German Democratic Republic and Mongolia, which contains basic provisions of a treaty text. Strengthening of the Registration Convention, declarations of non-deployment of weapons in space, amendment of article 4 of the Outer Space Treaty, are all possibilities containing merit and deserving serious consideration. Such work will also rise technical issues on which the Conference on Disarmament would benefit from inputs from space technologists. Beginning with the ASAT weapons ban, such inputs from a group of experts would help in developing a shared perception of other elements of relevance to our work. As I indicated in my statement of 21 Juli 1987, the first such exercise would relate to the development of criteria pursuant to the 1975 Registration Convention in order to examine the possibilities of making a distinction between military and non-military space satellites. Undoubtedly, the issue of verification and definition will require a considerable amount of work..."

Iran (CD/PV. 453, 31 March 1988):

"In the field of improving the effectiveness of the work of the Conference on Disarmament, proposals such as the work of technical and expert committees throughout the year ... merit due consideration."

Mongolia (CD/PV. 469, 28 July 1988)

"In order to analyze the existing initiatives and proposals as well as to identify specific measures on this basis so as to prevent the development of weapons of any kind in outer space, the creation of a governmental expert group as suggested by the Swedish delegation could prove to be instrumental. We believe that the work of the Ad Hoc Committee has already reached a point where the creation of such a group with a clear-cut mandate could be highly useful and contribute to goal-oriented and fruitful work within the Ad Hoc Committee, and also facilitate the refining of a truly multilateral approach to the question of preventing an arms race in outer space."

Netherlands (CD/PV. 396, 12 March 1988)

"It would be a good idea if at some moment legal experts from capitals be invited to assist us in our discussion."

France (CD/PV.449, 17 March 1988)

"Modest because nothing can be done without real collective competence, which must be rapidly increased, in particular by recourse to national experts who could strengthen delegations in turn; ambitious because, even starting from the current situation, it is possible, so broad are the prospects, to identify the most promising directions for international action - and we are thinking in particular of non-interference in non-aggressive space activities, the preparation of a code of conduct in outer space, the strengthening of notification, and verification."

Federal Republic of Germany (Statement in the Committee, 16 June 1987)

"The Committee should take stock of the findings in the framework of existing agreements not in listing different opinions and declarations but in a list of questions to be answered commonly and by help and advice of technical and legal experts."

(Statement in the Plenary, 11 April 1989)

"Because many non-dedicated ASATs exist (e.g. ABM systems, any kind of long-range ballistic missiles, satellites with inherent ASAT capabilities, etc.) a comprehensive ban on all these systems would be neither verifiable nor acceptable to all of these parties concerned... Upon the critical remarks it has earned from several delegations in this regard the Federal Republic of Germany has conducted further research. We are prepared to offer our findings in this regard by contributions of scientific experts during the summer session according to the different subjects of the program of work."

Sri Lanka (CD/PV. 389, 17 February 1987

"It also requires the establishment of a group of scientific experts within this Conference so that multilateral expertise can be pooled on the technical issues relevant to preventing an arms race in outer space. My delegation therefore supports the proposal made by the Swedish delegation and calls for an early agreement on the mandate and the composition of such a group."

United States (Statement in the Committee, 6 April 1989)

"Besides undertaking a focussed examination of the issues before us, the Ad Hoc Committee strives for technical understanding of the issues at hand. The Committee has already moved a little way down this road. Last year's presentation on civilian uses of satellite imagery by a technical expert visiting the French delegation, for example, or the 1987 Canadian Paxsat intervention, showed the way to proceed. Each delegation could contribute to this enlarging of the technical knowledge of the Committee's members. As the Committee, at this stage is still exploring basic issues, philosophies and approaches, such expert contributions would, of necessity, be ad hoc and issues specific, something that would be carried out within its present structure. Thus, this need to increase the Committee's technical knowledge does not require the creation of an expert sub-group. It would be hoped, moreover, that when future expert presentations are offered, all delegations in the Committee will be present to avail themselves of the opportunity to become better informed on specific technical aspects of the general subject of outer space arms control that we are dealing with. As has been evident in previous sessions of this Committee, we find ourselves awash in a pool of contrasting and contending philosophical approaches to the problem. Clearly the achievement of any progress depends upon a thorough venting of these contrasting philosophical approaches, so that all delegations completely understand contending points of view."

3. As a result of the discussions on the participation of experts in the work of the Ad Hoc Committee on Prevention of an Arms Race in Outer Space, which were held in 1988, the report of the Committee indicates: (CD/ 870)

" A number of delegations considered that the participation of experts would contribute to the work of the Ad hoc Committee and mentioned a number of areas where it would be desirable to have technical expertise and guidance, among them, problems of definition, questions relating to ASATs and the protection of space objects, verification and data exchanges. Some delegations favoured the establishment of a group of governmental experts and various possible mandates for such a group were suggested. Other delegations, sharing the view that experts made a valuable contribution to the work of the Committee, believed that such contribution could be made through their inclusion in the delegations. In their opinion, however, the work of the Committee had not yet reached the stage where the establishment of a group of experts would be useful."

4. Conclusions

(a) There is a general feeling that the contributions of experts to the work of the Committee on Prevention of an Arms Race in Outer Space are of importance. Some differences of opinion persist on the mode of their participation in the work of the Committee. In particular, there is no consensus on the establishment of an "expert sub-group".

(b) Taking into account the generally positive assessment of expert contributions to the work of the Committee, it would be useful to have their participation more coordinated. This would involve the possibility not only of their presentations to the Committee, but also of exchanges of views between them. With this in mind, the following suggestion is submitted:

Experts included in the delegations could be invited to participate in the work of the Ad Hoc Committee on Prevention of an Arms Race in Outer Space at a given time, possibly in mid-July 1989. They should assist the Committee with their technical expertise by making statements in formal meetings and during informal open-ended experts discussions. In view of the present stage of work and bearing in mind recent deliberations in the Ad Hoc Committee, the following issues might require particular expert consideration:

- the increase of exchanges of data and information, going beyond the Registration Convention, which are needed to promote confidence-building in the area of space activities of States,

- "rules of the road" and a code of conduct for outer space,

- technical means and methods, including the use of satellite technology, for verification applicable to agreements on the prevention of an arms race in outer space,

- definitions and terminology under consideration in the Committee (e.g. CD/OS/WP.14/Rev.1; CD/OS/WP.14/Rev.1/Add.1; CD/7OS/Rev.1; CD/OS/WP.27).

Any expert should have the right to elaborate on questions he deems suitable to advance the work of the Ad Hoc Committee on Prevention of an Arms Race in Outer Space.

CONFERENCE ON DISARMAMENT

CD/OS/WP.30/Corr.1
19 April 1989

ENGLISH only

Ad Hoc Committee on Prevention
of an Arms Race in Outer Space

GERMAN DEMOCRATIC REPUBLIC

Proposals and Comments by Member States of the Conference on Disarmament concerning the participation of technical and other experts in the work of the Ad Hoc Committee on Prevention of an Arms Race in Outer Space

Corrigendum

Page 6, fifth line from the bottom of the page:

Delete the document reference "CD/70S/Rev.1".

CONFERENCE ON DISARMAMENT

CD/OS/WP.31
18 April 1989

Original: ENGLISH

Ad Hoc Committee on Prevention
of an Arms Race in Outer Space

1989 PROGRAMME OF WORK

1. Examination and identification of issues relevant to the prevention of an arms race in outer space;
2. Existing agreement relevant to the prevention of an arms race in outer space;
3. Existing proposals and future initiatives on the prevention of an arms race in outer space.

In carrying out its work, the Ad Hoc Committee will take into account developments which have taken place since the establishment of the Committee in 1985.

CONFERENCE ON DISARMAMENT

CD/915
CD/OS/WP.32
26 April 1989

ENGLISH
Original: SPANISH

CHILE

Legal problems raised by the militarization of outer space

The most important principle in the Charter of the United Nations is undoubtedly the prohibition of the threat or use of force, which, in addition, has been given the status of jus cogens under legal doctrine. This means that it may not be derogated from under any other norm of international law which is not of a similar nature and that it applies universally to all countries, whether or not they are Members of the United Nations. This is stated explicitly in Article 2, paragraph 4 of the Charter, which reads: "All Members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any State, or in any other manner inconsistent with the Purposes of the United Nations".

However, commentators are far from unanimous when it comes to deciding how "force" should be interpreted: whether it means only armed force or, on the contrary, it includes all forms of coercion.

A comprehensive reading of the Charter, and of its guiding principles, would suggest that force is to be construed in a broad sense, as including other forms inconsistent with the attainment of the fundamental objective of the United Nations: the maintenance of peace.

Thus, for example, Article 1, paragraph 1 of the Charter of the United Nations states that the Purposes and Principles of the Organization are:

> "To maintain international peace and security, and to that end: to take effective collective measures for the prevention and removal of threats to the peace, and for the suppression of acts of aggression or other breaches of the peace, and to bring about by peaceful means, and in conformity with the principles of justice and international law, adjustment or settlement of international disputes or situations which might lead to a breach of the peace".

Further, Article 41 of the Charter seems to suggest that there are other kinds of force besides "armed force", since it provides that: "The Security Council may decide what measures not involving the use of armed force are to be employed to give effect to its decisions ...".

Moreover, it should be borne in mind that peace is indivisible and that effective preservation of peace requires a general condemnation of all obstacles that stand in the way of its full attainment. In this context, any type of "force", armed or otherwise, would be at variance with the overriding objectives of international peace and security and co-operation among nations. The two objectives are closely interrelated, so much so that it is impossible to conceive of co-operation in a world affected, at various levels, by situations inconsistent with a state of peace. Nevertheless, it must be admitted that there are legal formulas that correspond more closely to the concept of "threat of force", which also has the status of jus cogens.

Further, aggression, which is a "species" within the broader "genus" of force, is indeed restricted solely to the use of armed force (General Assembly resolution 3314 (XXIX) of 14 December 1974, annex, article 1). In this connection, Article 39 of the Charter of the United Nations draws a clear distinction, stating that "The Security Council shall determine the existence of any threat to the peace, breach of the peace, or act of aggression ...".

No matter how an act that is inconsistent with peace is characterized - whether as force or as threat of force - it must be rejected as absolutely incompatible with the above-mentioned principles of the Charter.

The only possible use of force accepted by legislators is for purposes of individual or collective self-defence in response to the "unlawful" use of force (provided for in Chapter VII of the Charter).

It might thus be concluded that any act aimed directly at breaching the peace could be considered an act of force or a threat of the use of force, and that the prohibition of the use of force and the threat of force may not be derogated from in any way under any bilateral or multilateral treaty or convention. The fact that they are jus cogens rules means that they are peremptory norms in consonance with the need effectively to protect the overriding objective of world peace. Nevertheless, in the case of economic coercion, the question is not so clear-cut. According to one school of thought, economic coercion is more of a violation of the principle of non-intervention (Art. 2, para. 7 of the Charter).

The norm contained in Article 2, paragraph 4 of the Charter is, accordingly, universally binding and has given rise to an entire body of customary law. The many declarations of indefinite duration made by States provide manifest and irrefutable evidence that this norm is accepted as an internationally binding principle.

In the specific case of space law, any activity carried out in space which affects the security of a subjacent State would be unlawful in accordance with the provisions of article I, paragraph 1 of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (see General Assembly resolution 2222 (XXI) of 19 December 1966, annex), which provides as follows: "The exploration and use of outer space, including the Moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind".

It is thus quite clear that exploration and use of space can be lawful only if carried out in the manner prescribed in the above norm, from which we may conclude that there exists a new subject of international law: mankind.

Moreover, General Assembly resolutions 1721 (XVI), 1962 (XVIII) and 1963 (XVIII), inter alia, provide that the activities of States in the exploration and use of outer space should be carried on in accordance with international law, including the Charter of the United Nations. This means that outer space is not a "legal vacuum", since the Charter and General Assembly resolution 2625 (XXV) of 24 October 1970, entitled "Declaration on Principles of International Law concerning Friendly Relations and Co-operation among States in accordance with the Charter of the United Nations", categorically prohibit the threat or use of force.

In accordance with the truly determinant clause of space law (that space activities should be carried on for the benefit of mankind), it is not valid to assert in this case that everything which is not expressly prohibited is permissible. States cannot ignore the mandate that outer space, the Moon and other celestial bodies must be used in the interests of all peoples of the world. This mandate, characterized for the first time in international law, must be the focal point of space activity. It represents an innovation established by space law, a lex specialis of a higher order than ever before. The criterion of the lawfulness of a given space activity must be centred on compliance with the rules set forth in article I, paragraph 1 of the outer space Treaty (see General Assembly resolution 2222 (XXI), annex), rather than on the absence of a prohibitive norm. Such absence, under space law, does not change unlawful acts into internationally lawful acts. It must also be added that the unlawfulness of an act should be judged in accordance with the relevant provisions of international law, and not in accordance with internal law. This principle applies even more decisively in space law because of the higher ethical considerations on which it is based.

What is true in theory, however, is not fully reflected in the outer space Treaty (General Assembly resolution 2222 (XXI), annex). In that regard, article IV of the Treaty provides as follows:

> "States Parties to the Treaty undertake not to place in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station weapons in outer space in any other manner.
>
> "The Moon and other celestial bodies shall be used by all States Parties to the Treaty exclusively for peaceful purposes. The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military manoeuvres on celestial bodies shall be forbidden. The use of military personnel for scientific research or for any other peaceful purposes shall not be prohibited. The use of any equipment or facility necessary for peaceful exploration of the Moon and other celestial bodies shall also not be prohibited."

Some would argue that the placing of nuclear weapons or other weapons of mass destruction in space, in clear violation of the outer space Treaty, could imply the initiation of an armed attack, which would justify the adoption of

collective defence measures (Article 39 of the Charter). The hostile nature of a space object is a question which must be determined in each case by the Security Council, in addition to which it must decide what measures should be taken: capture or destruction of the object, or other appropriate steps, such as complete or partial interruption of economic relations.

