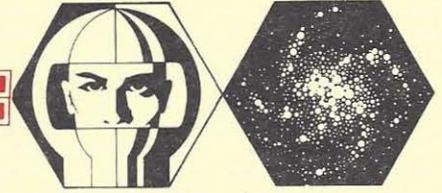


# COMMERCIAL SPACE REPORT



## OUTER SPACE COMMITTEE SUBMITS MOON TREATY TO THE GENERAL ASSEMBLY

### Outer Space Conference Recommended For Latter Half of 1982

The Committee on the Peaceful Uses of Outer Space has concluded the work of its twenty-second session after deciding to submit to the General Assembly, at its 1979 session, for consideration and final adoption, the draft agreement governing the activities of States on the moon and other celestial bodies.

The Committee also decided on a provisional agenda and other concrete matters concerning the Second United Nations Conference on the Exploration and Peaceful Uses of Outer Space during its session.

In its capacity as Preparatory Committee for the Conference, it decided that the Conference should take place in the latter half of 1982 at a venue yet to be decided. The Soviet Union has offered to serve as host.

During its twenty-second session which began on 18 June, the Committee, in addition to reaching agreement on the draft agreement on the moon and other celestial bodies and the second United Nations Space Conference, considered matters concerning remote sensing of the earth from satellites, the United Nations space applications programme, direct television broadcasting from space and the geostationary orbit.

### Draft Treaty Relating to the Moon

Article I states that the provisions of the Agreement 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; reference to the moon shall include orbits around or other trajectories to or around it; and the Agreement does not apply to extraterrestrial materials which reach the surface of the earth by natural means.

Article II states that all activities on the moon shall be carried out in accordance with international law, in particular the Charter of the United Nations, and taking into account the Declaration of Principles of International Law concerning Friendly Relations and Co-operation among States.

Article III states that the moon shall be used by all States Parties exclusively for peaceful purposes. Any threat or use of force or any other hostile act or threat of hostile act on the moon is prohibited, as is the use of the moon 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.

In addition, State Parties shall not place in orbit around the moon objects carrying nuclear weapons or other weapons of mass destruction or place or use such weapons on or in the moon; and the establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of mili-

## WHOSE MOON IS IT?

by Gary C. Hudson

On July 3rd of this year, the United Nations Outer Space Committee said private firms couldn't mine the moon, or for that matter, any of the other celestial bodies of the solar system. Perhaps in not that many words, and perhaps not even with the complete understanding and intent of all the Committee members and delegates. But the effect of the treaty described elsewhere in this issue is certainly real in the ways that it will stifle the investment of private capital in the exploitation of space. Already it has been referred to by a highly placed observer of space industrialization field as "a disaster".

The accord is quite thoroughly described in the accompanying article and can also be read in its entirety beginning on page 51. Let me summarize the twenty-one articles of this draft effort by quoting only one portion of those articles: "The moon is not subject to national appropriation by any claim of sovereignty, by means of use or occupation, or by any other means . . . Neither the surface nor the subsurface of the moon, nor any part thereof or natural resources in place, shall become property of any . . . non-governmental organization or of any natural person." That statement illuminates the enormous intellectual and philosophical chasm which exists between the framers of the document and those of us who would make new lives, businesses and futures off this planet, in space. It further demonstrates the Department of State's questionable leadership which is in evidence today in a variety of world councils. Was there no American voice calling for a free enterprise approach to the potentials of space? Had none of the U.S. negotiators con-

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tary maneuvers on the moon shall be forbidden.

Article IV declares that the 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, irrespective of their degree of economic or scientific development. Due regard shall be paid to the interests of present and future generations as well as to the need to promote economic and social progress and development in accordance with the Charter of the United Nations. States Parties shall be guided by the principle of co-operation and mutual assistance in all their activities concerning the exploration and use of the moon.

Under Article V, States Parties shall inform the Secretary-General, 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.

