

IS IT NECESSARY TO REDEFINE PRINCIPLES AND CONCEPTS OF THE OUTER SPACE TREATY?

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Introduction

After thirty years of the entering into force of the Outer Space Treaty, some adjustments seem to be necessary, taking into account the development of space activities, consequently the new situations, needs, factors, and resources arisen, and the previewing characteristic that Space Law used to have in its beginnings. At the present we witness how Law hurries up after technology, trying to adjust its provisions to facts already occurred. A deep study towards the real understanding of the principles must be carried out to maintain the enforcement of the *corpus iuris spatialis* and its peculiar spirit. No amendment to the Treaty is necessary at all. A protocol could enshrine those principles that appear to be necessary to rule the new activities and legal relations not previewed in the present international instruments, and may include, as well, an updated interpretation of them adequate to the new times.

Principles in force that should be included in the protocol

Activities in accordance with international law and in the interest of maintaining international peace and security and promoting international cooperation and understanding.

Peace and security are values that depend on order, law and good faith. They are values of common welfare and for that reason must be observed above any particular interest or benefit. The question of space debris is closely linked with this and space contamination should be included within the principles of general benefit, security, peace and observance of international law.

We must remember that in occasion of the Jupiter plutonium powered probe, President George Herbert Bush was sued by several non-profit organizations.¹ The suit was based on the risk the plutonium meant for Earth during the launching and while the probe was in Earth orbit. The same legal and factual reasons move those who protest against the Cassini-mission, also plutonium powered, which ended with the arrests of several dozen people. The Cassini rocket is scheduled to be launched October 13 for a seven-year trip to Saturn. The rocket shall be powered with 72 pounds of plutonium.²

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The results of the Cassini mission may be huge for humanity. One cannot imagine how many new data can be achieved. But, bearing in mind what is happening with the Mir mission, what could result from of an accident: the threat of contaminating air space, the Earth's surface, and the sea. In case of an accident the risk may remain for many years. People's health and lives are worthy enough to wait until an absolutely secure technology can be managed. If a collision happens in outer space with another spacecraft there may be loss of human lives and contamination traces spreading in space besides the debris.

Use of space with peaceful purposes

Article IV of the Treaty establishes one of the most important principles in Space Law and in Law in general terms.

The first paragraph prohibits specific acts or attitudes that infringe the concept of peace. But in the second paragraph, the text is more clear and definitive. It states that *the Moon and other celestial bodies shall be used... exclusively for peaceful purposes*. This sentence is so condensed that it makes all the rest of the article almost redundant.

Astronaut

The Space Treaty was opened to signature the same day that three American astronauts died scorched after the *Apollo I* test failure,³ and entered into force two years before the arrival of man to the Moon. After thirty years the astronauts still lack international legal protection.

Space transport, close to get to reality, urges the establishment of the legal statute of cosmonauts and commanders in spacecrafts.

Article V of the Space Treaty establishes that State Parties to the Treaty *shall regard astronauts as envoys of mankind in outer space*. This status applicable only when the cosmonaut is in outer space, extends to an unintended landing,

accident, distress or emergency on the territory of another State Party or in high seas.

This astronomical solidarity is specially established to rule the need of assistance and rescue in space. We have recently lived the experience of assistance when the crew of Atlantis cooperated with the crew of the Mir station in repairing the module. For the first time a foreign astronaut got out of an American vehicle for an EVA mission.

Cosmonauts are defenseless in space. Radiation, debris, and a hostile environment lurk around this man's health and life. The worker that does more for humankind is the one with less practical and legal protection.

A cosmonaut's responsibility is huge in both professional and human terms. His acts obligate the launching State's international liability, may endanger the mission and also jeopardize the terrestrial environment and human health. In outer space the possibility of mistake can have terrible consequences for his life and for the life of other cosmonauts in orbit. In space he is alone, it is he who makes decisions and puts them in practice.