In any case, the prohibition set forth in this article is clearly a partial one, since it states only that "the Moon and other celestial bodies shall be used ... exclusively for peaceful purposes". Outer space and celestial bodies would therefore not have the same legal status, and certain military uses of outer space would not be legally excluded.

Another weakness of the rule in question is the part relating to weapons, since it merely refers to "objects carrying nuclear weapons" or any other kinds of weapons of "mass destruction". What about other weapons which do not fit into the specified categories? For example, are "anti-satellite" weapons lawful?

It is clear that article IV is not consistent with the general theory of space law, since under the latter, as we know, activities of States in outer space must be carried on for the benefit of all mankind. This implies, as a corollary, a total and absolute rejection of the use or threat of force.

The above-mentioned provision is not consistent, for example, with the provisions of articles I and II of the outer space Treaty, which require States to carry on their space activities in accordance with international law, including the Charter of the United Nations. The latter, as was noted earlier, implies a broader concept of force than merely "armed force".

It is therefore urgently necessary to establish the necessary theoretical consistency, which can be done through the elaboration of a protocol additional to the outer space Treaty, which will clearly contribute, from the legal point of view, to preserving outer space as an area of co-operation and not of possible confrontation.

It is also important, for the purposes of this analysis, to keep in mind article 3 of the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (see General Assembly resolution 34/68, annex, of 5 December 1979), which reads as follows:

> "1. The Moon shall be used by all States Parties exclusively for peaceful purposes.
>
> "2. Any threat or use of force or any other hostile act or threat of hostile act on the Moon is prohibited. It is likewise prohibited to use the Moon in order to commit any such act or to engage in any such threat in relation to the Earth, the Moon, spacecraft, the personnel of spacecraft or man-made space objects.
>
> "3. States Parties shall not place in orbit around or other trajectory to or around the Moon objects carrying nuclear weapons or any other kinds of weapons of mass destruction or place or use such weapons on or in the Moon.

"4. The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military manoeuvres on the Moon shall be forbidden. The use of military personnel for scientific research or for any other peaceful purposes shall not be prohibited. The use of any equipment or facility necessary for peaceful exploration and use of the Moon shall also not be prohibited."

Although the agreement concerning the Moon is more complete and comprehensive, it does not offer a satisfactory solution to the problem of militarization either. In the first place, there is no specific reference in it to outer space, but only to the Moon and other celestial bodies. Secondly - and here it contains the same paradox as article IV of the outer space Treaty - the provision is binding only on "States Parties", thereby denying the universalist and jus cogens character of the principle of the non-use of force. Moreover, in paragraph 3, it falls into the same error as the outer space Treaty, prohibiting "objects carrying nuclear weapons or any other kinds of weapons of mass destruction", without including other conventional weapons. Lastly, the wording of the last sentence of paragraph 4 seems inappropriate because of the ambiguity and imprecision of the terms "any equipment or facility necessary", and because it does not reaffirm that the Moon should be explored and used "exclusively for peaceful purposes".

However, article 3 of the agreement concerning the Moon also contains some positive elements - for instance, the prohibition of any other hostile act or threat of hostile act on the Moon. Thus it considerably broadens, although in a rather vague way, the notion of prohibited actions.

In any case, the key to the analysis of the problem of militarization lies in the correct interpretation of the term "peaceful uses", as used in the space agreements. There are two views of this problem. One is that the term "peaceful uses" excludes only "aggressive uses" (those which would be equivalent to the use of armed force), and the other is that any non-peaceful use of outer space - except certain "non-aggressive" uses - would be prohibited.

The concept of "peaceful uses" should be examined in the context of the evolution of contemporary international law and the principles which serve as a context for space law. Accordingly, only those activities which are not generally of a "non-peaceful" nature would be permissible in outer space and on the Moon and other celestial bodies. Those who support the theory that it is difficult or impossible, legally speaking, to separate the categories of "military" and "non-military" feel that only clearly discernible armed force should be prohibited.

It is worth asking in that connection how the "thesis of aggression" can be reconciled with the provisions of the eighth preambular paragraph of the outer space Treaty, which reads: "Taking account of United Nations General Assembly resolution 110 (II) of 3 November 1947, which condemned propaganda designed or likely to provoke or encourage any threat to the peace, breach of the peace or act of aggression, and considering that the aforementioned resolution is applicable to outer space".

The conceptual scope of that paragraph should dispel any uncertainty. In condemning propaganda as contrary to peace, it also explicitly includes "non-aggressive" elements, whether or not they are the product or consequence of a specific space activity.

Propaganda, as well as, for example, fraudulent use of remote-sensed data which might jeopardize the security of the country sensed, could constitute an unfriendly act without going so far as to constitute a direct breach of the peace. Such acts should give rise to international liability.

Furthermore, it is important to point out that the official attribution of civil or military status to an individual civil or military, does not per se allow a juridical decision on the matter. It is the underlying intent which determines whether a human act is civil or military in nature. For example, a civilian official, using non-peaceful means, may commit a "non-aggressive" military act; likewise a military person may devote himself to scientific research for purely peaceful purposes.

Accordingly, the fact that an activity is not strictly aggressive does not alter its intrinsically unlawful nature. As was pointed out earlier, the criterion of lawfulness has more to do with whether an act is consistent with the provisions of the first two paragraphs of article I of the outer space Treaty, than with the absence of a prohibition.

It should also be pointed out that, although the extension of territorial sovereignty to outer space, including the Moon and other celestial bodies, is prohibited, space law is nevertheless based on the principle of respect for the sovereignty of the subjacent nations. This is bound up with the right of States to safeguard their national security, to have priority access to their natural resources and to give their consent for the divulging of certain data regarding their territory to third nations. Accordingly, States must carry out their exploration and exploitation of outer space in accordance with international law, particularly the Charter of the United Nations, bearing in mind, in particular, the principles of sovereign equality and non-interference in internal affairs.

It being established that outer space can be used only for exclusively peaceful purposes, there are none the less circumstances in which the use of force by a country can be justified in accordance with the rules of general law. This is true in the case of self-defence, provided that the force is not disproportionate to the aggression suffered. In the case of outer space, in accordance with the rule which grants the State of registry exclusive jurisdiction over its space objects (article I of the registration Convention), space law does not permit foreign intervention, still less does it permit armed attack on a spacecraft or space station. Only the State of registry is permitted to exercise jurisdiction over its spacecraft in outer space or on celestial bodies, and even to destroy them, provided it does not damage third parties or the environment.

If attacked, the State of registry could resort to self-defence, not only because it is permitted to do so by the very principles of that legal concept, but also because its ability to carry out an activity for the benefit of the

world would be adversely affected. On this point doctrine is very clear, as is the proposition that peace is indivisible and that any action which contravenes peace would have deleterious consequences for all peoples of the universe.

It is well known that two factors are of importance where self-defence is concerned: being the object of an attack or aggression and ensuring proportionality of response. Direct attention must be focused on what is called "advance self-defence", which is purely preventive in nature. It is incompatible with the provisions of Article 51 of the Charter of the United Nations, and its use can involve all kinds of arbitrary actions. Moreover, who is to determine the urgency of resorting to pre-emptive attack, which in itself may constitute a serious breach of world peace? Given the lack of effective mechanisms for resolving international conflicts, how can one prevent a nation which is allegedly about to be attacked from acting as both judge and interested party?

As was stated earlier, in the case of outer space, both aggressive and non-aggressive activities may be judged to be "non-peaceful", and those which involve attack or aggression (use of force in general) imply the immediate invoking of self-defence. And yet, in certain cases it may be very tricky to determine whether an aggression was committed, particularly when dealing with actions whose effects are not instantaneous, bearing in mind, further, that most nations do not have the proper technological means for detecting and preventing non-peaceful use of outer space. These nations can only resort to the United Nations system, invoking the provisions of Chapter VII so that the Security Council may take whatever measures are most effective. For reasons which are easy to understand, this is not a satisfactory and efficient answer to the problem under consideration. Indiscriminate use of the veto in the Council would leave a country which is merely a passive beneficiary of space technology completely defenceless.

Systems for verification of compliance with disarmament treaties constitute another aspect on which there is a need for legislation so that such systems can be granted legitimacy. Some of the most important tasks would be those outlined in the document of the Preparatory Committee for the second special session of the General Assembly devoted to disarmament, concerning a proposed international satellite monitoring agency. They include:

1. Monitoring compliance with arms limitation and disarmament agreements;

2. Monitoring of crisis situations, with applications in the following circumstances:

(a) Early warning of attacks through observation of the build-up of military and paramilitary forces;

(b) Evidence of border violations;

(c) Cease-fire monitoring;

(d) Assistance to United Nations observers for peace-keeping purposes;

(e) Strengthening of international confidence-building measures and observance of the ban on the threat or use of force.

It is important to establish certain clarifications concerning early-warning satellites. Acts involving "advance self-defence" cannot be deemed lawful. Such a possibility is not envisaged in the Charter of the United Nations, and it could constitute a dangerous invitation to pre-emptive attack. None the less, there are certain events in which missions of early-warning satellites would be permissible: while each State is entitled to its privacy and territorial integrity, this must not conflict with the higher right of the international community to see to its own security. If reconnaissance satellites can act as a deterrent to nuclear war, then their function would be legally justified. This does not mean prejudging the lawfulness of "espionage", which, although there is no international legislation on the matter, would be prohibited as constituting unacceptable interference in the affairs of a State. The characterization of "unacceptable interference" would be based, inter alia, on its clandestine nature.

CONFERENCE ON DISARMAMENT

CD/927
CD/OS/WP.33
26 June 1989

Original: ENGLISH

GERMAN DEMOCRATIC REPUBLIC

Working Paper

ASAT components and ways of verifying their prohibition

1. A prohibiton of ASAT weapons would be an important step on the road towards preventing an arms race in outer space. In 1987 the German Democratic Republic and the Mongolian People's Republic submitted a proposal on "Main Provisions of a Treaty on the Prohibition of Anti-Satellite Weapons and on Ways to Ensure the Immunity of Space Objects" (CD/777). Such a prohibition could also be implemented stage-by-stage. To that end it is necessary to arrive at a clear definition of that weapon category and to identify the pertaining components. This task should be assigned to a group of scientific experts.

2. The term "ASAT weapon" means: "any device or installation based entirely or partially on land, sea, in the air and/or in outer space which is specifically designed and intended to destroy, damage or interfere with the normal functioning of space objects" (CD/OS/WP.14/Add.1). A wide range of technologies can be used for ASAT purposes. An important group is the so-called "conventional" ASAT weapons. As their technological development is highly advanced, prohibition of these weapons is of particular urgency. This paper deals with important components of that category of ASAT weapons and with ways of verifying their prohibition. The paper is designed to promote the discussion of definition issues with a view to speeding up the elaboration of an ASAT agreement.

Limits on space-based chemical rockets and mass accelerators

1. Assemblies of small rockets on space platforms

(i) Kind of space weapons or components

Small devices (launching bodies) to be launched by rockets from space platforms to destroy other objects in space.

(ii) Required acts to prevent such weapons

Observe a lower mass limit of launching bodies.

Limit the number of such launching bodies per space platform (possibly to three).

Renounce the guiding devices on such launching bodies which could aim at other objects in space.

Launching organizations should refrain from launching space platforms containing assemblies of small rockets. If relaunches from space platforms are necessary for space exploration or application purposes, that number should be limited to possibly three per platform. The re-launching devices should have no guiding sensors which could assist in homing in on objects in outer space at high speed.

(iii) Description of weapon and stage of development

Weapons of this kind do not yet exist in outer space but are completely in reach of current technology. Small rockets to be launched from space platforms against objects in space have to be understood as the weapons part of a comprehensive system, including detection, communications and guiding components. As a weapon system, the small rockets would be installed in assemblies on steerable platforms. The platform itself would possess communications, orientation and guiding devices. The rockets would be equipped with small homing devices.

(iv) Type of verification

Verification of this type of weapon is difficult. Monitoring of manoeuvres of the space platform and inspection in orbit by national technical means (NTM) should bring some degree of confidence. Reliable verification is, however, only possible through on-site inspection of the platform and its devices on the ground before launch. Early prohibition of tests in orbit would greatly support the process to prevent weapons, development and deployment.

2. Mass drivers (rail guns) on space platforms

(i) Kind of space weapons or components

Electromagnetic mass drivers (rail guns) on space platforms using small masses as projectiles.

(ii) Required acts to prevent such weapons

Refrain from launching mass drivers into outer space. Since there is, at least currently and in the near future, no need for electromagnetic mass drivers in non-weapon applications in near-Earth space, such devices should generally be prohibited on space platforms.

(iii) Description of weapon and stage of development

Devices of this kind are still in a laboratory development stage. No space weapon capability has been reached so far. The basic principle is that of accelerating a small mass of a few grammes in an electromagnetic field. The size of the linear accelerator is of the order of meters. In weapons mode the accelerator needs precise orientation towards the target.

(iv) Type of verification

Monitoring of in-orbit manoeuvres and inspection in orbit by NTM should bring some degree of confidence. The size of the accelerator sledge as well as of the power source should give some hints on their purpose. Reliable verification is, however, only possible through on-site inspection of the space platform before launch. Monitoring of experiments in space after launch is hardly feasible.

Limit on ground-based chemical rockets and mass accelerators

1. Limits on ground-based direct ascending missiles

(i) Kind of space weapons or components

Ground-launched, sea-launched or air-launched direct ascending missiles to destroy space objects by direct collision, explosion or projectile emission.

(ii) Required acts to prevent such weapons

Refrain from developing vehicles for high delta-v interception of space objects.

Refrain from testing devices in high delta-v intercept mode.

