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Principles Governing States' Activities in Outer Space Under New International Legislation

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Abstract:
Every legal system is based on principles that give it the binding power to enforce compliance among others. As space law is a branch of public law, several principles have contributed to its establishment and development. These principles may be general, falling under the umbrella of international law, or they may be specific to space law itself, distinguishing it from other branches of public law.
The international system has adopted various principles governing outer space, dealing with issues such as its use and the regulation of activities conducted therein. This framework is based on the principles of equality and the maintenance of international peace and security. Referring to the General Assembly Resolution of 13 December 1963 (Resolution 1962) and the Outer Space Treaty of 1967, we note that these documents enshrine the principles on which this system is based.

Keywords: Outer Space Law, International Responsibility of Launching States, Outer Space, Astronauts, Celestial Bodies

INTRODUCTION

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, emphasises that outer space is to be used for the benefit and in the interests of all nations, regardless of their economic or scientific development. It asserts that access to all areas of celestial bodies is free and that no state may claim sovereignty, impose ownership or occupy space by any means[1].
This leads us to the question: What are the principles that regulate and govern the activities of States in the use of outer space under international law?
In order to answer this question, a descriptive analytical approach has been adopted, involving the collection and analysis of information and the attempt to draw connections between them. Consequently, this study is divided into two main sections:
Section One: Uses of space
The optimal use of space is crucial to the growing international competition, which is often linked to the degree of absolute freedom a state enjoys without causing harm to others.
Accordingly, we will discuss the freedom to exploit this region in the first section and the exceptions that limit this freedom in the second.

I. Freedom of use of outer space

Article 1 of the 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space establishes the freedom to explore and use outer space, as well as the Moon and other celestial bodies[2]. It is now recognised that all States have complete freedom in the use of outer space, based on the principle of non-discrimination among States and on full equality in this domain[3]. However, this freedom to use outer space does not mean chaos; it is a freedom exercised within the framework of international law. Article 3 of the 1967 Treaty clearly states that this freedom must be

exercised in accordance with the law and must not be contrary to the principles of international law and the Charter of the United Nations[4].

From this we can derive a rule similar to that known in traditional international law concerning the high seas. This rule was reaffirmed in the recommendation contained in General Assembly Resolution No. 1721, adopted in 1961 at the 1085th plenary session of the Sixth Session of the United Nations General Assembly, which prohibits all States from claiming ownership of outer space. Furthermore, this principle was reiterated in the official declaration of Resolution No. 1962, adopted on 13 December 1963 during the 18th session of the General Assembly, which states that :

> "National appropriation of outer space by claim of sovereignty, by use or occupation, or by any other means is not permitted".

In addition, the Treaty established pursuant to General Assembly Resolution No. 2222 (21st Session) of 9 December 1966 specifies in its second article that: :

Moreover, this principle - the principle of freedom of use of space - is in line with the views of the majority of scientists. The jurist Charles Chaumont, in his book *Space Law*, states that it can be said that space serves mankind, but this does not imply ownership. Similarly, Pasini Costadoat, in his book *EL espacio Aéreo*, published in Buenos Aires in 1955, argued that the absence of national sovereignty in space leads to a shared sovereignty between states[5].

II. Exceptions to the use of outer space

The Outer Space Treaty provides general legal procedures and rules in this regard. Article 9 obliges the signatories to avoid contamination of outer space and celestial bodies and to preserve the Earth's environment. In addition, Article 4 of the same treaty emphasises the prohibition of the use of outer space or celestial bodies for the placement of nuclear weapons or weapons of mass destruction, as well as for the establishment of bases and fortifications. However, this prohibition does not extend to activities such as espionage conducted from space stations. Article 3 clarifies that space activities must be conducted with the aim of establishing international peace and security and promoting international cooperation and understanding. There is no doubt that surveillance of foreign territory cannot be considered an act of cooperation, although it could be argued that it contributes to maintaining security[6].

On the other hand, Article 12 of the Treaty explicitly states that monitoring is permitted by allowing the Parties access to space facilities located on celestial bodies or the Moon, provided that prior notice of the visit is given in order to take the necessary precautions[7].

In order to ensure a proper understanding of the use of outer space for peaceful purposes, as established by international treaties and agreements, it is essential to prohibit and ban its military use. This is in line with the objectives of the new international order and responds to the significant disarmament efforts, in particular the non-use of weapons in outer space. Given that the issue of disarmament is one of the most important and complex challenges of our time, numerous attempts have been made to reduce it through international cooperation, the efforts of the United Nations and international agreements aimed at making space weapons-free[8].