If a State Party becomes aware that another State Party plans to operate simultaneously in the same area, it shall promptly inform the other State of the timing of and plans for its own operations. Further, States Parties shall promptly inform the Secretary-General, as well as the public and the international scientific community, of any phenomena they discover in outer space, including the moon, which could endanger human life or health, as well as of any indication of organic life.

Article VI states that there shall be freedom of scientific investigations on the moon by all States Parties without discrimination of any kind, on the basis of equality and in accordance with international law. States Parties shall have the right to collect and remove from the moon samples of its mineral and other substances. States Parties shall have regard to the desirability of making a portion of such samples available to other interested States Parties and the international scientific community for scientific investigation. Finally, States Parties agree on the desirability of exchanging scientific and other personnel on expeditions to or installations on the moon to the greatest extent feasible and practicable.

Article VII declares that in exploring and using the moon, States Parties shall take measures to prevent the disruption of the existing balance of its environment and shall also take measures to prevent harmfully affecting the environment of the earth through the introduction of extraterrestrial matter or otherwise. They shall inform the Secretary-General of the measures being adopted by them and shall also, to the maximum extent feasible, notify him in advance of all placements by them of radio-active materials on the moon and of the purposes of such placements.

States Parties shall report to other States Parties and to the Secretary-General concerning areas of the moon having special scientific interest in order that consideration may be given to designating such areas as international scientific preserves for which special protective arrangements are to be agreed in consultation with the United Nations.

Under Article VIII, States Parties may pursue their activities in the exploration and use of the moon anywhere on or below its surface, subject to the provision of this Agreement. For these purposes they may in particular: land their space objects on the moon and launch them from the moon; place or freely move about their personnel, space vehicles, equipment, facilities, stations and installations anywhere on or below the surface of the moon. Such activities 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.

Article IX states that 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 its location and purposes.

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 this Agreement 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 X states that States Parties shall adopt all practicable measures to safeguard the life and health of persons on the moon, and they shall offer shelter in their stations, installations, vehicles and other facilities to persons in distress on the moon.

Article XI declares that the moon and its natural resources are the common heritage of mankind; the moon is not subject to national appropriation by any claim of sovereignty, by means of use or occupation, or by any other means; and neither its surface nor subsurface, nor any part thereof or natural resources in place, shall become property of any State, international, national organization or non-governmental entity or of any natural person. The placement of personnel, vehicles, equipment or facilities on or below the surface of the moon shall not create a right of ownership over the surface or the subsurface of the moon or any areas thereof.

In addition, States Parties have the right to explore and use the moon without discrimination of any kind on a basis of equality, and in accordance with international law and the terms of this Agreement. States Parties undertake to establish an international regime, including appropriate procedures, to govern the exploitation of the natural resources of the moon as such exploitation is about to become feasible.

The main purposes of the international regime shall include: the orderly and safe development of the natural resources of the moon; the rational management of those resources, the expansion of opportunities in the use of those resources; and an equitable sharing by all States Parties in the benefits derived from those resources.

Article XII states that States Parties shall retain jurisdiction and control over their personnel, vehicles, equipment, facilities, stations and installations on the moon, and vehicles, installations and equipment of their component parts found in places other than

their intended location shall be dealt with in accordance with article V of the Agreement on Assistance to Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space. 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 or State Party concerned.

Under Article XIII, 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.

Article XIV states that States Parties 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 of the Agreement.

Further, States Parties recognize that detailed arrangements concerning liability for damage sustained on the moon, in addition to the provisions 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 the Convention on International Liability for Damage Caused by Space Objects, may become necessary as a result of more extensive activities on the moon.

Under Article XV, 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.

A State Party which believes that another State Party is not fulfilling its obligations under the Agreement or that another State Party is interfering with the rights which the former State has under this Agreement may request consultations with that Party. Any other State Party shall be entitled to take part in the consultations. The Secretary-General shall be informed of the results of the consultations and transmit that information to all States Parties concerned.