Distinguishing between normal rocket launches to reach high altitudes and high delta-v intercept missions is not an easy monitoring task. Therefore, the flight path of rocket missions should be kept outside a minimum distance (possibly 100 Km.) of objects in space.

(iii) Description of weapon and stage of development

Ground and air-launched devices of this kind are at the most advanced development stage in a weapon mode. Tests in ASAT, ABM and ATBM modes have already been carried out. They get their weapons capability by combining the launching and aiming devices. For altitudes up to about 1,000 Km. ground or air-launched carriers may be used. The entire procedure from missile launch to intercept would take about 10 minutes. For higher altitudes large ground-launched rockets carrying the homing device are necessary. Interception of an object in geostationary orbit would take about one hour.

Missiles with homing devices for high delta-v intercept have to be understood as the weapons part of a comprehensive early detection, aiming and pointing system of space-based and land-based components with extensive communication among the system's elements.

(iv) Type of verification

Effectively monitoring compliance with a prohibition on this kind of weapon is difficult. Installation and preparation of large ground-launched rockets for high altitude intercept can, to a certain degree, be monitored by NTM. If the launching sites are known, a close on-site inspection would further reduce uncertainty.

Weapon systems using small carriers and, in particular, the air-launched missiles are, however, hardly accessible to NTM. Even on-site inspections in the vicinity of launching aircraft can easily be circumvented by covert stockpiling. Only field tests of the system can be monitored by NTM and other means. A fully developed and field-tested weapon system poses nearly insurmountable verification problems. Therefore, the most effective way to verify compliance with an effective ban is to prohibit immediately any further testing of such weapon systems, since they are not operational yet.

This is a chance for an effective monitoring system for adequate verification minimizing the residual risk. The gap between verifiability and acceptability would widen with each further field test until a threshold is skipped where effective verification is no longer feasible.

2. Ground-based mass drivers (rail guns)

(i) Kind of space weapons or components

Ground-based electomagnetic mass drivers (rail guns) using small masses as projectiles.

(ii) Required acts to prevent such weapons

Refrain from using projectiles of ground-based mass drivers against space objects.

(iii) Description of weapon and stage of development

Devices of this kind are still in a laboratory stage of development. No space weapon capability has been reached so far. The size of the linear accelerator is of the order of meters. In weapons mode, the accelerator sledge needs precise pointing towards the target.

(iv) Type of verification

Close monitoring of the surface activities using NTM could bring some confidence. The required level of security for adequate verification can, however, only be achieved by on-site inspection.

Space mines and collision bodies

1. Space mines

(i) Kind of space weapons or components

Space mines are devices which manoeuvre close to a target spacecraft and explode on command, destroying the target with the debris from the explosion.

(ii) Required acts to prevent such weapons

Refrain from:

developing devices with exploding mechanisms aimed at destroying space objects;

launching such devices;

manoeuvring such devices close to space objects.

Explosives on board of space objects should only be used in a very limited mode. Any unnecessary creation of debris should be avoided. The dedicated development of exploding mechanisms for collision purposes by debris as a result of the explosion should be strictly prohibited. Launching such devices into outer space should be avoided. Manoeuvring of such devices close to a space object and any test of the device should be strictly prohibited. A keep-out zone around the space object of a radius of several kilometres might be sufficient, say, for conventional explosives in order to prevent reliable testing.

(iii) Description of weapon and stage of development

Space mines would constitute a typical ASAT weapon. They are manoeuvrable objects deployed in space covertly or openly only for the purpose of destroying distinct space objects on command. For an attack, the space mine would change its orbit to approach the target satellite with support from ground-based and space-based tracking systems and on-board homing sensors. The technology necessary to develop this weapon system is currently available. Launching procedures and manoeuvres close to a target space object would be easily detectable by tracking systems and space sensors but could hardly be distinguished from normal orbital rendezvous procedures.

(iv) Type of verification

Effectively monitoring compliance with a prohibition agreement is a difficult task. The most promising procedure would be the observance of keep-out zones around space objects of other States incorporated in a general framework of rules of the road in outer space.

Such behaviour can be monitored by NTM.

Tests of the manoeuvring part of a space mine mission can, however, hardly be distinguished from rendezvous procedures.

A measure that would ease the verification process would be the early prohibition of space mine tests. This would prevent development and deployment of effective space mines. Prior notification of planned launches and orbital changes in conjunction with on-site inspections before launch would considerably lower the remaining risk of the verification process.

2. Manoeuvrable collision bodies

(i) Kind of space weapons or components

Collision bodies are space objects placed in orbit which are capable of changing their position and approaching other space objects at high speed. Relative velocities in excess of one meter per second would, for some space objects, be sufficient to cause irreversible damage.

(ii) Required acts to prevent such weapons

Prohibition of devices on board of space objects for homing in at high speed.

Refrain from homing-in tests at high velicity.

Strictly observe keep-out zones around space objects of other States.

Since collisions at any speed are not necessary for exploration purposes and non-weapon applications, such manoeuvres should generally be prohibited. To that end, it would be necessary neither to develop nor test devices for homing-in procedures at high speed. Approaches of space objects at high speed should be kept outside a minimum distance (possibly 100 Km.).

(iii) Description of weapon and stage of development

A manoeuvrable collision body incorporates some features of a space mine and some of a space-based or ground-based collision device. A weapon of this kind would possess a high degree of manoeuvrability and a precise homing device. Strict observance of a keep-out zone around possible target spacecraft would effectively prevent weapon mode applications. Many existing spacecraft possess, to a certain degree, the capability to be used in a weapon mode of this kind. As a weapon system, however, they are not very efficient.

(iv) Type of verification

Verification that could effectively monitor compliance with an agreement prohibiting development and deployment is difficult. Tests of such a system would only partly be amenable to NTM. Inspection of the spacecraft before launch would not considerably enhance the level of confidence. Monitoring of the observance of keep-out zones is, however, effectively feasible through NTM.

3. Forming clouds of small collision bodies

(i) Kind of space weapons or components

Clouds formed by a large number of small collision bodies (metal pellets).

(ii) Required acts to prevent such weapons

Refrain from intentional injection of pellets into outer space.

Reduce explosions in outer space to the lowest level possible in order not to create debris.

Any intentional ejection of small bodies from spacecraft in outer space should strictly be prohibited. Aiming devices for projectile emission from spacecraft should neither be developed nor deployed. The production of debris by explosion or normal operation of spacecraft should be kept to an absolute minimum.

(iii) Description of weapon and stage of development

A weapons application of this kind would consist of a spacecraft capable of emitting a large number of small metal pellets which would be directed towards a target space object in the form of a narrow beam or by spreading over a large area and would cause damage by collision. This could even be extended to endangering a whole region of orbits, such as the geostationary orbit zone. Even in relatively small quantities such collision bodies would pose potential danger to any space mission that crosses the cloud of pellets.

(iv) Type of verification

Effective verification of compliance with an agreement prohibiting application of clouds of small collision bodies would only be possible by on-site inspection of the spacecraft before launch. Deployment in space of such pellets can hardly be monitored because of their small radar and optical cross sections.

CONFERENCE ON DISARMAMENT

CD/933
CD/OS/WP.34
13 July 1989

Original: ENGLISH

LETTER DATED 13 JULY 1989 FROM THE PERMANENT REPRESENTATIVE OF THE THE GERMAN DEMOCRATIC REPUBLIC ADDRESSED TO THE SECRETARY-GENERAL OF THE CONFERENCE ON DISARMAMENT TRANSMITTING A WORKING PAPER ENTITLED "SURVEY OF INTERNATIONAL LAW RELEVANT TO IMMUNITY AND PROTECTION OF OBJECTS IN SPACE AND TO OTHER BASIC PRINCIPLES OF OUTER SPACE ACTIVITIES"

On behalf of the German Democratic Republic, Bulgaria and Hungary, I have the honour to submit to you herewith the enclosed text of a working paper, entitled "Survey of international law relevant to immunity and protection of objects in space and to other basic principles of outer space activities", on item 5 of the agenda of the Conference on Disarmament.

I should be grateful if you would arrange for the distribution of this working paper as an official document of the Conference on Disarmament and of the Ad hoc Committee on Prevention of an Arms Race in Outer Space.

(Signed) Peter Dietze
Ambassador

GERMAN DEMOCRATIC REPUBLIC, BULGARIA AND HUNGARY

Working Paper

Survey of international law relevant to immunity and protection of objects in space and to other basic principles of outer space activities

I

The legal protection of space objects is a matter of interest for all States participating in the exploration and use of outer space. It would be an important confidence-building measure and contribute to the strengthening of stability and international security.

The presented survey of international law relevant to immunity and protection of space objects indicates that the existing legal régime for outer space is adding to the protection of space objects. It is of essential importance that all States strictly comply with these agreements and apply all its specific provisions.

The survey also shows that the existing legal régime does not guarantee an all-embracing protection of objects in outer space. The most serious threat to these objects would result from the deployment of weapons in space. Additional measures are needed. They could include, inter alia,

- confidence-building measures, including obligations regarding the enlarged exchange of information and appropriate mechanisms for consultation, inspection and control;

- multilaterally binding obligations on granting immunity to objects in outer space, including "rules of the road" and/or a "code of conduct";

- prohibition of the "weaponization" of outer space and of certain space activities, as the deliberate destruction, the interference with the normal functioning of space objects and the change of their trajectories; the testing of all space weapons; the utilization of space objects for weapons purposes.

Further codification and development of existing rules of international law relating to the protection of space objects would be an essential step towards preventing an arms race in outer space.

Finally, it should be mentioned that a precise definition of the term "space object" reached by multilateral agreement could be very helpful in regard to any issue which might arise relating to the topic in question.

II

The following conclusions can be drawn from the review of international law regarding immunity and protection of objects in outer space (see Annex):

(1) The threat or use of force against an object in outer space is prohibited by generally accepted norms of international law, which are explicitly outlined in special outer space agreements.

(Article 2 United Nations Charter; Declaration on Principles; Article 3 Outer Space Treaty; Article 2 Moon Treaty)

(2) States have to carry on activities in the exploration and use of outer space in the interest of maintaining international peace and security. Emplacement and testing of any kind of weapons of mass destruction is prohibited. The moon and other celestial bodies should not be used for other than exclusively peaceful purposes.

(Article 1 Partial Test-Ban Treaty;
Articles 3, 4 Outer Space Treaty; Article 3 Moon Treaty)

(3) Special objects in outer space suitable to improve international confidence and political stability through verification in the military field are especially protected only on the bilateral level by agreements between the United States and the Soviet Union.

(Article 12 ABM Treaty; Article 5 SALT I; Article 15 SALT II)

(4) Existing multilateral treaties include some essential provisions aimed at guaranteeing the rights of a State with respect to objects it has launched into outer space, in particular norms regulating:

- the relation between registration of a space object by the launching State, on the one hand, and rights of national ownership and jurisdiction, on the other.

  (Article 9 Outer Space Treaty; Article 2 Convention on Registration);

- duties relating to the return of a space object or component parts to the State on whose registry they are enlisted, including special rules on rescue and return of astronauts in the case of accident or any technical disturbance.

  (Articles 5, 8 Outer Space Treaty; Articles 1-6 Rescue Agreement; Articles 10, 12 Moon Treaty);

- conditions regarding international responsibility and liability of a State for damage caused to other space objects.

  (Articles 6, 7 Outer Space Treaty; Articles 3-6 Convention on Liability; Article 14 Moon Treaty);

(5) The protection of objects in outer space is supported by rules of conduct upon which States have agreed in order to prevent any conflict or misunderstanding in connection with space activities, as for instance:

- the duty to carry out such activities in the interest of all countries without discrimination;

- the duty to furnish to a special register of the Secretary-General of the United Nations information regarding objects launched into outer space to the extent practicable;

- the duty not to interfere with the activities of other States on celestial bodies.

(Articles 1, 9-12 Outer Space Treaty; Articles 3-5 Convention on Registration; Articles 5, 8, 9, 13, 15 Moon Treaty)

The United States and the Soviet Union have established detailed notification mechanisms aimed at reducing the risk of nuclear war.

(Articles 3, 4 Agreement to reduce the Nuclear Risk;
Articles 2, 3 Agreement on Nuclear Risk Reduction Centres;
Articles 1, 3 Agreement on Notification of Launches)

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- Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water (opened for signature at 8 August 1963 entered into force at 10 October 1963) 3/	Partial Test-Ban Treaty
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I. Basic norms

(a) United Nations Charter

Article 2

3. All Members shall settle their international disputes by peaceful means in such a manner that international peace and security, and justice, are not endangered.

4. All Members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any State, or in any other manner inconsistent with the purposes of the United Nations.

(b) Declaration on Principles

... Every State has the duty to refrain in its international relations from the threat or use of force ... in any ... manner inconsistent with the purposes of the United Nations. Such a threat or use of force constitutes a violation of international law and the Charter of the United Nations and shall never be employed as a means of settling international issues ...

All States shall comply in good faith with their obligations under the generally recognized principles and rules of international law with respect to the maintenance of international peace and security, ...

States parties to an international dispute, as well as other States, shall refrain from any action which may aggravate the situation so as to endanger the maintenance of international peace and security, and shall act in accordance with the purposes and principles of the United Nations. ...

(c) Partial Test-Ban Treaty

Article 1

1. Each of the Parties to this Treaty undertakes to prohibit, to prevent, and not to carry out any nuclear weapon test explosion, or any other nuclear explosion, at any place under its jurisdiction or control:

(a) in the atmosphere; beyond its limits, including outer space; or under water, including territorial waters or high seas; or

(b) in any other environment if such explosion causes radioactive debris to be present outside the territorial limits of the State under whose jurisdiction or control such explosion is conducted.

...

(d) Outer Space Treaty

Article 1

The exploration and use of outer space, including the moon and other celestial bodies, shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic or scientific development, and shall be the province of all mankind.