Furthermore, the use of military personnel for scientific research is inconceivable; however, the use of military personnel for scientific or other peaceful purposes is not prohibited. In addition, the use of any equipment or facilities necessary for the peaceful exploration of the Moon and other celestial bodies cannot be restricted. It is noteworthy that the Treaty explicitly prohibits the use of the Moon and other celestial bodies for military operations, whether for establishing military bases or conducting military experiments. The prohibition refers specifically to nuclear weapons and other weapons of mass destruction, while the treaty does not prohibit the placement of conventional weapons in Earth orbit in outer space. This interpretation of the Treaty's provisions has been adopted by the major powers[9].

Section Two: Assistance to Astronauts and Jurisdiction of States Parties

The exploration of space has given rise to a number of problems that highlight the importance of international cooperation, particularly in assisting astronauts in the event of accidents or other mishaps. These astronauts are considered by States as ambassadors of humanity in space. The spacecraft they use are also of paramount importance to States, reflecting their technological advances.

This section will therefore focus on assistance to astronauts and the jurisdiction of the State of registry over spacecraft, as well as the international responsibility of the launching State.

First: Assistance to Astronauts and the Jurisdiction of the State of Registry over Spacecraft

The question of assistance to astronauts and the return of objects launched into space was included in the tasks of the United Nations because of the interest of both the Soviet Union and the United States in reaching an agreement on this matter, as well as the interest of other countries. Representatives of some nations expressed their views on the subject, considering the agreement as a significant step towards the formulation of space law. They saw it as a direct expression of support for international cooperation in the exploration and use of outer space, as well as a means to establish international peace and security and to mitigate international disputes, reaffirming and strengthening humanitarian considerations[10].

Thus, at the request of the Soviet and United States delegations, the Legal Subcommittee met in a special session on 14 December 1967. On 15 December 1967, the text of the draft Convention was approved by consensus and then submitted to the General Assembly, which adopted it unanimously on 19 December 1967. It was signed in London, Moscow and Washington on 22 April 1968 and entered into force on 3 December 1968[11].

Article One of the Agreement states that the State concerned with the astronauts and the Secretary-General of the United Nations shall be notified immediately by all possible means[12]. Article Two states that in the event of accidents, emergencies or unintentional landings, the Parties shall act promptly to rescue them and render all possible assistance, informing both the launching authority and the Secretary-General of the United Nations[13]. Article Four emphasises the principle of assistance, including in international waters or areas not under their sovereignty[14]. Article Five emphasizes and reaffirms the importance of international cooperation in the safe return of astronauts to their respective countries[15].

In particular, while Article Two states that the launching State is subject to the jurisdiction of the State Party when providing assistance on its territory, it does not specify which authority will determine whether such assistance is of high technical and scientific value. This raises concerns for territorial States, especially those not substantially involved in space activities, as it allows the launching State to unilaterally intervene in the territory of the Contracting State under the pretext of providing search and rescue assistance. However, the scientific reality shows that the launching State has advanced scientific capabilities in rescue operations, given its accumulated expertise and modern techniques in this field, which significantly enhance its operational effectiveness.

Article Five of the Agreement on Rescue and Return requires States Parties that receive information or discover a space object or one of its components that has returned to Earth in areas under their jurisdiction, in international waters, or elsewhere not under the jurisdiction of any State, to notify the authorities of the launching State and the Secretary-General of the United Nations. They must then return these objects to the launching State, except in cases where the object poses a threat or is harmful to health[16].

In addition, Article Three of the Outer Space Treaty stipulates that objects launched into space remain the property of the launching authority. The Agreement on Rescue and Return strengthens this provision by committing the States concerned under Article Five as follows:

The second paragraph mandates that a State discovering an object or part thereof shall take the necessary measures to return it to the launching authority upon its request and assistance.

