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International Geopolitics and Space Regulation

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Summary and Keywords

Outer space has always assumed a relevant geopolitical value due to strategic and economic reasons. Since the beginning of the so-called space age, national space policies have pursued both political and economic objectives, taking into account fundamental security and military considerations. After the Second World War, the international relations were based on the dichotomy between the United States and the Soviet Union. The foundation of activities in outer space finds its roots in the Cold War and reproduces the distinctive geopolitical dynamics of that historical moment. The diverging interests between the two states were reflected in the political tensions that characterized the competition to reach outer space.

The classical geopolitics deals with how states should act in outer space to increase their influence in the international arena. According to the theories developed during the space race, whoever controls outer space controls the world. In this sense, security on Earth depends on the security in space, ensured by national control over the strategic assets. Space applications had indeed a central role in the context of deterrence. In addition, conducting activities in outer space represented an important tool of foreign policy and for the enhancement of international cooperation, mainly within the blocs.

International geopolitical dynamics were reflected on space regulations developed during the Cold War era. The 1967 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space (OST) is the main legal instrument, which codifies the general principles in international law of space activities.

Over the past few decades, space activities have changed due to the growing participation of non-state actors to the so-called space economy. The end of the Cold War era produced a structural change of the international relations in the space sector. The traditional scheme of cooperation within the Western, or Eastern, bloc was overcome by a stronger multilateral cooperation, such in the case of the International Space Station. Furthermore, the end of the Cold War busted the regionalization of space cooperation.

International Geopolitics and Space Regulation

Furthermore, space activities are relevant for the well-being of humankind. Many services provided by public and private companies, such as satellite broadcasting, weather forecasts, or satellite navigation, have a strong socioeconomic impact. In addition, the protection of the environment in outer space has become a central theme in the international debate, with a focus on mitigation and removal of space debris. These issues are reflected in increasing legislation, adopted to regulate space activities on a national level.

This evolution, along with technological changes, poses political challenges to the actors involved in the space arena and creates a competitive geopolitical situation in which states aim at protecting their national interests in outer space. In this context, the international space governance plays a fundamental role in bringing together national interests toward a collective interest in protecting and promoting space activities for the benefit of humankind and with due regard to the corresponding interests of all states.

Keywords: international law, space law, international cooperation, international space governance, space geopolitics, united nations, outer space

Introduction

Outer space has always been an area of relevant geopolitical value due to strategic and economic reasons. Governments as well as private companies try to benefit from using space technologies and their applications. Furthermore, national space policies and programs have been central elements of the foreign policy of the states, as well as of their external influence and prestige in the context of international politics and diplomacy. Since the beginning of the so-called space age, national space policies have pursued both political and economic objectives, taking into account relevant security and military considerations. Military issues, in particular, have always been fundamental drivers for the development of scientific researches and technological devices (such as the systems of global positioning). In addition, during the Cold War, conducting activities in outer space represented an important tool for the enhancement of international cooperation, mainly within the blocs.

After the Second World War, the international relations were based on the dichotomy between the United States and the Soviet Union (USSR). The foundation of activities in outer space finds its roots in the Cold War and reproduces the distinctive geopolitical dynamics of that historical moment. In this context, outer space was considered as the ultimate dimension of the competition between the two states.

The diverging interests between the United States and the USSR at the time consolidated in political tensions that characterized the competition to reach outer space. Even if these tensions surrounded all international debates and negotiations, they have not impeded the reaching of consensus for the elaboration of international common rules to conduct space activities, to protect common interests, and to allow for the peaceful use of outer

International Geopolitics and Space Regulation

space. In this sense, agreements between the parties were instrumental in the development of space activities.

The international legal regime of outer space is characterized by the existence of specific rules aimed at guaranteeing free access, exploration, and use, with due regard to the corresponding interests of all states; preserving outer space from national appropriation; and prohibiting aggressive uses of outer space. It is a regime that protects the interests of all states even if, at that time when such rules were negotiated, only few states had the possibility to carry out space activities, from an economic, scientific, and technological point of view. Thanks to the adoption of a long-term perspective, the rules and principles concerning space activities survived, without particular difficulties, the changes in international relations derived from the dissolution of the USSR and the globalization and emergence of private actors interested in the field.