Outer space, including the moon and other celestial bodies, shall be free for exploration and use by all States without discrimination of any kind, on a basis of equality and in accordance with international law, and there shall be free access to all areas of celestial bodies.

There shall be freedom of scientific investigation, in outer space, including the moon and other celestial bodies, and States shall facilitate and encourage international co-operation in such investigation.

Article 3

States Parties to the Treaty shall carry on activities in the exploration and use of outer space, including the moon and other celestial bodies, in accordance with international law, including the Charter of the United Nations, in the interest of maintaining international peace and security and promoting international co-operation and understanding.

Article 4

States Parties to the Treaty undertake not to place in orbit around the earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner.

The moon and other celestial bodies shall be used by all States Parties to the Treaty exclusively for peaceful purposes. The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military manoeuvres on celestial bodies shall be forbidden. The use of military personnel for scientific research or for any other peaceful purposes shall not be prohibited. The use of any equipment or facility necessary for peaceful exploration of the moon and other celestial bodies shall also not be prohibited.

(e) Moon Treaty

Article 1

1. The provisions of this Agreement relating to the moon shall also apply to other celestial bodies within the solar system, other than the earth, except in so far as specific legal norms enter into force with respect to any of these celestial bodies.

2. For the purposes of this Agreement reference to the moon shall include orbits around or other trajectories to or around it. ...

Article 2

All activities on the moon, including its exploration and use, shall be carried out in accordance with international law, in particular the Charter of the United Nations, and taking into account the Declaration on Principles of International Law concerning Friendly Relations and Co-operation among States in accordance with the Charter of the United Nations, adopted by the General Assembly on 24 October 1970, in the interest of maintaining international peace and security and promoting international co-operation and mutual understanding, and with due regard to the corresponding interests of all other States Parties.

Article 3

1. The moon shall be used by all States Parties exclusively for peaceful purposes.

2. Any threat or use of force or any other hostile act or threat of hostile act on the moon is prohibited. It is likewise prohibited to use the moon in order to commit any such act or to engage in any such threat in relation to the earth, the moon, spacecraft, the personnel of spacecraft or man-made space objects. ...

II. Norms concerning national jurisdiction over, and ownership of relating to objects after their launch into outer space

General rules

(a) Outer Space Treaty

Article 8

A State Party to the Treaty on whose registry an object launched into outer space is carried shall retain jurisdiction and control over such object, and over any personnel thereof, while in outer space or on a celestial body. Ownership of objects launched into outer space, including objects landed or constructed on a celestial body, and of their component parts, is not affected by their presence in outer space or on a celestial body or by their return to the earth. Such objects or component parts found beyond the limits of the State Party to the Treaty on whose registry they are carried shall be returned to that State Party, which shall, upon request, furnish identifying data prior to their return.

(b) Convention on Registration

Article 2

1. When a space object is launched into earth orbit or beyond, the launching State shall register the space object by means of an entry in an appropriate registry which it shall maintain. Each launching State shall inform the Secretary-General of the United Nations of the establishment of such a registry.

2. Where there are two or more launching States in respect of any such space object, they shall jointly determine which one of them shall register the object in accordance with paragraph 1 of this article, bearing in mind the

provisions of article VIII of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, and without prejudice to appropriate agreements concluded or to be concluded among the launching States on jurisdiction and control over the space object and over any personnel thereof.

3. The contents of each registry and the conditions under which it is mantained shall be determined by the State of registry concerned.

(c) Rescue Agreement

Article 6

For the purposes of this Agreement, the term "launching authority" shall refer to the State responsible for launching, or, where an international intergovernmental organization is responsible for launching, that organization, provided that that organization declares its acceptance of the rights and obligations provided for in this Agreement and a majority of the States members of that organization are Contracting Parties to this Agreement and to the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies.

(d) Moon Treaty

Article 12

1. States Parties shall retain jurisdiction and control over their personnel, vehicles, equipment, facilities, stations and installations on the moon. The ownership of space vehicles, equipment, facilities, stations and installations shall not be affected by their presence on the moon.

Special rules regarding astronauts

(a) Outer Space Treaty

Article 5

States Parties to the Treaty shall regard astronauts as envoys of mankind in outer space and shall render to them all possible assistance in the event of accident, distress, or emergency landing on the territory of another State Party or on the high seas. When astronauts make such a landing, they shall be safely and promptly returned to the State of registry of their space vehicle.

In carrying on activities in outer space and on celestial bodies, the astronauts of one State Party shall render all possible assistance to the astronauts of other States Parties.

States Parties to the Treaty shall immediately inform the other States Parties to the Treaty or the Secretary-General of the United Nations of any phenomena they discover in outer space, including the moon and other celestial bodies, which could constitute a danger to the life or health of astronauts.

(b) Moon Treaty

Article 10

1. States Parties shall adopt all practicable measures to safeguard the life and health of persons on the moon. For this purpose they shall regard any person on the moon as an astronaut within the meaning of article V of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies and as part of the personnel of a spacecraft within the meaning of the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space.

2. States Parties shall offer shelter in their stations, installations, vehicles and other facilities to persons in distress on the moon.

Article 12

...

3. In the event of an emergency involving a threat to human life, States Parties may use the equipment, vehicles, installations, facilities or supplies of other States Parties on the moon. Prompt notification of such use shall be made to the Secretary-General of the United Nations or the State Party concerned. ...

International responsibility and liability

(a) Outer Space Treaty

Article 6

States parties to the Treaty shall bear international responsibility for national activities in outer space, including the moon and other celestial bodies, whether such activities are carried on by governmental agencies or by non-governmental entities, and for assuring that national activities are carried out in conformity with the provisions set forth in the present Treaty. The activities of non-governmental entities in outer space, including the moon and other celestial bodies, shall require authorization and continuing supervision by the appropriate State Party to the Treaty. When activities are carried on in outer space, including the moon and other celestial bodies, by an international organization, responsibility for compliance with this Treaty shall be borne both by the international organization and by the States Parties to the Treaty participating in such organization.

Article 7

Each State Party to the Treaty that launches or procures the launching of an object into outer space, including the moon and other celestial bodies, and each State Party from whose territory or facility an object is launched, is internationally liable for damage to another State Party to the Treaty or to its natural or juridical persons by such object or its component parts on the earth, in air or in outer space, including the moon and other celestial bodies.

(b) Convention on Liability

Article 3

In the event of damage being caused elsewhere than on the surface of the earth to a space object of one launching State or to persons or property on board such a space object by a space object of another launching State, the latter shall be liable only if the damage is due to its fault or the fault of persons for whom it is responsible.

Article 4

1. In the event of damage being caused elsewhere than on the surface of the earth to a space object of one launching State or to persons or property on board such a space object by a space object of another launching State, and of damage thereby being caused to a third State or to its natural or juridical persons, the first two States shall be jointly and severally liable to the third State, to the extent indicated by the following:

(a) If the damage has been caused to the third State on the surface of the earth or to aircraft in flight, their liability to the third State shall be absolute;

(b) If the damage has been caused to a space object of the third State or to persons or property on board that space object elsewhere than on the surface of the earth, their liability to the third State shall be based on the fault of either of the first two States or on the fault of persons for whom either is responsible.

2. In all cases of joint and several liability referred to in paragraph 1 of this article, the burden of compensation for the damage shall be apportioned between the first two States in accordance with the extent to which they were at fault; if the extent of the fault of each of these States cannot be established, the burden of compensation shall be apportioned equally between them. Such apportionment shall be without prejudice to the right of the third State to seek the entire compensation due under this Convention from any or all of the launching States which are jointly and severally liable.

Article 5

1. Whenever two or more States jointly launch a space object, they shall be jointly and severally liable for any damage caused.

2. A launching State which has paid compensation for damage shall have the right to present a claim for indemnification to other participants in the joint launching. The participants in a joint launching may conclude agreements regarding the apportioning among themselves of the financial obligation in respect of which they are jointly and severally liable. Such agreements shall be without prejudice to the right of a State sustaining damage to seek the entire compensation due under this Convention from any or all of the launching States which are jointly and severally liable.

3. A State from whose territory or facility a space object is launched shall be regarded as a participant in a joint launching.

Article 6

1. Subject to the provisions of paragraph 2 of this article, exoneration from absolute liability shall be granted to the extent that a launching State establishes that the damage has resulted either wholly or partially from gross negligence or from an act or omission done with intent to cause damage on the part of a claimant State or of natural or juridical persons it represents.

2. No exoneration whatever shall be granted in cases where the damage has resulted from activities conducted by a launching State which are not in conformity with international law including, in particular, the Charter of the United Nations and the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies.

(c) Moon Treaty

Article 14

1. States Parties to this Agreement shall bear international responsibility for national activities on the moon, whether such activities are carried on by governmental agencies or by non-governmental entities, and for assuring that national activities are carried out in conformity with the provisions set forth in this Agreement. States Parties shall ensure that non-governmental entities under their jurisdiction shall engage in activities on the moon only under the authority and continuing supervision of the appropriate State Party. ...

Additional guarantees to national technical means of verification

(a) ABM Treaty/SALT I/SALT II

Articles 12/5/15

1. For the purpose of providing assurance of compliance with the provisions of this Treaty, each Party shall use national technical means of verification at its disposal in a manner consistent with generally recognized principles of international law.

2. Each party undertakes not to interfere with the national technical means of verification of the other Party operating in accordance with paragraph 1 of this Article.

3. Each Party undertakes not to use deliberate concealment measures which impede verification by national technical means of compliance with the provisions of this Treaty. This obligation shall not require changes in current construction, assembly, conversion, or overhaul practices.

(b) ITU Convention

Article 38

Installations for National Defence Services

1. Members retain their entire freedom with regard to military radio installations of their army, naval and air forces.

2. Nevertheless, these installations must, so far as possible, observe statutory provisions relative to giving assistance in case of distress and to the measure to be taken to prevent harmful interference, and the provisions of the Administrative Regulations concerning the types of emission and the frequencies to be used, according to the nature of the services performed by such installations.

...

(The full freedom to use military radio communication means is guaranteed to the members.

So far as possible they have to respect the rules regarding help in case of disaster, measures to prevent disturbances and relating to special frequencies which have to be used.)

III. Other main principles of activities in outer space

(a) Outer Space Treaty

Article 9

In the exploration and use of outer space, including the moon and other celestial bodies, States Parties to the Treaty shall be guided by the principle of co-operation and mutual assistance and shall conduct all their activities in outer space, including the moon and other celestial bodies, with due regard to the corresponding interests of all other States Parties to the Treaty. States Parties to the Treaty shall pursue studies of outer space, including the moon and other celestial bodies, and conduct exploration of them so as to avoid their harmful contamination and also adverse changes in the environment of the earth resulting from the introduction of extraterrestrial matter and, where necessary, shall adopt appropriate measures for this purpose. If a State Party to the Treaty has reason to believe that an activity or experiment planned by it or its nationals in outer space, including the moon and other celestial bodies, would cause potentially harmful interference with activities of other States Parties in the peaceful exploration and use of outer space, including the moon and other celestial bodies, it shall undertake appropriate international consultations before proceeding with any such activity or experiment. A State Party to the Treaty which has reason to believe that an activity or experiment planned by another State Party in outer space, including the moon and other celestial bodies, would cause potentially harmful interference with activities in the peaceful exploration and use of outer space, including the moon and other celestial bodies, may request consultation concerning the activity or experiment.

Article 10

In order to promote international co-operation in the exploration and use of outer space, including the moon and other celestial bodies, in conformity with the purposes of this Treaty, the States Parties to the Treaty shall consider on a basis of equality any requests by other States Parties to the Treaty to be afforded an opportunity to observe the flight of space objects launched by those States.

The nature of such an opportunity for observation and the conditions under which it could be afforded shall be determined by agreement between the States concerned.

Article 11

In order to promote international co-operation in the peaceful exploration and use of outer space, States Parties to the Treaty conducting activities in outer space, including the moon and other celestial bodies, agree to inform the Secretary-General of the United Nations as well as the public and the international scientific community, to the greatest extent feasible and practicable, of the nature, conduct, locations and results of such activities. On receiving the said information, the Secretary-General of the United Nations should be prepared to disseminate it immediately and effectively.

Article 12

All stations, installations, equipment and space vehicles on the moon and other celestial bodies shall be open to representatives of other States Parties to the Treaty on a basis of reciprocity. Such representatives shall give reasonable advance notice of a projected visit, in order that appropriate consultations may be held and that maximum precautions may be taken to assure safety and to avoid interference with normal operations in the facility to be visited.

(b) Agreement to reduce the nuclear risk

Article 3

The Parties undertake to notify each other immediately in the event of detection by missile warning systems of unidentified objects, or in the event of signs of interference with these systems or with related communications facilities, if such occurrences could create a risk of outbreak of nuclear war between the two countries.

Article 4

Each Party undertakes to notify the other Party in advance of any planned missile launches if such launches will extend beyond its national territory in the direction of the other Party.

(c) Convention on Registration

Article 3

1. The Secretary-General of the United Nations shall maintain a Register in which the information furnished in accordance with article IV shall be recorded.

2. There shall be full and open access to the information in this Register.

Article 4

1. Each State of registry shall furnish to the Secretary-General of the United Nations, as soon as practicable, the following information concerning each space object carried on its registry:

(a) Name of launching State or States;

(b) An appropriate designator of the space object or its registration number;

(c) Date and territory or location of launch;

(d) Basic orbital parameters, including:

(i) Nodal period,

(ii) Inclination,

(iii) Apogee,

(iv) Perigee;

(e) General function of the space object.

2. Each State of registry may, from time to time, provide the Secretary-General of the United Nations with additional information concerning a space object carried on its registry.

3. Each State of registry shall notify the Secretary-General of the United Nations, to the greatest extent feasible and as soon as practicable, of space objects concerning which it has previously transmitted information, and which have been but no longer are in earth orbit.