Furthermore, the third paragraph requires the States concerned to inform the launching authority and the Secretary-General of the United Nations if they discover the return to earth of any object or part of an object that has been launched, whether on their territory or outside it.
The fourth and fifth paragraphs state that in the event of an imminent threat posed by a detected space object or its components, the launching authority must notify the State concerned and take all necessary measures to eliminate the threat. In addition, it is responsible for bearing all costs associated with the obligations to recover and return a space object or its components[17].
A spacecraft is defined as "a vehicle designed to be placed in orbit as a satellite around the Earth or another celestial body, or to traverse certain passages in space"[18]. Spacecraft are classified into five types based on the nature of their missions:
1. Satellites: These are vehicles that orbit the Earth at altitudes ranging from 100 miles to several thousand miles. They perform specific tasks typically related to the Earth, such as reconnaissance and communications. Thousands of satellites have been launched since the beginning of the space age.
2. Unmanned space probes: These spacecraft leave Earth's gravity completely and travel to the Moon or other planets to conduct scientific experiments and make specific measurements.
3. Manned and unmanned vehicles: These missions are more challenging and complex and represent the cutting edge of space technology. Key examples are the Apollo, Soyuz and Space Shuttle programmes. These vehicles are tasked with missions that may involve risks to human life, such as landing on Mars. The most notable of these sophisticated vehicles is the American "Viking" spacecraft, which landed on the surface of Mars.
4. Space stations: These represent mankind's efforts to establish a presence in space. Notable examples are the Salyut, Mir, Skylab and Alpha space stations[19].
Once the principle of freedom of space has been agreed by the international community, the activities carried out in space are not subject to any authority, similar to ships on the high seas, which are subject exclusively to the jurisdiction of the State whose flag they fly[20].
Historically, the right of ownership of space-related assets has been limited to the public sector of the state, to the exclusion of the private sector. However, there has been considerable disagreement among legal scholars regarding state ownership of spacecraft and their oversight after launch. Dr Ibrahim Shahat summarises these differing views as follows:
Some scholars argue that once the spacecraft leaves the atmosphere, it becomes similar to abandoned property and the ownership rights of the launching state cease.
Another view suggests that the spacecraft should be considered lost property rather than abandoned, requiring its return to the owner if it comes into the possession of another party.
A third view distinguishes between spacecraft intended for recovery and those launched without such intent. In the former case, ownership remains intact and the spacecraft is not considered lost property. In the latter case, if the spacecraft lands on the territory of a foreign state, it becomes the property of that state, which alone has the right to manage it.
Another view simply states that the return of the spacecraft to the launching State is governed by the national laws on lost and abandoned property of the State in which it lands.
A further view draws parallels with the rules applicable to aircraft entering foreign airspace[21].
The United Nations has resolved these disputes through decisions of the General Assembly, culminating in the adoption of the "Convention on Registration of Objects Launched into Outer Space" in 1975.
This Convention was signed in New York on 14 January 1975 and entered into force on 15 September 1976. It has been signed by 25 States and ratified by 5, with many others joining later. The purpose of the Convention is to supplement and implement Articles 7 and 8 of the Outer Space Treaty and the registration system in place at the United Nations Secretariat since the adoption of Resolution 1721 on 20 December 1961. The Convention consists of a Preamble and twelve Articles[22].

The agreement begins in its first article by defining certain terms derived from the Liability Convention, such as the "launching State," which refers to the state that launches or is responsible for the launch, specifically the state from whose territory or facilities a space object is launched.
A "space object" is defined as any component of a space body, excluding launch vehicles and their equipment. The "registering State" refers to either the launching State or the launching country that records the space object in its registry, as stipulated in Article 2 of the agreement[23].
Article 2, in its first paragraph, mandates that states or the launching State must register their space objects in an appropriate registry and ensure its maintenance, as well as notify the Secretary-General of the United Nations of the establishment of this registry.
The second paragraph clarifies that when two or more launching States are involved with a space object, they must agree and cooperate to determine which State will be responsible for registering the object in accordance with paragraph 1 of the same article, taking into account the provisions of Article 8 of the Outer Space Treaty on the activities of States in the exploration and use of outer space, including the Moon and other celestial bodies[24].
Article 3 states that the Secretary-General of the United Nations shall maintain a register containing all information that is accessible and subject to verification[25].
With regard to Article 4, its first, second and third paragraphs emphasise that registered States shall provide the Secretary-General of the United Nations with information on their space objects as specified in the text, including
a. The name of the State or launching State
b. Designation identifying the space object or its registration number
c. Date of launch and region or location from which it was launched
d. Key orbital characteristics, including
   1. Period
   2. Inclination
   3. Apogee
   4. Perigee
e. General function of the space object