As many authors have correctly pointed out, the multiplication of actors in space after the end of the Cold War, coupled with increased reliance on and use of space technologies, means that space has emerged as an important component of national power and an excellent indicator of the status of an actor in the regional and international arenas.

Space Geopolitics

Traditional geopolitics, developed since the beginning of the 20th century, explores how a political area and its development have been influenced by geographical factors. This kind of analysis was reintroduced in the international political discourse in the 1950s, when some scholars emphasized the human factors over the influence of geographical features in foreign policy (Mackinder, 1904; Spykman, 1944).

The classical space geopolitics deals with how states should act in outer space to increase their influence in the international arena. In addition to the traditional dimensions of power, such as terrestrial, maritime, and aerial, the extraterrestrial dimension has become the fourth and most advanced element of power in international relations. In this sense, space activities represent a new instrument to enhance foreign policy or to reach a hegemonic position of power, due to scientific, technological, and military reasons.

The development of space activities and the evolving context of international politics between the post-World War II period and today encouraged a doctrinal debate that aims at reproducing and applying the classical theories of power to the political situation. The main approaches rely on different theoretical basis, such as realism, liberalism, determinism, and interactionism. These theories are largely attributable to American authors.

The first theory that, since the 1950s, aimed at explaining the link between international relations, politics of power, and space regulation focused on the issue of security (Moltz, 2011). According to the "space nationalism" theory, states have the right to protect their space assets including through space militarization and direct military intervention against another state (Dolman, 1999; Kash, 1967; von Bencke, 1997).

International Geopolitics and Space Regulation

In the opinion of the authors embracing the theory of the “global institutionalism,” on the contrary, militarization is seen as a danger for the evolution of space activities, and the only way to guarantee the peaceful use of outer space is to establish an international authority, with a specific mandate to regulate activities and act on behalf of the international community (Clarke, 1959; Hibbs, 1966).

The theory of “technological determinism,” rooted in the 1970s, underlines that, in the context of the international legal order of the time, it was impossible for international organizations to fully control space activities and only states had the right to conduct activities in outer space. The role for international organizations was thus to monitor such activities and make recommendations to promote a proper exploration and use of outer space (Frutkin, 1965; York, 1970).

The theory of “social interactionism,” developed during the 1980s, focused on the political aspects of the decision-making process. It described the technological and political outcomes of international cooperation among states and did not give attention to the legal aspects. The authors embracing this theory rejected the idea of the inevitability of space weaponization, which could be prevented by enhancing transparency and reciprocal understanding in international relations (Jervis, 1976; Neustadt & May, 1986).

Realist Approach After the End of the United States-URSS Competition

Political realism assumes that power is the primary objective of action. Classical realism considers states, in the absence of a supranational overarching authority, as actors in permanent competition for power. This condition is seen as the only solution for the state to fulfill its interests and survive (Morgenthau, 1960).

According to most of the theories developed during the space race, whoever controls outer space and its specific assets controls Earth. These assumptions derive from the application to the outer space area of the traditional theory of Mackinder (1904) on the heartland and on the continental power. Crucial to this theory was the physical impossibility to occupy all the critical areas of the world (heartland, World Island, and so on). Therefore, in order to reach full control of the cited areas, it is important to deny control of those areas to the adversaries (Mackinder, 1904).

The realist approach was linked to the idea of “realpolitik” that surrounded the era of the Cold War. The term “astropolitik” means the application of the preeminent and refined realist vision of state competition into outer space, particularly in contrast to the development and evolution of a legal and political regime for the use of space.

Orbits, regions of space, and launch points are described as geopolitically vital assets over which states should competitively and strategically struggle for their control. On this basis, the theory of the astropolitik makes a demarcation of the four geopolitical regions of outer space (Earth, Earth space, Moon space, solar space) and reproduces the assumption that whoever controls the terrestrial orbit controls outer space and whoever controls

International Geopolitics and Space Regulation

outer space dominates the world. Dolman (1999) specifies that domination of space will come through efficient control of specific strategic narrows, choke points, and lanes of commerce. In this sense, security on Earth depends on security in space, ensured by national control over the strategic assets (Dolman, 1999).