If the consultations do not lead to a mutually acceptable settlement which has due regard for the rights and interest of all the States Parties, the parties concerned shall take all measures to settle the dispute by other peaceful means of their choice and appropriate to the circumstances and the nature of the dispute. 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.

Article XVI states that with the exception of Articles XVII to XXI, references in the Agreement to States shall apply to any international intergovernmental organization which conducts space activities if the organization declares its acceptance of the rights and obligations provided for in this Agreement and if a majority of the States members of the organization are States 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.

Under Article XVII, any State Party may propose amendments to the Agreement. Amendments shall enter into force for each State Party accepting the amendments upon their acceptance by a majority of the States Parties to the Agreement and thereafter for each remaining State Party to the Agreement on the date of acceptance by it.

Article XVIII states that 10 years after the entry into force of the Agreement, the General Assembly shall consider, in the light of past application of the Agreement, whether it requires revision. However, at any time after the Agreement has been in force for five years, the Secretary-General shall, at the request of one third of the State Parties to the Agreement and with the concurrence of the majority, convene a conference of the State Parties to review this Agreement.

The last three articles of the draft Agreement deal with its opening for signature, ratification, entry into force, withdrawal and deposit of the Agreement with the Secretary-General.

# AGREEMENT GOVERNING THE ACTIVITIES OF STATES ON THE MOON AND OTHER CELESTIAL BODIES

## **The States Parties to this Agreement,**

**Noting** the achievements of States in the exploration and use of the moon and other celestial bodies,

**Recognizing** that the moon, as a natural satellite of the earth, has an important role to play in the exploration of outer space,

**Determined** to promote on the basis of equality the further development of co-operation among States in the exploration and use of the moon and other celestial bodies,

**Desiring** to prevent the moon from becoming an area of international conflict,

**Bearing in mind** the benefits which may be derived from the exploitation of the natural resources of the moon and other celestial bodies,

**Recalling** the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space, the Convention on International Liability for Damage Caused by Space Objects, and the Convention on Registration of Objects Launched into Outer Space,

**Taking into account** the need to define and develop the provisions of these international instruments in relation to the moon and other celestial bodies, having regard to further progress in the exploration and use of outer space,

Have agreed on the following:

## **Article I**

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.

3. This Agreement does not apply to extraterrestrial materials which reach the surface of the earth by natural means.

## **Article II**

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 1979, 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 III**

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 maneuvers 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.

## **Article IV**

1. The 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, irrespective of their degree of economic or scientific development. Due regard shall be paid to the interests of present and future generations as well as to the need to promote higher standards of living conditions of economic and social progress and development in accordance with the Charter of the United Nations.

2. States Parties shall be guided by the principle of co-operation and mutual assistance in all their activities concerning the exploration and use of the moon. International co-operation in pursuance of this Agreement should be as wide as possible and may take place on a multilateral basis, on a bilateral basis, or through international inter-governmental organizations.

## **Article V**

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 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 days' 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.

3. In carrying out activities under this Agreement, States Parties shall promptly inform the Secretary-General, as well as the public and the international scientific community, of any phenomena they discover in outer space, including the moon, which could endanger human life or health, as well as of any indication of organic life.

## **Article VI**

1. There shall be freedom of scientific investigation on the moon by all States Parties without discrimination of any kind, on the basis of equality and in accordance with international law.

2. In carrying out scientific investigations and in furtherance of the provisions of this Agreement the States Parties shall have the right to collect on and remove from the moon samples of its mineral and other substances. Such samples shall remain at the disposal of those States Parties which caused them to be collected and may be used by them for scientific purposes. States Parties shall have regard to the desirability of making a portion of such samples available to other interested States Parties and the international scientific community for scientific investigation. States Parties may in the course of scientific investigations also use mineral and other substances of the moon in quantities appropriate for the support of their missions.