In addition, the Agreement provides that the registering State shall periodically provide any additional information on all space objects registered in its records, as well as information on any space objects for which it has previously provided data when they were in Earth orbit but are no longer there[26].
This Agreement shall also apply to intergovernmental organisations when they engage in space activities, provided that they accept the rights and obligations set forth in this Agreement and that a majority of the States that are parties to this Agreement are parties to both this Agreement and the Outer Space Treaty[27].
As far as the articles are concerned, in particular Articles 8 to 12 of the Agreement, they follow the procedures found in other international space treaties [28], with one important difference: the instruments of ratification and accession will be deposited with the Secretary-General of the United Nations, unlike previous treaties where such documents were deposited with the designated governments[29].

Second: International Responsibility of the Launching State

The promotion of the exploration and use of outer space for peaceful purposes serves the interests of all mankind. It is clear that, despite the precautions to be taken by States and international institutions involved in launching space objects, these objects may still cause some damage. It is therefore essential to establish effective international rules on liability for damage caused by space objects, in

particular to ensure the prompt payment of full and equitable compensation to the victims of such damage.

These rules shall promote international cooperation in the field of exploration and use of outer space for peaceful purposes and shall impose on the launching State the responsibility to compensate for any damage caused by its space object to the surface of the earth or to aircraft in flight[30].

The 1972 Convention on International Liability for Damage Caused by Space Objects, in its first article, provides certain definitions for terms used in the agreement, stating that:

For the purposes of this Convention:

(a) The term "damage" means loss of life, bodily injury or any other impairment of health, as well as loss of or damage to property of the State or of natural or legal persons or property of international governmental organizations.

(b) The term "launch" includes an attempted launch.

(c) The term "launching State" means

1. The State that launches or organises the launch of a space object.
2. The State whose territory or facilities are used for the launch of a space object.

(d) The term "space object" includes the components of the space object, as well as the launch vehicle and its parts[31].

The Convention on Liability establishes rules on liability for damage resulting from space activities, that is, human activities related to the exploration and use of outer space, including the design, manufacture, launch and operation of space objects in outer space[32].

Definition of "launch".

Article 1(b) of the Liability Convention defines "launch" as an attempted launch. Although this text is not very explicit, it does not provide a precise definition of the launch process itself. In comparison, the English text states that "(launching includes attempted launching)", using the word "includes" rather than "means". This indicates that the term "launch" includes attempted launches and may also include other related activities[33].

B - Launching State

The Outer Space Treaty confirms that the launching State bears full responsibility, as stated in Article 7: "Each State Party to the Treaty which launches or permits 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, shall be internationally responsible for damage caused by such object or its parts on the surface of the Earth or in outer space, including the Moon and other celestial bodies"[34].

The Agreement on the Rescue of Astronauts and the Return of Objects Launched into Outer Space (1968) uses the term "Launching Authority" (Autorité de Lancement)[35]. According to Article 6 of this Agreement, the term "Launching Authority" refers to the State responsible for the launch, or to the relevant organisation when one of the international governmental organisations is responsible for the launch, provided that the organisation has declared its acceptance of the rights and obligations set forth in this Agreement and that a majority of its member States are 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[36].

In contrast, the 1972 Convention on International Liability for Damage Caused by Space Objects defines the launching State in its first article as follows

"The term 'launching State' means:

1. The State which launches or causes to be launched a space object.
2. The State using its territory or facilities for the launch of a space object"[37].

It is noteworthy that the alignment is clear in defining the concept of the "launching state" in both the Outer Space Treaty and the Liability Convention[38]. The Legal Subcommittee on the Peaceful Uses of Outer Space (COPUOS)[39] has studied the concept of the launching state as the entity responsible for

