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PROTOCOLS TO THE SPACE TREATY

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Abstract

The terms of the 1967 Space Treaty are an example of legal technique: wide enough to comprehend future improvements of science and technology but, some questions could not be imagined by the time of drafting it:

a) commercial and industrial international activities; b) insurance for particular space operators; c) EVA activities; d) human space settlements; e) astronauts' labor legal régime, their rights and duties, with the launching State and in regard to the crew and space voyagers, too; f) legal condition of the space voyager; g) legal condition of the inhabitant of a human settlement in a celestial body; h) environmental aspects derived from human activities in celestial bodies and large stations, considering particular protection to the environment; i) protection of the electromagnetic spectrum in order to guarantee communications in space missions and, therefore, allowing their safety; j) criminal regime in space, celestial bodies and space stations crimes can be committed by astronauts, space voyagers and inhabitants, as well, so a legal frame-

work must be established before it is needed; k) implementation of the common heritage of humankind regime, to prevent misinterpretations; l) SETI; m) responsibility for damages caused in outer space and celestial bodies by persons other than astronauts; among other issues.

One of the main characteristics of space law is *prevision*; protocols could give —without modifying but updating the present legal regime— a juridical framework to allow the free development of these institutions and concepts and, therefore, maintain the enforcement of their regulation.

Space Treaty

This Treaty is the skeleton of the *corpus iuris spatialis*. Its principles are expounded and related in such a way that it is impossible to infringe one without violating at least another one. Many institutions and activities could not be previewed by the time of approving the Treaty (27 January 1967).

Article IV

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This article should bind any weapon, not only nuclear weapons in space, the Moon or celestial bodies. Since 1967 were developed many weapons that, in spite not being of mass destruction, are as dangerous as the other because the target can be carefully selected and distructed from space, doing only the previewed damage.

Peace is a term of uncertainty, -states Almond- recourse to "peace" as a principle or goal is unclear -but the relevance of law to peace shifts us to the relevance of law to global order and security, and to the policies among states in enabling peoples of the world to achieve the fundamental goals for which order is designed- that is the optimum conditions for achieving human dignity.¹

The second paragraph of the prementioned article IV should also contain the real sense of peace: harmonic coexistence among peoples. That is different than a mere disarmament and has a broader scope.

Charles Malik, former President of the United Nations General Assembly, recalls the clear contrast of the perspective of the UN between 1945 and 1985, when repeating what he said on April 28, 1945 in the Conference of San Francisco: ...when we look forward the years of peace in the future, we discover with distress how little has been borne in mind what must be done in the field of mind and spirit. Mostly we are dealing with means, instruments and machinery, with simple framework and form. Nevertheless, there is no doubt that what is fundamental is the spirit that fills and justifies said form. Is to the spirit and mind of man, to his ideas and attitudes that we must pay special care, if it is really peace what is going to be. If we do not assure the appropriate conditions for spiritual and intellec-

tual health, and if we do not establish what are the positive and right ideas for which man must live, I am afraid that all our work in this Conference may be vane... Armstrong adds to these reflections nevertheless, more than 150 local wars have been started since that Conference and that there is no hope of peace in Earth.²

Peace is a state of things, a feeling but, most of all, a decision of human freedom. Man is free of being in peace or in hate and disorder. It cannot be imposed. It just depends on man will.

Article V

The Space Treaty Protocol should introduce the protection of astronauts in space stations and settlements in celestial bodies, as well as in extra vehicular activities.

The protection due to astronauts shall be also applied to space voyagers, human settlers and any extraterrestrial human person, nevertheless, the nature of astronauts as envoys of mankind must not be extended to other humans outside Earth. The protection shall contemplate accidents produced in outer space, space stations and human settlements, territory of States Parties as well as high sea. By other side, the assistance must be rendered in the place of the accident by the nearest human person. Astronauts 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, astronauts shall render all possible assistance to other astronauts, space voyagers or settlers of a celestial body. Space voyagers and settlers of a celestial body shall render all possible assistance to astronauts, other space voyagers

and settlers and must cooperate in the rescue or salvation coordinated by astronauts.

Astronaut is the person appointed by the State of launching to perform space activities and that is considered envoy of mankind. All members of a space crew are astronauts, in spite one of them must be the commander.

Space voyagers are human beings in space rather than astronauts and cannot be considered envoys of mankind. Although any damage they can cause produces the launching State responsibility. Space voyagers shall cooperate and observe the instructions of the commander and crew of a space trip. The relationship must be of obedience to the authority of the commander.