3. States Parties agree on the desirability of exchanging scientific and other personnel on expeditions to or installations on the moon to the greatest extent feasible and practicable.

## **Article VII**

1. In exploring and using the moon, States Parties shall take measures to prevent the disruption of the existing balance of its environment whether by introducing adverse changes in such environment, its harmful contamination through the introduction of extra-environmental matter or otherwise. States Parties shall also take measures to prevent harmfully affecting the environment of the earth through the introduction of extraterrestrial matter or otherwise.

2. States Parties shall inform the Secretary-General of the United Nations of the measures being adopted by them in accordance with paragraph 1 of this article and shall also to the maximum extent feasible notify him in advance of all placements by them of radioactive materials on the moon and of the purposes of such placements.

3. States Parties shall report to other States Parties and to the Secretary-General concerning areas of the moon having special scientific interest in order that, without prejudice to the rights of other States Parties, consideration may be given to the designation of such areas as international scientific preserves for which special protective arrangements are to be agreed in consultation with the competent organs of the United Nations.

## **Article VIII**

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 XV, paragraphs 2 and 3.

#### Article IX

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 reasonable 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 X

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 on 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 XI

1. The moon and its natural resources are the common heritage of mankind which finds its expression in the provisions of this agreement and in particular in paragraph 5 of this article.

2. The moon is not subject to national appropriation by any claim of sovereignty, by means of use or occupation, or by any other means.

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

4. States Parties have the right to exploration and use of the moon without discrimination of any kind on a basis of equality, and in accordance with international law and the terms of this Agreement.

5. States Parties to this Agreement hereby undertake to establish an international regime, including appropriate procedures, to govern the exploitation of the natural resources of the moon as such exploitation is about to become feasible. This provision shall be implemented in accordance with article XVIII of this Agreement.

6. In order to facilitate the establishment of the international regime referred to in paragraph 5 of this article, 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 any natural resources they may discover on the moon.

7. The main purposes of the international regime to be established shall include:

- (a) The orderly and safe development of the natural resources of the moon;
- (b) The rational management of those resources;
- (c) The expansion of opportunities in the use of those resources; and
- (d) An equitable sharing by all States Parties in the benefits

derived from those resources, whereby the interests and needs of the developing countries as well as the efforts of those countries which have contributed either directly or indirectly to the exploration of the moon shall be given special consideration.

8. All the activities with respect to the natural resources of the moon shall be carried out in a manner compatible with the purposes specified in paragraph 7 of this article and the provisions of article VI, paragraph 2, of this Agreement.

#### Article XII

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.

2. Vehicles, installations and equipment or their component parts found in places other than their intended location shall be dealt with in accordance with article V of the Agreement on Assistance to Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space.

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 States or State Party concerned.

#### Article XIII

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 XIV

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 the present 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.

2. States Parties recognize that detailed arrangements concerning liability for damage caused on the moon, in addition to the provisions 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 the Convention on International Liability for Damage Caused by Space Objects, may become necessary as a result of more extensive activities on the moon. Any such arrangements shall be elaborated in accordance with the procedure provided for in article XVIII of this Agreement.

#### Article XV

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 organizations in 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 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 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 the States Parties, the parties concerned shall take all measures to settle the

dispute by other peaceful means of their choice and 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.

#### Article XVI

With the exception of articles XVII to XXI, references in this Agreement to States shall be deemed to apply to any international inter-governmental organization which conducts space activities if the organization declares its acceptance of the rights and obligations provided for in this Agreement and if a majority of the States members of the organization are States 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. States members of any such organization which are States Parties to this Agreement shall take all appropriate steps to ensure that the organization makes a declaration in accordance with the foregoing.

#### Article XVII

Any State Party to this Agreement may propose amendments to the Agreement. Amendments shall enter into force for each State Party to the Agreement accepting the amendments upon their acceptance by a majority of the States Parties to the Agreement and thereafter for each remaining State Party to the Agreement on the date of acceptance by it.