international liability for damages caused by space objects in a three-year work plan. It can be said that the launching state encompasses four categories of states:
1. The State that launches the spacecraft and arranges for its launch.
2. The State from whose territory the spacecraft is launched.
3. The State using its facilities to launch the space object.
The State launching the space object is the State from whose territory the launch takes place, whether it owns the launch vehicle or the payload[40]. The state arranging the launch is usually the one that is financing the operation and often owns the payload. In this context, the launching State uses its vehicles for the launch operation[41]. Meanwhile, the state that owns the space object or finances the launch operation is the state that arranged the launch. The State from whose territory the space object is launched is defined as the State from which the launch takes place, regardless of the ownership of the launch vehicles or the payload[42]. Finally, the State using its facilities for the launch is the State that provides the infrastructure used in the launch operation, such as its launch vehicles[43].
There is a general consensus among States on the principle of international responsibility of States for damage caused by space objects[44]. This is reinforced by Article 6(1) of the Outer Space Treaty, which states: "States Parties to the Liability Convention shall bear international responsibility for all national activities in outer space, including the Moon and other celestial bodies, whether conducted by governmental or non-governmental entities, and for ensuring that such activities are conducted in accordance with the principles established in this Convention.[45]"
This means that States are responsible for their national space activities, whether these activities are carried out by governmental entities of the States Parties or by non-governmental entities. In addition, non-governmental entities engaged in such activities must be authorised by the government and operate under its continuing supervision. When space activities are carried out through international organisations, the responsibility to comply with the principles rests with both the organisation and its member states[46].
This is reinforced by the provision that States Parties must grant licences to non-governmental entities when they engage in space activities and must exercise continuing oversight of those activities[47]. Article 7 of the Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (1967) imposes international liability on States launching or permitting the launch of a space object, or on any State from whose territory or facilities a space object is launched, for damage caused to any State or to any natural or legal person by that object or any part thereof, whether on the ground or in space[48].
Article 2 of the Liability Convention establishes the responsibility of the launching State[49]. It specifies that the responsibility of the launching State, whether it is the State from whose territory the launch takes place, the State which arranges the launch, or the State which uses its facilities for the launch, is absolute with regard to compensation for damage caused by its space object on the surface of the earth or to aircraft in flight[50].
In the case of joint space projects, the liability of the participating States for damage caused by the launch of a space object is shared, i.e. there is collective and reciprocal responsibility among the participating States[51]. A State that pays damages has the right to seek recourse from all other participants in the launch. In addition, participants in the launch may enter into agreements to share the financial obligations for which they are collectively responsible. States whose territories or facilities are used in the launch of a space object are also considered participants in the launch.
The liability imposed by the Liability Convention for damage occurring on the surface of the earth or to aircraft in flight is considered absolute, requiring compensation for such damage in accordance with Article 2 of the Liability Convention. Thus, for damage occurring in other places not specifically mentioned, the launching State bears responsibility on the basis of fault. Article 1 of the Convention defines "damage" as loss of life, personal injury or any other injury to health, as well as

loss of or damage to property of States, natural or legal persons, or property of international governmental organisations[52].

The launching State may be exempted from absolute liability if it can prove that the damage was caused, in whole or in part, by the gross negligence or wrongful act with intent to cause damage of the claiming State or of the natural or legal persons it represents. However, there is no exemption in cases of damage caused by activities of the launching State in violation of international law, the Charter of the United Nations and the Treaty governing the activities of States in the exploration and use of outer space, including the Moon and other celestial bodies[53].

In addition, Article 7 exempts the launching state from liability to its own citizens and even foreign citizens participating in the launch of the object, stating:

"The provisions of this Convention shall not apply to damage caused by a space object of a launching State to the following persons

A. Citizens of that launching State".

B- Foreign nationals while participating in the operation of that spacecraft from the time of its launch or at any subsequent stage until its landing, or while present, at the invitation of the launching State, in the immediate vicinity of the area where the launch or recovery is to take place[54].

Claims for damages shall be submitted to the launching State by peaceful means or may be submitted through the Secretary-General of the United Nations, provided that both the claimant State and the launching State are Members of the United Nations[55].

The time limit for submitting a claim for compensation to the launching State shall be one year from the date of the occurrence of the damage or from the date on which the launching State is determined to be responsible. However, Article 10, paragraph 2, of the Liability Convention provides that if it is impossible to determine the responsible launching State, the claim may be presented within one year from the date on which the claiming State actually became aware of the facts referred to, and this period shall not exceed one year from the date on which the State could reasonably have been expected to be aware of the facts if it had exercised the diligence expected of it in order to obtain such information. The claimant State shall be entitled to amend its claim and submit additional documentation after the expiry of the above time limits, even after one year from the date on which it became fully aware of the damage[56].

Conclusion:

The international community has made considerable efforts to establish a legal framework for the use and exploitation of outer space for the common good. The aim is to mitigate the dominance of major powers in this sensitive sector, which can violate the sovereignty of nations and deny others access to these resources. Through the successful formulation of international principles, the Community seeks to regulate and delineate the extent of national sovereignty in the use of space for the common good.