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 celestial bodies, which could constitute a danger to the life or health of any being or for the environment.

In a near future space transport shall be a reality. Accidents may occur and therefore, investigated. The conclusions of said investigations shall be informed to the Secretary General of the United Nations.

The return of space objects must be also included in this article V, as well as the possibility of abandoning the space object assisted by the State of registry in favor of the State of assistance. The principle of remuneration in case of assistance must be also considered when a benefit is obtained. No remuneration must be given for the rescue of persons because this is an humanitarian legal principle.

Article VI and VII

Space plane has drawn attention to the problem of the delimitation between air and outer space, in order to define if responsibility arisen from its activities should be ruled by Space Law or by Air Law, among other questions. It seems that the only criterion able to overcome the obstacles of those based upon physical aspects, is the juridical criterion of the aim of the activity. If any damage occurs when said air-spacecraft is performing an air transport flight, no differences has to be made in connection with where said damage is caused -outer space or air- Air Law principles are to be applied.

Another question to be introduced is responsibility in space transport which imagined by the time of approving the Space Treaty. The principle of absolute and objective responsibility in case of damage on surface, air space or over the sea, is appropriate for extracontractual responsibility, because the victim cannot had assumed the risk of space activity. So, due to the created risk in space activity it is unavoidable to adopt the objective responsibility criterion. But what happens in the contractual responsibility, where the victim has assumed the risk of space activity? In this case, I think the answer is a subjective responsibility regime, because there is an assumed risk. In both cases responsibility should remain absolute, following the deep spirit of space law principles.

Article VIII

The question of space transport introduces the institution of the space voyager, who is not astronaut but over who the State of registry must retain jurisdiction and control, to

be able to assume responsibility for the damage said voyager may cause.

Article IX

The protection of environmental balance in outer space and celestial bodies should be introduced. It has to be kept in mind the uniqueness of environment in the universe. There are no borders nor frontiers limiting the environments of outer space, Earth or celestial bodies. Therefore, all environment is a protectable juridical good. Thus, it is important to add the fact of the moving of matter from Earth, outer space or celestial body to celestial body, outer space or Earth as well as to producing man-made debris.

The presence of man-made artificial debris in outer space constitutes a threat to the peaceful and beneficial exploration, exploitation and use of outer space and its natural resources. The constantly increasing volume of debris at critical orbital levels is restricting all of the uses of outer space. The time has come to sound an alarm.³ The main thing is not to produce debris. Man-made debris are the present danger in space activity, particularly in Earth low orbit. If production of new debris is not avoided, shields in space objects shall not be enough protection against debris collisions.

A piece of debris the size of an aspirin tablet travels at about 22,000 miles per hour, and packs the punch of a 400-pound safe moving at 60 miles per hour. More than 3,5million man-made objects, ranging from paint chips to defunct satellites, are whirling in orbit, each of which could damage spacecraft.⁴

Space debris put all future space activities at risk. Nations are reluctant to consider the costs in removal of debris, and some, jealous of their materials technologies, are re-

luctant to have there abandoned objects fall into the hands of others. A definition of debris that all will share has not been adopted, but debris clearly includes all of the fragments of objects that are not under a launching state's control. It is a potential source of damage or interference to the satellites of others. Satellites throw off components as a matter of course. Their booster remains in orbit as debris, or parts of a payload become detached in orbit, or in some cases, the satellites themselves become debris, remaining in space long after they have served their intended functions.⁵

Special attention must be paid to the protection of the electromagnetic spectrum in order to assure communications in space from which human life often depends on.

Suggested text of the protocol

Article IV

States Parties to the Treaty undertake not to place in orbit around the Earth any object carrying weapons, install such weapons in celestial bodies or station such weapons in outer space in any manner, or to accomplish any activity drawn to or that could put in danger peace.

Space and celestial bodies shall be used by all States Parties to the Treaty exclusively for peaceful purposes to maintain the harmonic coexistence among peoples in order and justice. The individual condition of personnel or equipment shall not be considered in regard of this prohibition.

Article V

States Parties to this Treaty shall regard astronauts as envoys of mankind in outer space, celestial bodies, and in stations and

shall render to them all possible assistance, in the event of accident, distress or emergency landing on the territory of another State Party, on the high seas or arrival in said conditions to a station or base of the State Party. When astronauts make such a landing, they shall be safely and promptly returned to the State of Registry of their space vehicle.