At the present crews are constituted by more than one cosmonaut, therefore that loneliness is relative but not for the commander, who is in charge of the security of the persons and vehicle and for the prosecution of the mission.

The status of *envoy of humankind* means a great honor for any person, but in the case of cosmonaut should also entail rights. To such a responsibility must encompass parallel rights to get to a balance between duties and rights. The captain of a ship, the commander of an aircraft have their clearly specified duties but are also provided with rights and faculties to achieve a good end for their missions. This should be included in a protocol to the treaty.

The psychological stress that cosmonauts have to support is different than the one suffered by other workers. A sailor may be separated from

his family and homeland for several months but he does not work in a place of extremely reduced dimensions without having the possibility of going outside to breath fresh air or of having some fun in a stopover. The cosmonaut works in a hostile environment, his life is in danger during the whole mission and he may get ill and die for having been exposed to radiation, which he cannot avoid.⁴

Space object

To define space objects appears to be urgent due to future space stations, settlements in celestial bodies, EVA activities, etc.

The description made in the Convention on Registration of Objects Launched into Outer Space in Article I, does not define the concept, it just explains what elements should be included within the concept of space object: *launch vehicle and parts thereof*.

We understand that a space object is any device able to transport through outer space persons or things from or to Earth or a celestial body, or to develop any activity in outer space, as well. It is a concept that encompasses either the launching vehicle and the parts thereof.

The importance of reaching a definition of space object resides in the fact that new vehicles have risen in the space scenery: the space planes, that can fly in air space as aircrafts and move through outer space as space vehicles. In this case it is important to refine the concept for the same device can perform air transport and space transport as well.

Human settlements. Notion of humankind

Undreamed possibilities have arisen from space. Who could speak of human civilizations in space in 1967? The project of human settlements on celestial bodies generates the need to reflect on the meaning of humankind concept, to contemplate persons born on other celestial bodies, in

space stations and to understand the framework of the relationship that could be established if an extraterrestrial civilization is contacted. Five centuries ago years Francisco de Vitoria did so when America and its inhabitants were discovered.

Common heritage of mankind

Commercial activities have caused legal difficulties in the application of the common heritage of mankind principle. The principle of international cooperation—as a condition *sine qua non* for the lawfulness of space activities—was always a heavy duty for space faring states in the planning and execution of their space enterprises. Vertical cooperation requires not only a great quantity of patience and efficient diplomacy, but also an adequate understanding of the principle of mankind as legal subject and of the fact that said activities, that are performed in an environment owned by mankind, must aim the benefit for all mankind. In this sense, the principle of international cooperation is inseparable from the common heritage of mankind. To harmonize these matters is a hard task, but the fruits derived thereof, deserve the efforts.

A general assumption that the common heritage of humanity and benefit for all humankind principles are source of illegal enrichment of nations—passive in connection with the activities and the necessary investments—has led to the poor ratification of the Moon Agreement and the diminution of advanced proposals, in order to follow the leadership of law in astronautics.

Absolute international responsibility of states

State is not often mentioned in the *corpus iuris spatialis*. When a provision refers to state, it means it is alluding to a duty. Since article II of the Space Treaty State has been deprived of rights in Space Law.

Absolute responsibility is closely linked to the principle of the *restitutio in integrum* established in old Roman Law.

This responsibility is moreover, objective when it is born in damages generated on surface or in air space, and subjective if damage is caused in outer space. How can the responsibility generated in damages caused on a celestial body be defined? What responsibility is applicable to damages caused during transport made with spaceplanes?

Is it necessary to return to the issue of the delimitation of the boundary between space and air spaces? I believe that the answer is and was in the doctrine of the purpose borne in mind when an activity is performed. The teleological theory to determine which legal régime is applicable to a certain situation overcomes the difficulties derived from the delimitation of both spaces. This criterion establishes that if an activity has been performed having in mind a spatial aim, Space Law must rule it in all its aspects. If that activity was conceived to achieve any aeronautical goal, then Air Law rules it in all its aspects.