Several conclusions and recommendations can be drawn from this study:

Conclusions:

- Definition of Outer Space in International Law: The concept of outer space has been clearly defined in international law and has moved beyond mere rhetoric.
- Shift from sovereignty to international cooperation: The traditional notion of sovereignty of states in outer space has diminished, replaced by a focus on international cooperation in various aspects related to outer space. This is particularly important for developing countries, which are most affected by technological disparities in this field.
- Universal access to space: There is a need to ensure that all states can use outer space, accompanied by a legal system that clearly outlines the rights and responsibilities of states in exploration. It is emphasised that no nation can claim exclusive rights to exploit outer space, assert sovereignty or engage in occupation.

Recommendations:

- Promote international cooperation to assist developing countries in accessing and using space technologies.
- Establish clearer legal definitions and frameworks to prevent conflicts over space resources.
- Promote transparency and information sharing among nations to promote equitable access to space for all.

Recommendations

- Encourage States to explore outer space: States should be encouraged to explore and use outer space for the common good and to conduct their activities freely without prejudice to the interests of other nations. This principle is underscored by the 1967 Outer Space Treaty, which governs the activities of States in the exploration and use of outer space, including the Moon and other celestial bodies.
- Respect for international law: States engaged in the exploration and use of outer space must abide by international law, including the Charter of the United Nations, in order to maintain international peace and security and to promote global cooperation and understanding.
- Establishment of an international oversight body: An international authority should be established to oversee space activities and establish new procedures to promote international cooperation for the optimal use of outer space.
- Establish a specialised court: A specialised court should be established to adjudicate on issues related to damage caused by space activities and to deal with claims for compensation. This court would function in a similar way to the International Tribunal for the Law of the Sea, which is established under international law to regulate the use and resources of the oceans.

Footnotes:

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[1]- Articles 1 and 2, Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies, opened for signature on 27 January 1967 and entered into force on 10 October 1967.
The Outer Space Treaty was opened for signature in the United States, the United Kingdom and the Soviet Union on 27 January 1967 and entered into force on 10 October 1967. As of March 2024, 115 countries are parties to the Treaty, while another 22 have signed the Treaty but have not completed ratification.
See:M. Viral, PANORAMA DU DROIT INTERNATIONAL CONTEMPORAIN, ACADEMIE DE DROIT INTERNATIONAL, RECUEIL DES COURS, 1983,V, TOME 183, P 162

[2]- Ghazi Hasan Sabbarini, The Concise Principles of Public International Law, Dar Al-Thaqafa for Publishing and Distribution, Amman, Jordan, 2005, p. 255.

[3]- Article 1, paragraph 3 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, signed on 17 January 1967 and entered into force on 10 October 1967.

[4]- Salah al-Din Amer, Introduction to the Study of International Law, Dar Al-Nahda Al-Arabiya, Egypt, p. 896.
Article 3 of the Outer Space Treaty of 1967 states:
"The Parties to this Treaty shall conduct their 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 order to maintain international peace and security and to promote international cooperation and understanding."
Farouk Saad, Cosmic Space Law, Al-Ahliya for Publishing and Distribution, Beirut, 1978, p. 86.
... Prince "Heinrich von Hannover" concluded his 1952 message on outer space by stating that the area beyond airspace should be considered a free zone for reasons based on natural law, which underpins these considerations, as well as the necessities of political and secondary education of the scientific community. "Schachter" considered that space cannot be subject to national sovereignty because it is res communis, similar to the high seas and public waters. "Meyer" expressed his opinion on the freedom of space based on the impossibility of effective control over it and the lack of sufficient data on its limits and nature. Meanwhile, "Jenks" attributed the freedom of space to its unpossessability, since it is property

that cannot be owned. "Danier" saw the benefit to human relations of limiting sovereignty to airspace without extending it to space.

[5]- Farouk Saad, op. cit., p. 95 and following pages.

[6]- Articles 3, 4 and 9 of the Outer Space Treaty of 1967.

[7]- The United Nations General Assembly Resolution of 14 November 1957 stated the need to study a method of control to ensure that the launching of spacecraft is carried out exclusively for peaceful and scientific purposes.
Article 12 of the Outer Space Treaty of 1967.