Article 5

Whenever a space object launched into earth orbit or beyond is marked with the designator or registration number referred to in article IV, paragraph 1 (b), or both, the State of registry shall notify the Secretary-General of this fact when submitting the information regarding the space object in accordance with article IV. In such case, the Secretary-General of the United Nations shall record this notification in the Register.

(d) Moon Treaty

Article 5

1. States Parties shall inform the Secretary-General of the United Nations as well as the public and the international scientific community, to the greatest extent feasible and practicable, of their activities concerned with the exploration and use of the moon. Information on the time, purposes, locations, orbital parameters and duration shall be given in respect of each mission to the moon as soon as possible after launching, while information on the results of each mission, including scientific results, shall be furnished upon completion of the mission. In the case of a mission lasting more than 60 days, information on conduct of the mission, including any scientific results, shall be given periodically, at 30-day intervals. For missions lasting more than six months, only significant additions to such information need be reported thereafter.

2. If a State Party becomes aware that another State Party plans to operate simultaneously in the same area of or in the same orbit around or trajectory to or around the moon, it shall promptly inform the other State of the timing of and plans for its own operations.

Article 8

1. States Parties may pursue their activities in the exploration and use of the moon anywhere on or below its surface, subject to the provisions of this Agreement.

2. For these purposes States Parties may, in particular:

(a) Land their space objects on the moon and launch them from the moon;

(b) Place their personnel, space vehicles, equipment, facilities, stations and installations anywhere on or below the surface of the moon.

Personnel, space vehicles, equipment, facilities, stations and installations may move or be moved freely over or below the surface of the moon.

3. Activities of States Parties in accordance with paragraphs 1 and 2 of this article shall not interfere with the activities of other States Parties on the moon. Where such interference may occur, the States Parties concerned shall undertake consultations in accordance with article 15, paragraphs 2 and 3, of this Agreement.

Article 9

1. States Parties may establish manned and unmanned stations on the moon. A State Party establishing a station shall use only that area which is required for the needs of the station and shall immediately inform the Secretary-General of the United Nations of the location and purposes of that station. Subsequently, at annual intervals that State shall likewise inform the Secretary-General whether the station continues in use and whether its purposes have changed.

2. Stations shall be installed in such a manner that they do not impede the free access to all areas of the moon of personnel, vehicles and equipment of other States Parties conducting activities on the moon in accordance with the provisions of this Agreement or of article I of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies.

Article 13

A State Party which learns of the crash landing, forced landing or other unintended landing on the moon of a space object, or its component parts, that were not launched by it, shall promptly inform the launching State Party and the Secretary-General of the United Nations.

Article 15

1. Each State Party may assure itself that the activities of other States Parties in the exploration and use of the moon are compatible with the provisions of this Agreement. To this end, all space vehicles, equipment, facilities, stations and installations on the moon shall be open to other States Parties. Such States Parties shall give reasonable advance notice of a projected visit, in order that appropriate consultations may be held and that maximum precautions may be taken to assure safety and to avoid interference with normal operations in the facility to be visited. In pursuance of this article, any State Party may act on its own behalf or with the full or partial assistance of any other State Party or through appropriate International procedures within the framework of the United Nations and in accordance with the Charter.

2. A State Party which has reason to believe that another State Party is not fulfilling the obligations incumbent upon it pursuant to this Agreement or that another State Party is interfering with the rights which the former State has under this Agreement may request consultations with that State Party. A State Party receiving such a request shall enter into such consultations without delay. Any other State Party which requests to do so shall be entitled to take part in the consultations. Each State Party participating in such consultations shall seek a mutually acceptable resolution of any controversy and shall bear in mind the rights and interests of all States Parties. The Secretary-General of the United Nations shall be informed of the results of the consultations and shall transmit the information received to all States Parties concerned.

3. If the consultations do not lead to a mutually acceptable settlement which has due regard for the rights and interests of all States Parties, the Parties concerned shall take all measures to settle the dispute by other peaceful means of their choice appropriate to the circumstances and the nature of the dispute. If difficulties arise in connection with the opening of consultations or if consultations do not lead to a mutually acceptable settlement, any State Party may seek the assistance of the Secretary-General, without seeking the consent of any other State Party concerned, in order to resolve the controversy. A State Party which does not maintain diplomatic relations with another State Party concerned shall participate in such consultations, at its choice, either itself or through another State Party or the Secretary-General as intermediary.

(e) Agreement on Nuclear Risk Reduction Centres

Article 2

The Parties shall use the Nuclear Risk Reduction Centres to transmit notifications identified in Protocol I which constitutes an integral part of this Agreement.

Protocol I

Article 1

The Parties shall transmit the following types of notifications through the Nuclear Risk Reduction Centres:

(a) Notifications of ballistic missile launches under article 4 of the Agreement on Measures to Reduce the Risk of Outbreak of Nuclear War between the United States of America and the Union of Soviet Socialist Republics of 30 September 1971;

(b) Notifications of ballistic missile launches under paragraph 1 of article VI of the Agreement between the Government of the United States of America and the Government of the Union of Soviet Socialist Republics on the Prevention of Incidents on and over the High Seas of 25 May 1972.

Article 3

Each Party also may, at its own discretion as a display of goodwill and with a view to building confidence, transmit through the Nuclear Risk Reduction Centres communications other than those provided for under article 1 of this Protocol.

Article 3

The Parties shall establish a special facsimile communications link between their national Nuclear Risk Reduction Centres in accordance with Protocol II which constitutes an integral part of this Agreement.

(f) Agreement on Notifications of Launches

Article 1

Each Party shall provide the other Party notification, through the Nuclear Risk Reduction Centres of the United States of America and the Union of Soviet Socialist Republics, no less than 24 hours in advance, of the planned date, launch area, and area of impact for any launch of a strategic ballistic missile: an intercontinental ballistic missile (hereinafter "ICBM") or a submarine-launched ballistic missile (hereinafter "SLBM").

Article 3

...

3. For all launches of ICBMs or SLBMs, the notification shall indicate the geographic co-ordinates of the planned impact area or areas of the re-entry vehicles. Such an area shall be specified either by indicating the geographic co-ordinates of the boundary points of the area, or by indicating the geographic co-ordinates of the centre of a circle with a radius specified in kilometres or nautical miles. The size of the impact area shall be determined by the notifying Party at its discretion.

Notes

1/ No. 67, United Kingdom Treaty Series, Cmd. 7015.

2/ English text in: Arangio-Ruiz, G., The United Nations Declaration on Friendly Relations and the System of the Sources of International Law, Germantown (1979).

3/ English text in: Status of Multilateral Arms Regulation and Disarmament Agreements, United Nations, New York, 1988.

4/ 610 United Nations Treaty Series 206.

5/ 672 United Nations Treaty Series 119.

6/ 807 United Nations Treaty Series 57.

7/ No. 16, United Kingdom Treaty Series, Cmd. 5551.

8/ Treaties and Other International Acts, Series 7503 (Washington: US Department of State, 1973).

9/ Id. Series 7504.

10/ No. 70, United Kingdom Treaty Series, Cmd. 7271.

11/ CD/28, 29.

12/ United Nations document A/RES/34, 68, 14 December 1979.

13/ BGBl. II No. 11 (1985), pp. 426-530.

14/ CD/815.

15/ CD/847.

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CONFERENCE ON DISARMAMENT

CD/937
CD/OS/WP.35
21 July 1989

ENGLISH
Original: FRENCH

LETTER DATED 20 JULY 1989 FROM THE REPRESENTATIVE OF FRANCE ADDRESSED TO THE SECRETARY-GENERAL OF THE CONFERENCE ON DISARMAMENT TRANSMITTING A WORKING PAPER ENTITLED "PREVENTION OF AN ARMS RACE IN OUTER SPACE: PROPOSALS CONCERNING MONITORING AND VERIFICATION AND SATELLITE IMMUNITY"

I have the honour to transmit to you herewith in connection with item 5 of the agenda of the Conference on Disarmament a working paper entitled "Prevention of an arms race in outer space: proposals concerning monitoring and verification and satellite immunity".

I should be grateful if you would arrange for its circulation in all the languages of the Conference as an official document of the Conference on Disarmament and the Ad hoc Committee on Prevention of an Arms Race in Outer Space.

(Signed) Pierre Morel
Ambassador
Representative of France
to the Conference on Disarmament

FRANCE

Working Paper

Prevention of an arms race in outer space: proposals concerning monitoring and verification and satellite immunity

By this document, France, in addition to providing a reminder of a number of points that have emerged from the work of the Ad hoc Committee on Prevention of an Arms Race in Outer Space, wishes to amplify its proposals on the use of outer space for monitoring and verification and on satellite immunity and to propose in this latter respect the creation of an international trajectography centre.

I. THE CONDITIONS FOR PREVENTION OF AN ARMS RACE IN OUTER SPACE

The very special nature of space questions explains in large measure the slowness of progress in this field and makes it one with which it is very hard to deal:

Unlike in other fields of disarmament, the devices concerned, which only a few States possess, operate in a geographical area that is common to all and unappropriated;

Once launched, these unmanned vehicles travel constantly at very high speeds under very limited control from the ground: being generally only slightly manoeuvrable, even those of the most peaceful intent have a potential destructive capacity in the event of collision;

Finally and above all, most of the technologies in question are still evolving. A state of continuing uncertainty as to their future development prevents us from weighing all the strategic implications and thus limits the possibility of negotiating on such systems. It is, after all, very difficult to distinguish in advance in terms of security what is important from what is secondary and what is dangerous from what is effective.

In the face of the complexity of this problem, we must avoid over-simplification and look the facts clearly in the face. Four points at least must be borne in mind when studying the question of the prevention of the arms race in outer space:

(1) First of all, military systems today account for the great majority of space activities and many of those systems - for example, observation

or early-warning satellites - have a manifestly stabilizing function. It would therefore be both illusory and inopportune to envisage complete demilitarization of outer space;

(2) Next, whatever its merits, the present legal régime for outer space is not adequate by itself to prevent an arms race there. This régime, comprising a series of partial agreements of which the most important are often bilateral and giving rise on occasion to intractable differences of interpretation, seems particularly deficient in that there is no provision concerning, for example, anti-satellite systems that are ground-based or that do not involve the use of nuclear weapons or weapons of mass destruction;

(3) Thirdly, operational anti-satellite systems already exist and numerous space objects not designed for the purpose have a potential ASAT capacity by mere collision. Consequently, an absolute ban on anti-satellite systems would seem unverifiable in practice; furthermore, it would be too broad if it was to include stabilizing systems because they might provoke collisions, and if, on the other hand, it was more restrictive, it would allow certain dangers to persist and could no longer be termed an absolute ban;

(4) Finally, the ASAT and ABM problems are closely linked: no multilateral regulation exercise aimed at prohibiting the permanent placing of weapons in space could advance independently of the United States-Soviet bilateral negotiations or, a fortiori, more rapidly than those negotiations.

These few considerations thus suffice to rule out measures which, while attractive in appearance, would in reality be delusive or unsuitable for multilateral treatment for the moment.

It is clear moreover that, in the current state of discussions within the Conference on Disarmament, there is no consensus as to what coercive measures would be appropriate to prevent an arms race in outer space.

But does this mean that we should give up? Certainly not. The multilateral bodies, and first and foremost the Conference on Disarmament, have a special role to play, alongside the bilateral efforts, in promoting further thought on these subjects and resolving the deadlock that we now see. They should first of all work to improve the technical knowledge of the issues and constraints of disarmament in space. Without that deeper knowledge, no agreement will be possible on the means to be applied.

The Conference on Disarmament can also identify pragmatically the fields in which a consensus seems possible here and now. From this standpoint, France notes a welcome change of attitude in two important fields: there is increasing recognition of the usefulness of space for verification and growth in many countries' interest in the subject of the legal immunity of satellites. It is these two subjects that the present working paper is intended to develop.

II. THE PROSPECTS OFFERED BY SPACE OBSERVATION

Space is not just an area for disarmament; it is also a potential tool of disarmament, thanks to the possibility of satellite verification of agreements. Whereas the very concept of verification was long a stumbling block for disarmament efforts, the context has now changed profoundly and the means of verification that are currently envisaged or already in use are substantially more sophisticated and diverse. Moreover, there is now universal recognition of the need to provide an appropriate verification régime for each future agreement.

Similarly, the recent past has been marked by the growing recognition of the stabilizing role of observation satellites and the appearance of high-resolution satellites other than those of the United States and the Soviet Union.

These developments mean that it is now possible to envisage a greater contribution by space to the verification of disarmament agreements and confirm a posteriori the validity of the course France has been proposing since 1978.

After introducing at SSOD-I a proposal for an international satellite monitoring agency (ISMA), which was thoroughly studied by a United Nations group of experts from 1979 to 1981, France proposed at SSOD-III in June 1988 the implementation of the first phase envisaged for ISMA, in the form of an agency for the processing of satellite images (APSI).

This agency would:

Collect, process and disseminate data obtained by means of existing satellites;

Study satellite configurations for civilian purposes (natural disasters, development) or military purposes (verification and crises);

Train photo interpreters.

With regard to the first phase of ISMA, APSI introduces a civilian dimension aimed at allowing, on the one hand, for the lesser precision of data due to the civilian nature of the supplying satellites and, on the other, for the needs of developing countries.

For France, it is important to distinguish very clearly between monitoring and verification. The latter can only be undertaken within the context of a specific agreement, in order to ensure that the agreement is being complied with, and can only be carried out by the countries parties to the agreement.

The result as regards the use of satellites is a natural distinction between the general collection of data, which can be effected by multi-purpose observation satellites, and verification proper, the requirements of which can justify the development of new equipment specific to a particular treaty, to be employed solely by the parties to that treaty and, perhaps, linked to ground facilities.