#### Article XVIII

Ten years after the entry into force of this Agreement, the question of the review of the Agreement shall be included in the provisional agenda of the United Nations General Assembly in order to consider, in the light of past application of the Agreement, whether it requires revision. However, at any time after the Agreement has been in force for five years, the Secretary-General of the United Nations, as depositary, shall, at the request of one third of the States Parties to the Agreement and with the concurrence of the majority of the States Parties, convene a conference of the States Parties to review this Agreement. A review conference shall also consider the question of the implementation of the provisions of article XI, paragraph 5, on the basis of the principle referred to in paragraph 1 of that article and taking into account in particular any relevant technological developments.

#### Article XIX

1. This Agreement shall be open for signature by all States at United Nations Headquarters in New York.

2. This Agreement shall be subject to ratification by signatory States. Any State which does not sign this Agreement before its entry into force in accordance with paragraph 3 of this article may accede to it at any time. Instruments of ratification or accession shall be deposited with the Secretary-General of the United Nations.

3. This Agreement shall enter into force on the thirtieth day following the date of deposit of the fifth instrument of ratification.

4. For each State depositing its instrument of ratification or accession after the entry into force of this Agreement, it shall enter into force on the thirtieth day following the date of deposit of any such instrument.

5. The Secretary-General shall promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification or accession to this Agreement, the date of its entry into force and other notices.

#### Article XX

Any State Party to this Agreement may give notice of its withdrawal from the Agreement one year after its entry into force by written notification to the Secretary-General of the United Nations. Such withdrawal shall take effect one year from the date of receipt of this notification.

#### Article XXI

The original of this Agreement, of which the English, Arabic, Chinese, French, Russian and Spanish texts are equally authentic, shall be deposited with the Secretary-General of the United Nations, who shall send certified copies thereof to all signatory and acceding States.

considered the prospect of powersats built with lunar or asteroidal materials? Did they give any thought to the mining of extraterrestrial materials for use in other space industries or back here on earth to bolster our economy and improve our lives? Do they care? That they accepted the draft of a moon treaty which serves none of our vital interests, either as individuals or as a nation, it is a stunning indictment of their lack of either practical good sense or a free-enterprise philosophical attitude which should be supported by this nation among all the others on our globe.

Observers of the progress of the moon treaty, myself included, felt that it was safely stalled in committee for the indefinite future. Two primary opposing drafts, one American and one Soviet, were light-years apart. Even though the American draft was not all that we could have wished, you can imagine that it was substantially better for private actors in the space arena than the version offered by the Soviet Union. But with little warning, the American negotiating team apparently collapsed, leaving what has been called a compromise Soviet draft in circulation.

That draft is now on its way to the floor of the United Nations General Assembly, and anyone who believes that it will not pass that body with a wide margin is living in a different reality than I.

In my first discussion with some aerospace and space industrialization leaders concerning the committee action, I found a few individuals who were unconcerned about the treaty and its eventual implementation. Their opinion seems to be summarized by one comment. "The treaty says that removal of material from the moon can be done for scientific purposes, so we will just declare that all those millions of tons of lunar or asteroidal materials going into our powersats, etc., are nothing but scientific samples . . ." While that may be construed as a loophole (and thus has been suggested by even some space lawyers and NASA officials speaking off the record), it seems to me to be ludicrous on its face. Can we believe that the Soviets and the Third world will together ignore what is obviously a violation of the accord? Better that we ignore the treaty altogether, by refusing to ratify it in the Senate until it is renegotiated to a form which suits the American spirit of doing things.