[8]- Leila Ben Hamouda, *International Responsibility in Outer Space Law*, Dar Houma for Printing, Publishing and Distribution, Algeria, 2009, p. 248 et seq.
Among the most important treaties concluded in this regard are: the 1963 Moscow Treaty on the Prohibition of Nuclear Weapons Tests in the Atmosphere, Outer Space and Under Water; the 1968 Treaty on the Non-Proliferation of Nuclear Weapons, adopted by the General Assembly under resolution no. 2373; the Antarctic Treaty of 1959; the Treaty for the Prohibition of Nuclear Weapons in Latin America (Treaty of Tlatelolco) of 1967; and 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 of 1967. It is worth noting that there are also bilateral agreements in this field, including the SALT I agreement of 1972, amended by the 1974 Protocol, and SALT II of 1979; the Strategic Arms Reduction Treaty (START) of 1993... Leila Ben Hamouda, same reference, p. 255 et seq.

[9]- Salah al-Din Amer, op. cit., p. 897.

[10]- Agreement on the Rescue and Return of Astronauts, signed in 1968.
The Rescue Agreement was considered and negotiated by the Legal Subcommittee from 1962 to 1967. A consensus agreement was reached in the General Assembly in 1967, resolution 2345 (XXII), and the Agreement entered into force in December 1968. The Agreement, which elaborates on elements of Articles 5 and 8 of the Outer Space Treaty, provides that States shall take all possible steps to rescue and assist astronauts in distress and to return them promptly to the launching State. In addition, States shall, upon request, assist launching States in the recovery of space objects that return to Earth outside the territory of the launching State.

[11]- Leila Ben Hamouda, op. cit., p. 139.
There have been 96 signatures and 48 ratifications by countries, with others joining later. However, Algeria has not yet signed or ratified the Convention... See note by Leila Ben Hamouda, op. cit., p. 139.

[12]- Article 1 of the Agreement on the Rescue of Astronauts and the Return of Space Objects, 1968.

[13]- Article 2 of the same agreement.

[14]- Article 3 of the same agreement.

[15]- Article 4 of the same agreement.

[16]- Mandouh Faragani Khatab, The Legal System for Remote Sensing from Outer Space, Dar Al-Nahda Al-Arabiya, Cairo, 1993, p. 115.

[17]- Article 5 of the Agreement on the Rescue of Astronauts and the Return of Space Objects, 3 December 1968.
See: Leila Ben Hamouda, op. cit., p. 141 et seq.

[18]- United Nations Document No. A/AC.105/635/Add.11

[19]- Mohamed Bahi Eddine Arjoun, Outer Space and Its Peaceful Uses Knowledge World, October 2006, p. 32.

[20]- Charles Chaumon, Space Law, translated by Samouhi Fawq Al-'Adah, Awidat Publications, Beirut-Paris, 2nd edition, 1982, p. 69.

[21]- Farouk Saad, Previous Reference, pp. 142-143.
See: The project submitted by the Soviet Union in the Declaration of the Basic Principles Governing Outer Space on 10 September 1962, United Nations Document No. A/AC.105/L2 and Document No. A/AC.105/C2/SR.7 dated 21 August 1962.

[22]- Leila Ben Hamouda, Previous Reference, pp. 156-157.Also refer to: Document No. ST/SPACE/11/Rev.2 from the United Nations Office for Outer Space Affairs, www.unoosa.org.

[23]- Article 1 of the Convention was opened for signature on 14 January 1975. *The Convention was adopted by Resolution 3235 (XXIX) of the General Assembly dated 12 November 1974, pursuant to Resolution 3182 (XXVIII) dated 18 December 1973, and taking into account the report of the Committee on the Pacific Uses of Outer Space. The Convention was opened for signature on 14 January 1975.Article 2 of the same Convention.

[24]- Article 8 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, 1967, states the following:"The State Party to the Treaty and registered in its records retains jurisdiction and control over any object it launches into outer space and over any person carried on board while in outer space or on any celestial body, and no ownership of parts thereof by virtue of their presence in outer space or on a celestial body or by their return to Earth. Any objects registered in its records or any parts thereof found outside its territory shall be returned to the registering State that is a party to the Treaty, provided that State submits the necessary documentary evidence upon request."