It would therefore be conceivable, in the long term, to build, for the benefit of the entire international community or of the parties to a particular treaty, either general observation satellites or satellites specializing in the verification of a particular provision. That is one of the things envisaged for the third phase of ISMA.

But it seems to us preferable at the present stage to set as the objective for the initial phase the pooling of the existing data. APSI - a low-cost mechanism - would make possible both the essential training of national experts in the interpretation of space images and, above all, the assessment of what could actually be achieved with satellites in the fields of verification and monitoring. Only from this preliminary phase could the requirements for new systems and the possibilities of specific applications in the future be defined.

It must however be clear that such an agency would be a confidence-building device and would not be intended to be the embryo of a verification system with universal competence attached to the United Nations. The principle of the specificity of verification in fact argues against the entire international community's being responsible for the verification of every disarmament agreement whatever its nature and whoever the parties and seeking to employ one single instrument for that purpose.

III. THE LEGAL IMMUNITY OF SATELLITES: THE PRINCIPLE AND ITS APPLICATION

Our common goal is to guarantee the security of satellites and of space activities that deserve to be protected.

The means to be employed may, naturally, be national, through the active or passive protection of the satellites themselves:

"Active" protection by means of on-board defensive systems would, however, merely make the problem more complex, for such systems would be hard to distinguish from offensive systems;

"Passive" protection through shielding or hardening would, in reality, be costly and penalize the satellites in terms of weight.

But the desired protection can also be ensured multilaterally by providing legal protection through the medium of immunity.

We should continue our efforts to arrive at a consensus on measures acceptable to everyone. But the present difficulties show clearly that it is the legal approach, through satellite immunity, that best corresponds to the capacity for action of the Conference on Disarmament. Moreover, France observes with interest that this topic is being brought up more and more often in the statements made at this Conference.

The idea of immunity is at the heart of the proposals that France has put forward in recent years. This approach is based on a principle, non-interference, and on rules aimed at facilitating compliance with that principle, i.e. a "space code of conduct". For their application, France is today proposing the creation of an appropriate instrument in the form of a trajectography centre.

1. The principle of non-interference

For identifying satellites deserving protection there would seem to be only one effective criterion: whether or not they have the capacity to interfere actively with another satellite.

Deriving naturally from this is a principle: non-interference with non-aggressive space activities, i.e. with devices that do not themselves have a capacity for active interference.

This principle may seem to be already present implicitly in space law and therefore to be pointless or superfluous.

However, it is precisely because it already constitutes in a way a customary practice that it seems to France a likely object of consensus.

Above all, however, this principle is expressly mentioned only in United States-Soviet bilateral agreements and covers more specific situations and concepts than the general principle of the non-use of force laid down in the Charter of the United Nations.

It therefore deserves more explicit recognition by the international community as a whole. Such a more formal statement of the principle might not be sufficient on its own to ensure absolute protection, but it would at least provide an opportunity for a specific commitment by States to a common rule.

In addition, the efforts at definition that will be required for the adoption of this principle will help to clarify the issues in our discussions.

Generally speaking, by instituting an obligation of result and not of means, the approach we are proposing will avoid a number of technical difficulties and provides a way of covering effectively dangers that have been left out of account in most proposals, especially dangers emanating from ground-based devices.

The adoption of a principle of the kind in question would not, however, suffice without the elaboration at the same time of rules facilitating compliance with that principle.

2. A space code of conduct

In various statements in this chamber, France has described the two components of this concept.

First, implementation of the principle of non-interference requires better knowledge of the characteristics of space objects, and hence a strengthening of the 1975 Registration Convention.

One of the tasks for our Committee might therefore be to look into the question what are the typical features of a space object, those that enable it to be identified and a minimum of knowledge to be acquired concerning its principal functions.

Similarly, better knowledge is required of the trajectories of each object. For the moment, trajectories are known only thanks to the use of space tracking devices, most of which are owned by the United States or the Soviet Union.

Consequently, in order to increase confidence and knowledge of all space activities, consideration might be given to the declaration, at the time of the registration of each object, of characteristics such as the orbital elements, the manoeuvrability and the energy sources available or of functional data relating to the on-board equipment.

What would be an adequate degree of precision remains to be determined and the list I have just given is not exhaustive. The legal framework to be adopted for the new régime has also yet to be determined: is what is needed a revision of the 1975 Convention or the adoption of a new text or a resolution of the United Nations General Assembly? It is still too early to decide. On the other hand, we should, as a first step, define the possible content of the new régime so that it contributes as well as possible towards security for space activities.

Secondly, however reliable the future registration régime may be, it will have to be accompanied by rules of behaviour for space vehicles in order to reduce the risk of incidents and above all to avoid their misinterpretation.

The reason is that ignorance of the space environment and the diversity of possible kinds of interference with equipment in orbit might, at a time of tension, cause cessation of the operation of a device to be interpreted as being the result of hostile action justifying retaliation. It is essential, therefore, to be able to distinguish at any time between a breakdown or an involuntary collision and a deliberate attack.

The rules of conduct that might be envisaged would concern manoeuvres and the prevention of incidents. They would aim at minimizing the risk of accidental collisions, preventing the close-range co-orbital pursuit that is an essential feature of space-mine systems and generally ensuring better knowledge of space traffic.

These rules of conduct might provide, in particular for:

The regular updating, in the event of deliberate manoeuvres or drifting, of the orbital elements declared at the time of registration;

The keeping of a minimum distance between any two satellites placed in the same orbit;

Monitoring of close-range passing.

The aim is to be better aware at all times of the immediate environment of every space object and hence of the risks to which it is exposed.

These two components, the registration system and the rules of behaviour, would constitute a sort of embryo "rules of the road". In addition to the value of enhancing security in the absence of any agreement to limit the systems deployed, this pragmatic approach, in the form of confidence-building measures, ought to prove an acceptable working basis for all States:

It does not prejudge their willingness to subscribe to prohibition or limitation agreements later on and does not in any way impede the bilateral negotiations;

It does not seek to achieve, by different means, an effect equivalent to that of an interdictory régime;

It would none the less, by expanding technical knowledge and increasing confidence, facilitate the elaboration of more binding measures if States came to want them.

This strengthened registration system and code of conduct must, however, be based on an appropriate instrument that would facilitate their day-to-day implementation.

3. A management tool: a trajectography centre

Keeping to the kind of system of trust proposed would be more difficult for States that do not have their own high-performance tracking devices. Constant awareness of the environment of a given satellite requires substantial computing capacity and, above all, knowledge of the orbits of all other satellites.

That implies a régime of total transparency, which would seem incompatible with the constraints inherent in the preservation of technological and military secrets. In particular, the efficiency of the régime would depend in part on the constant updating of orbits and thus on the systematic notification of manoeuvres; to give, say, the precise position of an observation satellite is, however, to disclose thereby the precise object of its monitoring function.

How, then, to reconcile the constraints of confidentiality with the gathering of all the requisite information concerning satellites' trajectories? After an initial consideration of this question, France is of the view that the grouping of that information in a computer system operating on the "black box" principle could constitute an appropriate solution.

The kind of centre we have in mind would receive and store, without publishing it, the orbital data declared at the time of registration and updated in the event of any subsequent change of trajectory.

By calculating permanently in place of all States all the trajectories of the objects on record, the trajectography centre could fulfil a double role without needing to publish the confidential data entrusted to it:

It would spontaneously warn the parties concerned where objects were too close in the same orbit or expected to pass too close;

It would serve, through consultation machinery, to provide proof of good faith in the event of allegations of deliberate collision (failure to declare a manoeuvre in advance would, for example, be a telltale sign).

Such a trajectography centre, which could be run discreetly and at low cost, could, like APSI, be attached to the United Nations international Secretariat. It would be open to all interested States possessing or using satellites.

It would not, however, under any circumstances be any kind of regulatory body laying down rules applicable to space, but merely the instrument of a confidence-building régime to which States would subscribe on a voluntary basis.

Moreover, it would, like APSI, be dependent on the data provided by each of those States concerning its own satellites or the satellites it had detected. Provision could be made for consultation machinery to deal with any disputes as to the identities or positions of particular objects.

This kind of relatively modest mechanism would be an invaluable tool for resolving difficulties associated with the notification of space manoeuvres that is an essential condition for the effective prevention of incidents.

CONFERENCE ON DISARMAMENT

CD/OS/WP.36
26 July 1989

Original: ENGLISH

Ad Hoc Committee on
Prevention of an Arms Race
in Outer Space

Proposals by Sweden relating to prevention of an arms race in outer space

The Swedish delegation has the honour to submit the following proposals on the basis of its plenary statement on 11 July 1989:

Both of the leading nuclear and space powers continue to devote considerable resources to research on ballistic missile defences, which may have adverse implications for the ABM Treaty, and probably also for the ongoing nuclear and space talks. Another source of concern is the emphasis on ASAT programmes. As pointed out by SIPRI in its 1989 Yearbook, a major increase has taken place in the number and capabilities of operational military satellites in several categories. This expansion also involves an increased integration of various space-based systems with land, sea and air forces, thereby enhancing their capabilities in several respects.

Given the fact that it may be relatively easy to develop various types of ASAT-weapons, other States, too, may consider strengthening their military capacities by acquiring such weapons. Already the spread of advanced missile technology could promote such a development. Increased dedicated or non-dedicated ASAT-capabilities represent new risks already of accidental interference with satellites, which could have serious implications for international security.

The risk of an arms race in outer space has been partly attributed to the fact that the existing body of international law is not sufficient to effectively prevent such a development.

Article 2:4 of the Charter of the United Nations outlaws the use of force and the threat of use of force. It should be observed that Article 51 of the Charter cannot be interpreted as permitting attacks on non-military space objects. The Outer Space Treaty prohibits the placing of nuclear weapons and other weapons of mass destruction in earth orbits and on celestial bodies, but

no other weapons systems. The Moon Treaty, which aims at entirely demilitarizing outer space, with the exception of the proximity of the earth, has been signed by very few States indeed and has not yet entered into force. The Registration Covention may have some confidence-building functions but would need to be more effectively complied with. It should also have to be strengthened by additional provisions.

As to various pertinent bilateral agreements between the Soviet Union and the United States, emphasis should be given to the significant stabilizing role of the 1972 ABM Treaty. It is conceived of as a crucial building block in the strategic relationship between the two major nuclear and space powers. Many States have therefore repeatedly urged the two Parties to the Treaty to secure its continuation.

Other bilateral disarmament agreements which are relevant in this context are, for example, the 1971 Agreement on Measures to Reduce the Risk of Outbreak of Nuclear War and the 1973 Agreement on the Prevention of Nuclear War, which secure a protection for early warning satellites, thus indicating the vital stabilizing function attributed by the two major powers to such satellites. There may also be reason to recall the unratified SALT II Treaty, which prohibited the testing and deployment of Fractional Orbital Bombardment Systems (FOBS). Relevant parts of the provisions of these Treaties can be of interest also for multilateral purposes.

As an immediate measure the Swedish delegation has proposed that the present de facto moratorium by the two major space powers on testing of existing dedicated ASAT-systems be formalized. Production as well as deployment of dedicated ASATs should be prohibited without delay, and existing ASAT-systems should be dismantled. Furthermore, the testing of non-dedicated systems in an ASAT-mode should be prohibited. This approach would thus in a functional way comprise all convertible ASATs.

Several proposals have been made in the Conference on Disarmament concerning the question of indirect protection of satellites, including rules of the road, keep-out zones, codes of conduct, immunity for satellites, etc. These proposals should be discussed in a systematic way with a view to defining relevant measures. It will also have to be established to what extent various proposed measures should be dealt with in the Conference on Disarmament, or should be referred to for instance the Committee on the Peaceful Uses of Outer Space (COPUOS).

Sweden has proposed that an expert group be established under the auspices of the Ad Hoc Committee on the Prevention of an Arms Race in Outer Space. Such a group should discuss the feasibility of relevant measures to prevent an arms race in outer space. It should also consider verification of compliance with such measures, as well as focus on questions pertaining to the establishment of an international system for satellite monitoring satellites.

The question of verification is of crucial importance and will have to be subject to detailed studies by experts in the field. Examples of methods of verification are, in particular, on-site inspection as well as satellite tracking and data collection. Inspection of a satellite from the ground could, at least in the case of low earth orbit, be performed by the help of telescopes with modern electro-optical sensors. Other means could be various radar devices. In the context of verification by means of satellites the Canadian PAXSAT "A" concept is of great relevance. Consideration should also be given to the establishment of an international satellite agency, taking into account the various proposals that over the years have been made in the United Nations and in the Conference on Disarmament. Such an agency could have at its disposal a network of observation stations and make use of common data bases.

There are thus several measures that the Conference on Disarmament could usefully negotiate, namely:

- a comprehensive ban on dedicated ASAT-weapons;
- an agreement banning the testing in an ASAT-mode of various types of non-dedicated systems;
- appropriate verification régimes and an international satellite monitoring system;
- confidence-building measures, including rules of the road.

These measures should be urgently introduced, given the risks of vertical and horizontal proliferation of dedicated and non-dedicated ASAT-capabilities, as well as the dangers posed by possible non-intentional harmful interferences with satellites. These measures should be subject to multilateral negotiations in the single multilateral disarmament negotiating forum, that is to say the Conference on Disarmament, and more precisely in its Ad Hoc Committee on the Prevention of an Arms Race in Outer Space.

CONFERENCE ON DISARMAMENT

CD/939
CD/OS/WP.37
28 July 1989

ENGLISH
Original: SPANISH

PERU

Proposal for Amendment of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies

I. REASONS

1. The 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies is an international instrument which to a great extent met the challenges raised by the development of space technology during the decade of the 1960s. Today, however, it does not seem completely satisfactory for dealing with the growing dangers resulting from the possibility of a shift of the arms race to outer space.