In the view of Dolman (1999), the weaponization of space is inevitable, and the United States must be prepared to face this challenge. Furthermore, Dolman suggests the withdrawal of the United States from the existing international legal regime on space activities, particularly the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space (the Outer Space Treaty [OST]), because this instrument, in the opinion of the author, adopts a “global common” perspective instead of pursuing the objectives of a free market competition and privatization of space resources (Dolman, 2002). However, the idea that the OST generates the difficulties of U.S. private actors in engaging in space activities was examined in a May 2017 hearing before the U.S. Senate Subcommittee on Space, Science, and Competitiveness. During the hearing, titled “Re-opening the American Frontier: Exploring How the Outer Space Treaty Will Impact American Commerce and Settlement in Space,” the experts declared that the OST itself was not a barrier for private actors and that they favored U.S. participation in the treaty. National legislation, instead, represents a barrier because of the lack of clarity (United States Senate Subcommittee on Space, Science, and Competitiveness, 2017).

The realist approach seems to be useful to explain the space security and defense related dynamics of an important geopolitical phase, started with the 1983 Strategic Defense Initiative, promulgated by U.S. President Reagan, and intensified since the 2002 withdrawal of the United States from the 1972 Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Reduction and Limitation of Strategic Offensive Arms. The Treaty aimed at limiting the parties’ defenses against ballistic missiles, in line with its recognition of the logic of the mutually assured destruction. The U.S. withdrawal represents a shift from the traditional geopolitics of the Cold War toward a new competitive phase of space security on a national level, as was the case of the Russian response through the 2002 withdrawal from the 1993 Treaty Between the United States of America and the Russian Federation on Further Reduction and Limitation of Strategic Offensive Arms, and on an international level, with several new initiatives launched in the context of the United Nations (UN) Conference on Disarmament to discuss the prevention of an arms race in outer space.

Liberal Vision through the New Era of Space Activities

In contrast to the realist vision, the liberal school does not conceive the world as in a state of permanent war deriving from competition between countries. The application of liberalism, which is based on the principles of freedom and equality, to international relations leads to the assumption that states and peoples should be aware of their common objectives, which can be reached through effective international cooperation, rather than

International Geopolitics and Space Regulation

unilateral efforts. It takes into account also non-state actors and the national interests of all spacefaring states.

Deudney (2002) introduced a materialist argument to construct geopolitics as “historical security materialism.” In this model, the forces of destruction, constituted by the interaction between geography and technology, determine the security functionality of different modes of protection. Two competing modes of protection, the real-state and the federal-republican, entail different forms of arms control and patterns of institution-building and in turn generate differing political structures (Deudney, 2002). According to the theory, the more a security context is rich in the potential for violence, the better suited a federal-republican mode of protection is to avoid a systemic breakdown (Havercroft & Duvall, 2009).

The liberal approach assumes that the effective control of outer space by one state would lead to a negative planetwide hegemony, in contrast with the possibility to peacefully use outer space and with the necessary balance between the two superpowers. There should be no hegemony in space but rather collaboration. According to liberal authors, the proof of the correct vision of the liberalist approach lies in the specificity of the Cold War era, mainly characterized by two aspects: on the one side the arms race and the related theory of deterrence and, on the other side, international cooperation, both inter- and intra-bloc, as a way to promote peace through binding practices. The basic idea is to limit conflicts among superpowers by securing cooperation in outer space.

International space cooperation had indeed a central role in the context of deterrence. The best example was the Apollo-Soyuz Test Project in 1975, which was the first human spaceflight to include two participating states working together with their own national spacecraft. During the mission, the two modules docked, and the astronauts conducted joint science experiments. Furthermore, the impact of the project went far beyond the scientific aspects, because the image of the two space crews warmly greeting each other reached a global audience watching the historic event on television.

The global institutionalism school shares with the liberal approach the concept of institutionalized cooperation, underlining the role that space treaties, institutions, and multilateral actions play in maintaining peace on Earth. For instance, global institutionalists see the OST as a major achievement for the nonproliferation of nuclear weapons.

Relevant Geopolitical Theories Developed during the 21st Century

According to the aforementioned studies, the limited number of actors able to carry out space missions was the main reason for a balanced international order. Over the past few decades, space activities have changed due to the growing participation of non-state actors to the so-called space economy. The end of the Cold War era produced a structural change in international relations in the space sector. The traditional scheme of cooperation within the Western, or Eastern, bloc was overcome by a stronger multilateral cooperation, such as in the case of the International Space Station, the most important multilat-

International Geopolitics and Space Regulation

eral scientific project between 16 states, designed for providing conditions for permanent human presence and work in outer space.