Does the prohibition on private companies and even individual nations mining the moon for their own benefit really matter? The treaty provides for an "international regime" similar to "The Enterprise" of the law of the sea treaty, to engage in mining and other exploitive activities in space. This entity would see to it that all nations get a "fair share" of the profits which could flow from the moon mines. Doesn't this solve the problem? We will get our resources from the "regime" and all will be well. That is akin to saying that we get our crude oil from OPEC, and all is well. It is further like saying that if we'd only insert the Department of Energy even more so between the consumer and OPEC, things would even be better. It is a denial of the most fundamental principles of economics, not to mention morality. We have the experience of the law of the sea to guide us.

After the Challenger expedition (1873) discovered metal rich nodules on the ocean floor, it took less than one hundred years before the United Nations convened the Conference on the Law of the Sea (UNCLOS). Although the conference is concerned with wider issues than the sea floor wealth, much of the agenda is devoted to the problems of who owns the sea floor. The answers have been predictable though nonetheless depressing to space businessmen. Since the UNCLOS has decided that everyone owns the resources, that they are the "common heritage of all mankind," there has been little effort at widespread sea floor mining. (Certainly the other complicating

factor is the economic attractiveness of the venture, but even so it is already interesting that commercial U.S. firms have been trying to talk our government into giving them rights to mine the sea floor unilaterally.) The same prospect faces us in space. As space lawyer Arthur Dula says: "Resources which are owned by everybody are developed by nobody."

Using the progress of the UNCLOS deliberations as a guide, we can ask ourselves what the prime sponsor of the draft treaty, the Soviet Union, and the other supporters of the effort hope to gain from this accord. Originally, the Third World saw a threat to their trading in natural mineral resources from sea floor mining conducted by technologically sophisticated western nations. Further, they hoped to gain profits from such activity to institute what has been called "the new world economic order", a diplomatic code word for bolstering the flagging economics of the many developing nations at the expense of the developed. However, as the time of implementation of the sea floor mining was slowed by technical concerns, it became apparent that there was not going to be a windfall of profits from such activities, and the progress of the UNCLOS is stalled still. The moon is a different matter. Surely there is no expectation on the part of most of the countries who assisted in the drafting of this treaty that they will profit soon by the activity of the international regime which is to run extraterrestrial mining. And it seems that the Soviet Union is the prime mover behind the draft, which leads one to the conclusion that for most of

the countries involved, this is nothing more than a pleasant, if nearly irrelevant, legal exercise. Does the U.S.S.R. have something more in mind? It appears that they are more optimistic than most about the prospect for space mining, as indeed they have been about the general question of space efforts as they apply to problems of one sort or another. It may well be that the Soviets see themselves as being a major near future player in the space resources game, using some of the technology of the "regime" (which would no doubt be provided by the U.S.). In this way could the Soviets further exercise control over some world markets in technology and resources for their long term gain. Quoting attorney Dula again: "I believe this treaty will deter entry of private firms into space activities. The treaty is perfect for a totally socialist economy but not for a free economy."

My point to this editorial is simply stated: the draft lunar treaty may not prevent the actual exploitation of the moon or other celestial bodies in the future, but it will end forever the opportunity offered by the vast expanses and potentially fantastic wealth from space to improve our lives or enrich our spirits. While some may claim that an international regime is the best way to conduct human affairs in space, I say that history tells us it is not. We have done the experiment over and over. Free humans working for their own gain and their children's future have triumphed again and again over the muddled efforts of bureaucrats and diplomats. Let us not begin on the wrong foot in space . . . it is the last chance we have.

## NEWS NOTES:

**NASA'S FUTURE...**Washington... Is the future of the National Aeronautics and Space Administration in doubt? That is the question circulating among some industry observers as the White House conducts a review of the agency and examines problems with the Space Shuttle. Informed sources have told the Report that serious problems with the Shuttle schedule are causing deep concern within the Administration and the Pentagon, which was counting on early Shuttle availability to launch recon satellites for SALT II verification. NASA had plans to slip the Shuttle schedule more than they had previously announced to minimize the need for more money to finish the vehicle early. It now seems that NASA will need more than \$600 million (or three times what it said was necessary) to keep the schedule from slipping.

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