[25]- Leila Ben Hamouda, Previous Reference, p. 157.
[26]- Article 4of the Convention on the Registration of Objects Launched into Outer Space, 1975.
[27]- Leila Ben Hamouda, previous reference, p. 158.
See also: Article 7 of the 1975 Convention on the Registration of Objects Launched into Outer Space. See: Resolution 62/101 of 17 December 2007, Document No. A/AC.105/891, United Nations, Office for Outer Space Affairs.
[28]- Articles 8, 9, 10, 11 and 12 of the Outer Space Objects Registration Convention, 1975.
[29]- Article 76(1) of the 1969 Vienna Convention on the Law of Treaties, in Part Seven entitled "Depositaries, Notifications, Corrections and Registration".
[30]- Article 1 of the 1972 Convention on International Liability for Damage Caused by Outer Space Objects. See also: Talat Al-Ghanimi, "Peace Law", Al-Ghanimi on Peace Law, Al-Munsha'at Al-Ma'arif, Alexandria, undated, pp. 752-753.
[31]- The Liability Convention was considered and negotiated by the Legal Sub-Committee from 1963 to 1972. Agreement was reached in the General Assembly in 1971, Resolution 2777 (XXVI), and the Convention entered into force in September 1972. The Liability Convention, which elaborates on Article 7 of the Outer Space Treaty, provides that a launching State is absolutely liable to pay compensation for damage caused by its space objects on the surface of the earth or to aircraft, and is liable for damage caused by its fault in space. The Convention also provides for procedures for the settlement of damage claims.
[32]- M. Hegazi Mahmoud. "International Liability for Damage Caused by Space Objects", 2003, pp. 3-4.
[33]-. Same reference, pp. 22-26.
[34]- Article 7 of the Outer Space Treaty of 1967.
[35]- M. Hegazi Mahmoud, same reference, p. 28.
See also: Resolution No. 59/115 of 10 December 2004, UN Document No. A/AC.105/787 of the United Nations Office for Outer Space Affairs.
[36]- Article 6 of the 1968 Agreement for the Rescue of Astronauts.
[37]- Article 1 of the 1972 Convention on International Liability for Damage Caused by Space Objects.
See also: Eric David, Cédric van Assche, Code de droit international public, 3rd edition, BRUYLANT BRUXELLES, 2006, p. 1261
[38]- Leila Ben Hamouda, same reference, p. 56.
[39]- Sh. (Rosenne), The Perplexities of Modern International Law, ACADEMIE DE DROIT INTERNATIONAL, Recueil des cours, 2001, volume 291, p. 344.
[40]- M. Hegazi Mahmoud. same reference, pp. 29-30.
[41]- Leila Ben Hamouda, same reference, p. 56.
In the case of the launch of the Algerian satellite "AlSat-2" from the launch pad of the "Satish Dhawan" Space Centre in "Sriharikota", Tamil Nadu, India, on 12 July 2010, India is the launching state that carried out the launch, while Algeria organised the launch operation.
[42]- Leila Ben Hamouda, same reference, p. 57.
[43]- M. Hegazi Mahmoud, same reference, p. 30.
[44]- See: Eric David, Cédric van Assche, Code de droit international public, op. cit., p. 1260.
See also: Lakhdar Zaza, "Provisions of International Liability in Light of International Public Law", Dar Al-Huda, Ain Mellila, Algeria, 2001, pp. 66 et seq.
[45]- Article 6(1) of the Outer Space Treaty of 1967. See also: Arjun Mohammed Bahy Al-Din, Outer Space and Its Peaceful Uses, Alam Al-Ma'rifah, October 1996, Kuwait, p. 356.
[46]- Abdul Karim Alwan, The Mediator in Public International Law, Volume II - Contemporary International Law - Dar Al- Thaqafa for Publishing and Distribution, 2006, Jordan, p. 149.
[47]- Leila Ben Hamouda, same reference, p. 51.
[48]-. Article 7 of the Outer Space Treaty of 1967.
[49]- Mamdouh Farjani Khattab, previous reference, p. 118
See also: Article 2 of the 1972 Liability Convention.
[50]- Article 5, International Liability Convention 1972.
[51]- Mamdouh Farjani Khattab, same reference, p. 120.
[52]- Article 1 of the Liability Convention 1972.
[53]- Article 6 of the Liability Convention 1972.
[54]- Article 7 of the Liability Convention 1972.
[55]- Article 9 of the Liability Convention 1972.
[56]- Article 10 of the Liability Convention 1972.