2. Apart from the fact that the 1967 Treaty lacks a juridically defined and politically unquestionable sphere of application, the States Parties, which postulate the recognition of outer space as the common heritage of mankind, are now faced with a de facto situation resulting from the development of new weapon systems which, although said to be based on the desire to assemble an impenetrable defence, could also serve as a basis for aspirations to hegemony or to supremacy in all environments.

3. Some thought they saw a sufficient guarantee against any use of force in the limitations established by article III of the 1967 Treaty, since that article subjects the outer-space activities of the States Parties to international law and the Charter of the United Nations. This, however, circumvents the fact that what is being sought is not to confirm a new type of deterrent applicable to outer space and based on proven and deployed weapon systems but rather to hinder or prevent precisely such a scenario from happening.

4. As we know, article IV of the 1967 Treaty makes a distinction between the status applied to outer space and that relating to the moon and other celestial bodies. In the first case, covered by the first paragraph of article IV, the States Parties undertake not to place in orbit around the earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, and not to station such weapons in outer space in any other manner. In the second case, covered by the second paragraph of article IV, the undertaking of the States Parties is of much greater scope, in that it specifies that the moon and other celestial bodies shall be used exclusively for peaceful purposes.

5. To refer only to the first paragraph of article IV, the main problem that arises is that because of the express prohibition of the placing in orbit of a particular kind of weapons, it might be inferred, contrario sensu, that the placing of other kinds of weapons is permitted. What is more, if it is assumed that placing in orbit implies at least one complete circling of the earth, the possibility is left open for the development, production and use in outer space of weapons systems which fail to meet that minimum requirement.

6. This is why it was deemed appropriate to submit the amendment proposal indicated below, without any other intention than to contribute to the improvement of the 1967 Treaty and thereby ensure the future use of outer space for exclusively peaceful purposes.

II. PROPOSAL FOR AMENDMENT

7. Without prejudice to the necessary confidence-building measures that may precede or coincide with the adoption of relevant amendments, article IV of the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies might be amended as follows:

"Article IV

The States Parties to the Treaty undertake not to place in orbit around the earth any objects carrying any kinds of weapons, install such weapons on celestial bodies, or station such weapons in outer space in any other manner."

The second paragraph of article IV would remain as it now appears in the 1967 Treaty.

8. Inasmuch as the proposed amendment refers only to weapons placed in orbit, it is also desirable to contemplate the negotiation of an Additional Protocol for the purpose of prohibiting the development, production, storage and deployment of antisatellite weapon-systems which are not stationed in outer space. Also, the same Protocol will have to contain supplementary provisions relating to the limitation of antiballistic-missile systems, whatever their nature.

9. A second Additional Protocol will have to deal with the verification system necessary for guaranteeing faithful compliance with the obligations assumed by the States Parties, which may be a mixed system based principally on a multinational or international approach and on a national approach in accordance with the means of verification available to each State Party.

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CONFERENCE ON DISARMAMENT

CD/941
CD/OS/WP.38
1 August 1989

Original: ENGLISH

LETTER DATED 1 AUGUST 1989 ADDRESSED TO THE SECRETARY-GENERAL OF THE CONFERENCE ON DISARMAMENT BY THE PERMANENT REPRESENTATIVE OF THE POLISH PEOPLE'S REPUBLIC TRANSMITTING A WORKING PAPER ENTITLED "CONFIDENCE-BUILDING MEASURES RELATED TO ITEM 5"

I have the honour to transmit to you herewith in connection with item 5 of the agenda of the Conference on Disarmament a working paper entitled "Confidence-building measures related to item 5".

I should be grateful if you would arrange for its circulation in all the languages of the Conference as an official document of the Conference on Disarmament and Ad hoc Committee on Prevention of an Arms Race in Outer Space.

(Signed): Dr. Bogumil SUJKA
Ambassador
Representative of Poland
to the Conference on Disarmament

POLAND

Working paper

"Confidence-building measures related to item 5"

1. The principal aim of the Conference on Disarmament is to elaborate new agreements establishing international legal obligations upon States. This basic approach need not, however, prevent the Conference from undertaking other measures, particularly in situations where a stage of negotiations or other considerations could make them advisable and the only ones feasible. Different situations may require different approaches and responses. One of these responses could be confidence-building measures.

The CD Rules of Procedure provide that negotiations can be carried on draft treaties and other draft texts. They provide also that reports of the Conference can contain inter alia conclusions, decisions and other relevant documents. Thus, there is nothing that can prevent the Conference from agreeing on some documents not intended to be yet treaties, but reflecting political commitment and providing political guidance which, if followed, would prompt further co-operation in matters under consideration and facilitate further discussions.

2. Taking into account present difficulties in reaching new agreements for the prevention of an arms race in outer space the Conference could adopt measures aimed at strengthening existing international legal régimes applicable to outer space and at increasing transparency of outer space activities, particularly having military or military-related functions.

Proposed measures would express political will to facilitate further work and contribute to building confidence.

It is assumed that at this stage of discussion on item 5 States should have a certain room of sovereign discretion in the implementation of the proposed measures. Their intended flexibility is stressed by expressions like "State consider", "on a voluntary basis", "in the spirit of reciprocity". The intention is, first of all, to create appropriate procedures which if used would demonstrate co-operative behaviour and contribute to better mutual understanding and confidence.

3. These measures would not have the character of legal obligations but they would be adopted by the Conference as a part of its report on the work on item 5.

A corresponding part of the report could be as follows:

Conference on Disarmament:

Taking into account general concern in preventing an arms race in outer space,

Determined to contribute to further work of the Conference on item 5 of its agenda by strengthening existing international law related to outer space and building confidence with respect to activities carried out in outer space, particularly in situations where States lack clear and timely information about the nature of such activities,

1. Reaffirms the importance of international treaties and agreements related to activities of States in outer space;

2. Calls on all States to act in conformity with those international instruments and on those States, which have not yet done so, to consider the possibility of acceding to those instruments;

3. Suggests - in order to assure uniformity in application of those international standards - that all States parties to multilateral treaties and agreements related to activities of States in outer space - consider the possibility of accepting the jurisdiction of the International Court of Justice in all disputes concerning interpretation and application of those multilateral instruments;

4. Suggests further that States consider - as a result of their political decisions and upon a voluntary basis - exchange of information on their outer space activities, particularly having military or military-related functions. This exchange of information may include prior notification of launching of space objects and supply of other information which they may consider useful for building confidence and reduction of misunderstanding.

They will supply this information to other members of the Conference on Disarmament through usual diplomatic channels or through the Secretary-General of the Conference on Disarmament. This information will be open to all States.

Any exchange of information carried out as a result of this document will not affect the obligations or practice of States following from the Convention on Registration of Objects Launched into Outer Space (1975) or from any other agreements or arrangement providing information on or notification of outer space activities;

5. Recognizes that States can contribute further to strengthening confidence by inviting other States voluntarily, on bilateral or other basis,

and in the spirit of reciprocity and goodwill to send observers to launching of space objects or to preparation of or participation in other outer space activities, particularly having military or military-related functions.

The inviting States will determine in each case the number of observers, the procedure and conditions of their participation. It will provide appropriate facilities and hospitality.

The invitation will be transmitted through usual diplomatic channels or through the Secretary-General of the Conference;

6. Urges all States particularly those with outer space capabilities to consider and, where possible, undertake other measures by which mutual understanding and confidence can be increased;

7. The Conference recognizes that the experience gained by the implementation of suggested measures as well as of other measures which States might undertake at their own discretion could lead to further consideration of other means of building confidence and reduction of misunderstanding in the activities of States in outer space.

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CONFERENCE ON DISARMAMENT

CD/OS/WP.39
2 August 1989

ENGLISH
Original: RUSSIAN

Ad hoc Committee on Prevention
of an Arms Race in Outer Space

UNION OF SOVIET SOCIALIST REPUBLICS

Working paper

Establishment of an International Space Monitoring Agency

Introduction

At the third special session of the United Nations General Assembly devoted to disarmament in 1988 the Soviet Union proposed the establishment of an International Space Monitoring Agency (ISMA), which would provide the international community with information relating to compliance with multilateral arrangements in the field of disarmament and the reduction of international tension, and would also monitor the military situation in areas of conflict.

ISMA would help States to evaluate compliance with multilateral agreements in the field of confidence-building measures, arms limitation and disarmament. It could assist the United Nations and interested States in monitoring implementation of agreements for the settlement of regional conflicts and the cessation of local wars and in following developments in focal points of tension.

In the opinion of the Soviet Union, placing the results of monitoring by national satellite systems at the disposal of an international organization, would be a major step towards promoting confidence and openness in relations between States.

In addition to the military-policy aspects, the activities of ISMA could be of national economic importance by supplying interested States with satellite data for purposes of their economic development.

The preparation of the Soviet proposal for the establishment of ISMA took into account ideas on the subject expressed by other countries, in particular France and Canada (United Nations documents A/S-10/AC.1/7 and A/S-15/34;

Conference on Disarmament document CD/PV.410) and is based on elements in the relevant report of the Secretary-General in 1981 (United Nations document A/AC.206/14).

Bearing that in mind, the Soviet delegation would like to present some additional considerations regarding ISMA with a view to development of discussion, in the framework of the Conference on Disarmament, of questions relating to the establishment of such an Agency.

1. Status, purpose and functions of the International Space Monitoring Agency

The International Space Monitoring Agency might be a specialized agency of the United Nations system.

The purpose of establishing ISMA is to provide the international community with information relating, inter alia, to compliance with multilateral arrangements in the field of confidence-building measures, arms limitation and disarmament and the reduction of international tension. ISMA could also monitor the military situation in areas of conflict.

ISMA might be assigned the following functions:

Collection of information from space monitoring;

Consideration of requests from the United Nations and individual States for the supply of information services which could prove useful to them in evaluating compliance with international arrangements and agreements on the settlement of local wars and crisis situations;

Elaboration of recommendations on procedures for the use of space monitoring facilities for the purpose of monitoring or verification of future treaties and agreements.

2. Duties of the International Space Monitoring Agency and main technical requirements for their execution */

Space monitoring facilities under ISMA could provide information for purposes of verification:

(a) subject to the clearly expressed consent of all participating States, of existing multilateral agreements in the field of confidence-building measures, arms limitation and disarmament;

(b) subject to arrival at relevant arrangements, of proposed multilateral agreements in the field of confidence-building measures, arms limitation and disarmament, including the following:

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*/ Considerations regarding demands on space monitoring equipment to carry out duties that may be assigned to ISMA are outlined in Annex 1.

Agreement on further confidence- and security-building measures in Europe;
Agreement on conventional armed forces in Europe;
Convention on the prohibition of the development, production, stockpiling and use of chemical weapons and on the destruction of their stockpiles and means of production;
Possible arrangement concerning the prevention of an arms race in outer space;
Treaty on the general and complete prohibition of nuclear-weapon tests;
Agreements on the declaration of various parts of the world as nuclear-weapon-free zones;

(c) subject to the clearly expressed consent of all participating States or at the request of the United Nations Security Council, of agreements for the settlement of regional conflicts and the cessation of local wars.

3. Stages of dealing with ISMA's duties

The necessary technical conditions for ISMA's duties are the required level of monitoring capability, the possibility of monitoring in all weather and light conditions, and operational transmission of data.

Bearing in mind the novelty and complexity of the task and the existing provisions in various States governing the supply of information obtained from space facilities, ISMA's duties would be dealt with in stages. The guiding principle for dealing with these duties stage by stage should be to enhance the level of confidence and openness in relations between States.

At the initial stage of ISMA's operations, participating States having space monitoring facilities at their disposal would provide information with a level of observation detail of 5 metres or worse. */

The use of materials with such resolution makes it possible to verify only arrangements concerning the prohibition of harmful effects on the environment and only partially to cope with tasks of verification in the field of arms limitation and settlement of regional conflicts, including prevention of the emergence of new focal points of tension and of armed clashes. Nevertheless, the availability of such information would make it possible to work out the structure and operational machinery of ISMA and to train the necessary personnel.

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*/ With a view to broadening the scope of the duties to be carried out in the verification of arms limitation agreements and to further raising the level of openness, the Soviet Union is prepared even at the initial stage to supply satellite information in greater observation detail (better than 5 m).

Once working experience has been gained in the use of space monitoring data for the purposes of verification and after further development of the technical and technological structures of ISMA, restrictions on the level of detail of information could then be completely lifted, subject to mutual consent between the USSR and the United States.

This would make it possible to carry out practically all the verification duties assigned to ISMA.

Thereafter, in order to facilitate the verification of possible arrangements concerning the prevention of an arms race in outer space, consideration could be given to the question of concentrating the efforts of the States members of ISMA on carrying out appropriate research and establishing specialized space-based and land-based facilities for monitoring objects in the atmosphere and outer space.

4. Main principles of ISMA's activities

ISMA's activities could be carried out on a constant basis by means of both continuous and periodic acquisition and processing of data from space monitoring facilities and subsequent presentation of relevant reports.

The initial participants in ISMA could be States Members of the United Nations and any other State which signs the Charter (Statute) of the Agency.

In the discharge of its functions, ISMA would be guided by the purposes and principles of the Charter of the United Nations aimed at the strengthening of peace, arms limitation and disarmament as well as the encouragement of international co-operation for the prevention and settlement of regional conflicts.

Reports on monitoring carried out by the Agency would be factual in nature and would not contain any conclusions regarding compliance or non-compliance with treaties or agreements, or accusations against any State regarding action taken by it.

Matters relating to the practical activities of the Agency, including its Charter, procedures for the submission of inquiries, presentation of information and reports, observance of confidentiality, etc. will be dealt with at the founding conference of ISMA.

ISMA could grant the request of any State to carry out satellite verification of all or part of its national territory in the event of reports alleging violation of international agreements. A State may demand satellite verification of the territory of another State. Such verification may be

carried out if all the States parties to an agreement recognize from the outset that ISMA can be regarded as an organ for verification of compliance with the agreement, in which case a provision to that effect will form an integral part of the agreement.