The criteria established until now have been put in crisis with the event of the space-aircraft.

New principles that should be included in the protocol

Spatial conscience

Future human settlements in space and in celestial bodies put under discussion several issues that may introduce new principles in Space Law. Solidarity is the first manifestation of this phenomenon; assistance in space⁵ is due to the feeling of belonging to the same nature, is the result of respect and consideration for the fellow.

The possibility of establishing human permanent settlements in space introduces the question of what civil rights may the settlers have. Shall the

concept of nationality be transformed in a concept of race or gender? If States cannot exercise any sovereignty right out from Earth, which shall be the political and civil status of the settlers?

Recent technological and cultural achievements —as Internet, for example— have showed humankind in a clear and indisputable manner that all human beings belong to the same and unique humanity, which, for the meanwhile and up what we know, is placed as civilization in only one planet: Earth. Times shall come when humanities, developed in several celestial bodies and large space stations, will inhabit.

This is not far from the common sense of peoples. Popular literature and cinema preview this phenomenon. This possibility implies a spatial conscience that is being developed and that Law must recall and give legal framework to.

Space Transport

Responsibility in space must be meditated in order to rule future space transport and aeronautical activities closely linked with satellite airnavigation security systems and the utilization of space-aircrafts, within the spirit of the *corpus iuris spatialis*.

Several Air Law institutions must be transformed, as there is no sovereignty in space we cannot talk about the Parties' territory but of State of launching jurisdiction and control. First and second air freedoms should be preserved and adapted to space activities in the following way: 1st freedom: the freedom of moving throughout outer space and in celestial bodies orbit;

2nd freedom: the liberty of descending on celestial bodies or arriving to a space station with no commercial purposes.

The other three air liberties cannot be adapted to space transit or traffic because space settlements may be originated in several states of

launching or in other settlements in celestial bodies, thus there cannot be identified any state exercising jurisdiction and control.

Another subject that must be clarified in a future protocol should be duties and rights of the commander and the status of passengers. Should all of them be considered astronauts?

There is no doubt that during the travel the commander should be in charge of the security of the vehicle, persons and things on board. This obligation should end when the vehicle arrives to destination.

Contractual responsibility should be absolute in space transportation, and it should be based on guiltiness of the transporter. There is no reason to change the legal framework of responsibility for damages caused with space objects launched into outer space. The foundation in guiltiness derives from the fact that passenger and shipper assume the space risk when contracting transportation, thus, they are in a different position from the one of the damaged person on the surface, in air space or on the sea.

Conclusions

1. The Outer Space Treaty must not be modified, to preserve its spirit and the integrity of its principles.
2. A protocol should be established to introduce the new necessary principles and to clarify the interpretation of those in force enlightened by the new technological, social and cultural circumstances.

Footnotes

¹ Re: Florida Coalition et al v. George Herbert Bush.

² CNN Interactive Quicknews, October 5, 1997, Internet.

³ See USA Today October 2, 1997, electronic edition by Internet: Air Force pilots flew over Cape Canaveral in the missing-man formation, concluding a service for the three Apollo 1 astronauts killed in a launch pad fire 30 years ago. Virgil "Gus" Grissom, Edward White II and Roger Chaffee died inside their burning capsule during a test on Jan. 27, 1967. NASA has generally not observed the anniversary but has held programs in memory of the space shuttle Challenger's explosion, 11 years ago.

⁴ Michael Foale, USA astronaut, got back to Earth after being 144 days in Mir station, separated from his family and planet, so did a Russian astronaut after a similar period after being unable to move his legs for the long permanence in space.

⁵ The space shuttle Atlantis headed toward home after a successful six-day visit during which it left behind an American astronaut and a rejuvenated central computer on the Russian space station Mir. The space station, meanwhile, prepared to receive another visitor.