Astronaut is the person appointed by the State of registry to accomplish specific activities in outer space or celestial bodies. The space crews shall be composed by astronauts. Space voyager is any person authorized by the State of registry to travel in its space vehicle or stay for a certain period at a space station. Settler is the person who has established residence in a celestial body without purpose of returning to Earth, as well as any person born in a celestial body.

In carrying on activities in outer space and on celestial bodies, astronauts shall render all possible assistance to other astronauts, space voyagers or settlers of a celestial body. Space voyagers and settlers of a celestial body shall render all possible assistance to astronauts, other space voyagers and settlers and must cooperate in the rescue or salvation operations coordinated by astronauts.

Space voyagers shall cooperate and observe the instructions of the commander and crew of a space trip.

Space objects landed in emergency or because an accident must be returned immediately to the State of registry. Assistance to a space object must be remunerated to the astronauts and persons participating in the rescue or assistance, in accordance to the real benefit obtained in the assistance. The

remuneration shall be established by a special Commission.

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 celestial bodies, which could constitute a danger to the life or health of any being.

All accidents in outer space or celestial body shall be investigated by the State of registry and conclusions shall be informed to the Secretary General of the United Nations.

Article VI

States Parties to the Treaty shall bear international responsibility for national activities in outer space and celestial bodies, whether such activities are carried on by governmental agencies, non-governmental entities or physical persons, and for assuring that national activities are carried out in conformity with the provisions set forth in the present Treaty. The activities or presence of non-governmental entities or physical persons in outer space, shall require authorization and continuing supervision by the appropriate State Party to the Treaty. When activities are carried on in outer space or celestial body, 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 VII

Each State Party to the Treaty that launches or procure the launching of an object into outer space, including a celestial body, and each State Party from whose territory or facility an object is launched, is interna-

tionally 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, in outer space or celestial body.

Liability in case of damage shall be absolute and objective when damage is caused in Earth, air or in a human settlement in a celestial body. Responsibility shall be subjective in case of damage caused in outer space or celestial body out of a human settlement. In both cases liability shall be absolute in order to give the victim a full compensation.

Article VIII

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 or person traveling or born 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 their component parts, is not affected by the 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.

Article IX

In the exploration and use of outer space and celestial bodies, States Parties to the Treaty shall be guided by the principle of cooperation and mutual assistance and shall conduct all their activities in outer space and celestial bodies, with due regard to the corresponding interests of all other States. States Parties to the Treaty shall pursue studies of

outer space, including celestial bodies, and conduct exploration of them so as to avoid their harmful contamination and also adverse changes of the environment resulting from the extraction or introduction of alien 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 or celestial bodies, could cause potentially harmful interference with activities of other States Parties in the peaceful exploration and use of outer space and celestial bodies, it shall undertake international consultations in order to eliminate said risk before proceeding with any such activity or experiment. If a State Party to the Treaty has reason to believe that an activity or experiment planned by another State Party in outer space or celestial bodies, would cause potentially harmful interference with activities in the peaceful exploration and use of outer space and celestial bodies, may request consultation concerning the activity or experiment.

New aspects to be taken into account for future protocols to:

a. Agreement on the rescue of astronauts, the return of astronauts and the return of objects launched into outer space.

In a future protocol to this Agreement it should be introduced the duty of rescue and safety not only in Earth or seas but also in outer space and celestial bodies. The life and health of space voyagers must also be considered.

Another question to be added is the possibility of abandoning the space object to the State of rescue and the creation of a special commission to establish an adequate remuneration for the safety operations.

b. Convention on International Liability for Damage Caused by Space Objects

Damages to the environment, considered as a whole and as a consequence of space activities must also be attached. It must be also considered the hypothesis of damage caused by the moving of matter from Earth to outer space or celestial body and viceversa.

Damages caused by space voyager oblige the State of launching because the permanence of said person in outer space or on a celestial body should be authorized by said State.

Compulsory insurance before launching any space object should be established, as well as, the insurance of the space object's operator to cover the responsibility before the State of launching.

c. Convention on the registration of objects launched into outer space

The space plane rises the need of registration of any object or vehicle that can perform as a space object or with aeronautical purposes. The regime applicable to this case should establish that this objects must be registered while they are affected to space purposes. Once registered as space object its registration as aircraft -if any- shall expire automatically and viceversa.