In addition, ISMA could grant the request of any State to provide information on the monitoring of natural disasters and other emergencies.

5. Proposed sequence of practical implementation of the ISMA concept

The ISMA concept can be successfully implemented, in our view, only by moving forward in stages and establishing a sound political, legal and technical basis for the implementation of subsequent steps. */

At the first stage a Space Image Processing and Interpretation Centre would be created as the main technical organ of ISMA.

In view of the heterogeneity of data coming from national space monitoring sources, it is of special importance to have a universal facility for converting initial data into a standard form for subsequent processing. Obligations to provide such a facility might be assumed by member States possessing the necessary means or having the technological resources for creating it. Such a facility could also be developed or acquired at the expense of ISMA's budget.

For preparing the data supplied in the form of various types of photographic materials, it would seem necessary for the Centre to have appropriate laboratories and subsystems for preparing and presenting the data for information analysis, as well as for drafting the final analysis documents. These subsystems would be based on appropriate computer and other technical equipment.

The Centre's personnel would be formed basically from among experts of those ISMA member countries which furnish space monitoring materials obtained by national means.

The reliability of data, data processing procedures at all stages in accordance with an established technological cycle, confidentiality of final documents and strict compliance with procedures for distributing them would be ensured by an editorial control and data distribution service.

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*/ A variant of the organizational structure is given in Annex 2.

At the next stage of ISMA's activities, there would be created a network of ground data-reception points receiving data through channels operating in near-real time from member States having space monitoring facilities.

The problem of technically equipping the reception points would be dealt with by ISMA's member States in the way indicated for the creation of the Space Image Processing and Interpretation Centre.

By way of elaboration of the proposals of France and Canada, the Soviet Union is prepared to participate in joint research and development of ISMA satellites by member States, (including their own ISMAs) for monitoring objects on the ground, in the air and in outer space.

For launching satellites, Soviet rockets and launching-sites could be provided, and for controlling them - the flight-control complex and ground data-reception stations belonging to the USSR.

Annex 1

Demands on space monitoring equipment for carrying out duties that may be assigned to ISMA

Duties	Description of duties	Type of devices
1. Verification of arrangements concerning prohibition and limitation of nuclear weapon tests and non-proliferation of such weapons	Detection of activities associated with preparation and execution of nuclear weapon tests; spotting of nuclear explosions; determination of their objectives and parameters; verification of production and storage of nuclear munitions; location of sites where radioactive wastes are buried	Visible and IR range, radar, gamma-spectrometric
2. Verification of arrangements concerning prohibition of chemical and radiological weapons	Fact-finding regarding utilization; detection of activities associated with preparation and execution of tests; verification of destruction of facilities for producing chemical and radiological weapons	Multi-spectrum, visible and IR range, radar, spectrometric
3. Verification of arrangements concerning confidence-building measures, limitation of conventional arms and armed forces; of agreements on settlement of regional conflicts and cessation of local wars	Disposition of conventional arms and armed forces; detection of activities associated with shifting and concentration of troops; fact-finding regarding development, testing and storage of arms subject to limitation	Visible and IR range, radar and radio-electronic

Duties	Description of duties	Type of devices
4. Verification of arrangements concerning prevention of an arms race in outer space	Detection of activities associated with preparation, testing and deployment of ground-, air- and space-based space weapons	Ultraviolet, visible and IR range, radar, spectrometric, radio-electronic
5. Verification of arrangements concerning prohibition of activities having unfriendly effects on the environment and monitoring of the environment	Verification of ecological and geophysical changes on the earth's surface, in the atmosphere and in outer space	Radar, multi-zonal, visible and IR range, and spectrometric

Annex II

ISMA - Structure, functions of bodies and financing

On the example of other specialized agencies of the United Nations system, ISMA's plenary body could be an Assembly consisting of representatives of all members of the Agency.

For the effective conduct of the Agency's activities during the intervals between sessions of the Assembly, a Co-ordinating Council consisting of a limited number of members, would function for the purposes of developing current policies, preparing draft budgets, planning programmes, preparing reports, etc. It would seem advisable for the Co-ordinating Council to consist of appointed members of the Agency possessing national space monitoring facilities; it would also be elected by the Assembly having regard to the need for equitable geographical distribution.

The secretariat of ISMA would consist of a Director-General and such personnel appointed by the Assembly on the recommendation of the Co-ordinating Council as may be needed by the Agency.

In addition to basic procedural matters, the Charter of ISMA could deal with questions of drawing up the current budget and determining its sources of financing. Contributions could be paid to ISMA in accordance with a scale approved by the Assembly. At the same time, it would be advisable to determine some additional possibilities of financing ISMA resulting from the specific characteristics of its operations. Concretely, ISMA's member States could fulfil their financial obligations to the Agency by providing practical services, in particular by putting at ISMA's disposal space monitoring materials as well as national space monitoring equipment and facilities for launching it into space.

In addition, there could be training of ISMA secretariat personnel, experts of the Space Image Processing and Interpretation Centre and other technical personnel.

Another source of financing could be the payment by individual ISMA member States, intergovernmental organizations and other States for services provided by the Agency (monitoring the territory of these States, exploration of natural resources from outer space, verification of regional agreements, etc.).

On the whole, use could be made of the system of financing employed in IAEA (separate administrative and operational budgets, etc.).

CONFERENCE ON DISARMAMENT

CD/945
CD/OS/WP.40
1 August 1989

ENGLISH
Original: FRENCH

LETTER DATED 1 AUGUST 1989 FROM THE REPRESENTATIVE OF FRANCE TO THE SECRETARY-GENERAL OF THE CONFERENCE ON DISARMAMENT, TRANSMITTING A WORKING PAPER ENTITLED "SPACE IN THE SERVICE OF VERIFICATION: PROPOSAL CONCERNING A SATELLITE IMAGE PROCESSING AGENCY"

I have the honour to attach a working paper entitled "Space in the service of verification: proposal concerning a satellite image processing agency", which falls under item 5 on the agenda of the Conference on Disarmament.

I would be grateful if you would arrange for its distribution in all the languages of the Conference, as an official document of the Conference on Disarmament and of its Ad hoc Committee on the Prevention of an Arms Race in Outer Space.

(Signed): Pierre MOREL
Ambassador
Representative of France to the Conference on Disarmament

GE.89-62831/1248a

FRANCE

WORKING PAPER

SPACE IN THE SERVICE OF VERIFICATION

PROPOSAL CONCERNING A SATELLITE IMAGE PROCESSING AGENCY

Progress in recent years has confirmed the need for verification arrangements specific to each disarmament or arms control agreement. However, the specific nature of this contractual verification may go hand in hand with a pooling of some of the data gathered.

While a State cannot expect to verify directly compliance with agreements to which it is not a signatory, all the members of the international community may legitimately hope to be supplied with information, since they all have an interest in compliance with disarmament agreements. Furthermore, it is desirable that they should be able to assess the situation leading up to and following on the adoption of such agreements.

Similarly, they must be in a position to evaluate military and non-military threats to their security, whether in terms of crisis management or in terms of prevention and handling of disasters and major risks.

This legitimate need for information may be met by various methods, but few of them would appear to be as exhaustive, as accessible and as appropriate as the use of satellite data.

For a long time a space-based remote sensing capability remained a monopoly of the United States and the Soviet Union. However, movement has recently begun in two directions:

Many other countries have acquired such a capability, of a civilian nature, and the commercial distribution of the data collected has expanded (Landsat, Spot-image, Soyuzkarta);

Simultaneously, specifications have improved and some civilian satellites now offer resolution down to 10 metres.

This situation potentially offers the international community a substantial set of data which are regularly updated and provide a wealth of security-related information.

In 1978, at the first United Nations special session devoted to disarmament, France, anticipating these developments and the importance which might be acquired by satellite observation in facilitating verification of disarmament agreements and crisis management, suggested the establishment of an international satellite monitoring agency (ISMA).

This proposal, which met with a wide welcome, had been studied in depth by a group of experts appointed for the purpose. In its preliminary conclusions, the group

"recognized the valuable contribution which monitoring by satellites could make to the verification of certain parts or types of arms control and disarmament agreements. This contribution from satellites to the verification process must not in general be seen as excluding other means of verification. The Group also appreciated the positive role that satellite monitoring could play in preventing or settling crises in various parts of the world and thus contributing to confidence-building among nations. The Group considered the gradual approach to the establishment of an international satellite monitoring agency technically feasible and saw in it a way to limit and control the financial commitments required from the international community. With respect to the legal nature of the agency, it appeared that action would have to be taken to ensure its independence, which would constitute an essential guarantee for the objectivity of its analyses".

A detailed study of the technical, legal and financial implications of the establishment of an ISMA was subsequently undertaken, and the report presented to the United Nations General Assembly (1981). The group of experts expressed support for three-phase implementation:

The first phase would see the establishment of an image processing and interpretation centre which would have at its disposal satellite data retransmitted by States possessing remote-sensing satellites;

In the second phase, the agency would be provided with its own ground segment to receive information from the satellites directly;

In the third phase, the agency would acquire its own satellite facilities.

This step-by-step approach, together with an evaluation of the agency's personnel requirements, was intended to allow for its phased establishment. However, despite the favourable reactions expressed, constraints of a political, technical and financial nature have so far prevented the initiation of this process.

The disappearance of the American-Soviet duopoly on remote sensing, and the consequent emergence of more abundant commercial data, prompted France to

propose at the third United Nations special session devoted to disarmament, in June 1988, the speedy establishment of a satellite image processing agency (SIPA). 1/

The principal function of the agency would be to gather and then partially or completely process data emanating from existing civilian satellites, and to disseminate the results of these operations among its members. Independently of the sources available to them at the national level, the members would in this way benefit from a regularly updated data base usable in three areas of major importance:

Disarmament: Either to obtain in this way data to facilitate the verification of disarmament agreements, or to establish certain facts in advance of the conclusion of such agreements (exchange of data, force estimates);

Crisis control and, where appropriate, compliance with disengagement agreements in local conflicts;

Prevention and handling of disasters and major natural risks, and possibly assistance in the devising of certain development programmes encompassing several countries and/or administered by the United Nations.

SIPA would receive digital or analogue data and/or photographic data (chromatic, colour or spectral photographs) and cartographic data.

Initially, SIPA should be able to use space data with a resolution of between 5 and 10 metres, and, where available, very-high-resolution (aircraft-supplied) data. This would cover only optical data (visible or near-infrared spectrum):

Originating from existing weather satellites;

Originating from existing or planned satellites for the study of terrestrial resources - United States (Landsat and future projects), USSR (Meteor), France (SPOT), India (IRS 1), etc.;

Recorded previously by satellites (historical data and Skylab-type data), or by the Federal Republic of Germany's metric camera installed in the American space shuttle.

The documents received by SIPA should subsequently be developed as satellite technology progresses, and as the resolution of image-taking improves.

1/ Cf. statement by Mr. Roland DUMAS before the General Assembly on 2 June 1988, as well as document A/S-15/34.

A. SIPA would have functions in the fields of processing, analysis, management and dissemination of data, organized as follows.

(a) The data processing subsystem (DPS) would, where appropriate, convert raw input data (in digital or photographic form) into data meeting the user's needs, and for that purpose would perform the following operations:

Conversion of photographic and cartographic data into usable digital data;

Conversion of satellite data into usable form, specifically after correction of various radiometric and geometric errors introduced during the acquisition phase.

The processing subsystem should also check the validity of all the scene identification parameters and, where necessary, determine such parameters (in particular, processing of remote maintenance data for the preparation of calibration tables).

(b) The data management subsystem (DMS) would be responsible for:

Reproduction of data;

Data storage, archiving and cataloguing;

Security of data, where necessary.

Data quality control would be an important function of the DMS, and the size of its facilities would depend in large part on SIPA's data dissemination policy (and specifically on whether the agency would disseminate raw data to all its members).

(c) The data analysis subsystem (DAS) would be responsible for converting non-analysed data into information capable of being used by SIPA and by the users. It would combine manual (visual) techniques of photointerpretation and computer-assisted interpretation, which would make it possible to perform a range of functions such as:

Contrast accentuation;

Noise elimination;

Linear filtering;

Utilization of false colours;

Production of composite images;

Analysis of scenes using auxiliary (cartographic or other) data.

(d) Data dissemination subsystem (DDS). Data for dissemination would be produced in the form of permanent images (films, tracings) or in the form of magnetic tapes. Dissemination would be restricted or unrestricted, as the case may be.

B. Beyond this principal function, which constitutes an extension of the first phase of ISMA, SIPA would also perform two other tasks.

Firstly, the very accomplishment of the function of collection and interpretation of satellite data makes SIPA an ideal framework for the vital training of experts in photointerpretation. Data transmitted by satellites, even after initial processing, always require interpretation in order to extract the desired information. This skill is still rather rare, while remote sensing imagery will play a growing role in the developing countries and its application to disarmament points to a promising future.

Secondly SIPA could serve as a research unit or centre, either to identify groups of satellites which could contribute to the implementation of multilateral civilian or military programmes, or even to design various possible linkages between ground sensors and satellite-borne detectors in the verification of disarmament agreements. The growing diversity of treaty provisions to be verified and the equipment involved will call for the development of new systems. Indeed, this process may on occasion play a role in the conclusion of new agreements. Generally speaking, the experience accumulated within SIPA would be irreplaceable in identifying new requirements as regards satellite equipment for use in disarmament verification, and in particular in determining whether specific satellites should be developed for each type of agreement, or whether multipurpose systems may be contemplated.

It is expected that the applications of remote sensing from space will develop in various areas, but the multilateral use made of them is still at an embryonic stage. In particular, many countries are still denied the benefits of the existing facilities because their experts lack adequate training.

The proposed agency, with a simple structure and modest costs, should make it possible to overcome this handicap and offer a real testing ground for the development of new technologies.

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