New questions to be ruled in the future

Legal regime of the astronaut and crew.

The concept of astronaut should be defined as the person appointed by the State of launching that has a specific space activity to perform in the exploration or use of outer space or celestial body. The members of a

space crew are astronauts, but space voyagers are not included in said concept because their permanence in space or a celestial body is circumstantial.

The duties and rights of the astronaut and of the space commander, must be also ruled. The legal relationship with the State of registry entrusts the commander with the representation of said State during his permanence in outer space or celestial body. Responsibilities during an emergency in connection with crew, space voyagers and space object must be defined as well as his faculties.

The labor rights of the astronauts must also be contemplated in a future treaty on the legal regime of the astronauts.

Crimes in space

There are some criminal conducts closely related with space activities and that might be committed by astronauts or space voyagers.

These crimes cannot be confused with common crimes committed during a space mission or trip, as well as on a celestial body, human settlement or station. Space crimes must keep a necessary link with space. Are those that cannot be committed without performing or interfering a space activity. For instance: a murder on a space vehicle is not a spatial crime; the intentional fissure on a g-suit during an EVA operation, is undoubtedly a spatial crime. Another criminal space conduct can be the intentional sending of wrong information; the destruction or damage to space devices in the vehicle, station or settlement is also a spatial crime. The vital dependency with technology in space is a factor that aggravates the crime.

Space Transport

The appearance of the space plane has introduced urgency in solving some questions: the delimitation between air and outer spaces; responsibility for damages caused during the execution of a transport contract; rights and duties of the subjects in the contract, among other.

The rules to be applied to the transport contract in space are space law rules, but when that transport is between two points on Earth through outer space, the legal regime to be applied is air law, because that is an air law transport contract. When the transport links two or more places in outer space, or a place in Earth with outer space, a station or celestial body, there is no doubt that it is a space law contract.

Responsibility for damages caused during a space trip should be absolute but subjective, because there is no created risk but an assumed risk by the space voyager that does not justify an objective responsibility regime.

Legal condition of persons born in space or celestial bodies

The future human civilizations in other celestial bodies, after several generations of human settlements in outer space, shall bring to reality extraterrestrial human beings that we must preview in our legal order. Relations with this E.T. persons must be analyzed within the framework already given in SETI matters due to the fact that in human settlements no terrestrial state sovereignty may be recognized and persons born in celestial bodies cannot be submitted to terrestrial states power.

Another question to be taken into account is that said ET human shall have a different person condition. Person was the mask used by actor in Greek theater, the term turned to be used to describe the condition of the individual using it. Returning to our reflections, we must recall that after some generations in another celestial body, it is most probable that human beings will have adapted to their new environment and several physical and biological modifications may appear. These modifications may be noticed in the aspect of these new *persons* and, therefore, their condition would have been changed.

There is no sovereignty in space nor celestial bodies, thus persons born on a celestial body cannot have nationality for that is the link between a person and the nation to which said person belongs to. We cannot talk of nationality, but we still have the human condition of said person. And this condition is not other than human.

The principle of respect due to any person is fruit of the human condition can be the gold rule governing the lives of persons in outer space or on celestial bodies. This rule must be extended in case of contact or relationship with extraterrestrial intelligences, as well.

Conclusions

1. It is necessary to elaborate protocols to the Space Treaty so to be able to update it with those concepts arisen after said Treaty entered into force, and without modifying nor distorting the present principles.
2. There are some new activities and institutions that require legal framework with urgency. Thus it is also necessary to elaborate protocols to the other treaties of the

corpus iuris spatialis and to study the text of new agreements that shall be necessary to cover other new aspects: as criminal law, insurance, human settlements in celestial bodies and permanent stations.

Footnotes

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 - ² Armstrong, Herbert T., in a Director editorial he quotes Charles Malik in *La Pura Verdad- Revista de Comprensión*, October-1985, these opinions are also quoted in *Semanario TEMAS*, director and editor Marcelo Mendieta, año V, N° 278, 31 October de 1985, Buenos Aires, page 3.
 - ³ Christol, Carl Q., Space debris and military testing, *Proceedings of the 31st Colloquium on the Law of Outer Space*, October 8-15, 1988, Bangalore, India, p.234
 - ⁴ Lawler, Andrew, Orbiting Junk May Justify Station Shield, *Space News*, vol. 3, N° 21, Army Times Publishing Co., June 1-7, 1992, pg. 1-21.
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