The critics of the liberal theory point out that, with the end of the Cold War, the international order based on the equilibrium between the superpowers system collapsed, and there is no reason for cooperation from a security and legal perspective but only from an economic one. Hays and Lutes (2007) underline that the passage from bilateralism to multilateralism dilutes the power from a political and legal perspective. According to these authors, the real objective of space activities is the wealth of population, to be gained through scientific cooperation (Hays & Lutes, 2007). This opinion is, however, partial, because it does not consider the relevant aspects of the legal elements of new applications, military applications, and dual use technologies.

It is true that the dual hegemony of the Cold War is terminated; however, new states have emerged and gained a prominent role in the international arena, designing a transition from a bipolar to a multipolar world. As Peter (2006) correctly highlights, the axes of bilateral and multilateral cooperation are evolving, disappearing, and reconstituting. For example, new forms of bilateral cooperation have affected the relations between China and Argentina or Brazil (Peter, 2006).

Another relevant theory is critical astropolitics, which is based on social constructivism and according to which political subjects emerge from power relations. The theory criticizes realist and liberal theories because they underestimate the consequences of a possible U.S. hegemony in space on global security, without an effective regulatory framework and mechanism (Havercroft & Duvall, 2009).

Another theory regards the so-called meta-geopolitics of outer space, which adopts a multidimensional view of power, including soft-power instruments. It considers demographical projections, public health issues, and other factors of potential development to explore whether a state will continue to have a specific geopolitical status or if it will change in the near future. Al Rodhan (2012) explains that, with its theory of “symbiotic realism,” in a globalized and interdependent world, problems can only be solved through multilateral action and cooperation, involving not only the concerned states but also non-governmental organizations and stakeholders.

Geopolitics and Regulation of Space Activities

Once competition in outer space started, almost simultaneously the fundamental principles of law applicable to space activities emerged. International geopolitical dynamics were reflected in space regulations developed during the Cold War era, which fixed the basis for the evolution of space activities until today.

After the launch of Sputnik 1 in 1957, which is conventionally understood as the moment of the beginning of the space race, it was clear that some regulation for the use of outer space for peaceful purposes was necessary (Christol, 1982; Jenks, 1965; Lachs, 1964;

International Geopolitics and Space Regulation

Zhukov,1978). Both the United States and the USSR agreed on the great prospects opening for humankind as a result of the entry of a man into outer space and that it would be better to reach decisions on a multilateral level.

The Role of the United Nations Committee on the Peaceful Uses of Outer Space in the Development of Space Law

On initiative of the United States and the USSR, the UN General Assembly, with its Resolution 1348 (XIII) of December 13, 1958, instituted an ad hoc Committee on the Peaceful Uses of Outer Space (COPUOS), composed of 18 members. On December 12, 1959, with Resolution 1472 (XIV), the COPUOS acquired the status of a permanent subsidiary body of the General Assembly, according to Articles 7 and 22 of the UN Charter.

Since its establishment, the membership of the COPUOS has continued to expand. In addition, some international organizations, including both intergovernmental and non-governmental organizations, have observer status within the COPUOS and its subcommittees (Scientific and Technical Subcommittee and Legal Subcommittee). The mandate of the Committee aims at strengthening the international legal regime governing outer space and improving conditions for expanding international cooperation in this sector. The mandate also specifies that the Committee should support efforts at the national, regional, and global levels, including those of entities of the UN system and international space-related entities, to maximize the benefits of the use of space science and technology and their applications. The main international provisions, binding and not binding, dealing with space activities have been drafted and discussed in the context of the Committee.

By examining the activities of the COPUOS, with specific attention to its accomplishments in the field of international space law, relevant doctrine identifies three evolutionary phases. The first phase, called the law-making era, began with the creation of the Committee and ended in the 1980s, while the second phase was characterized by the adoption of soft-law instruments and ended in the middle of 1990s. The third, and current, phase is characterized by efforts to broaden the acceptance of the UN space treaties and to assess their application (Marchisio, 2005).

The first important legal instrument discussed within the COPUOS was a Resolution on International Cooperation in the Peaceful Uses of Outer Space, subsequently adopted by the UN General Assembly on December 20, 1961. Resolution 1721 (XVI) recommends states follow the principles of international law during their exploration and use of outer space and emphasizes the freedom of exploration and the prohibition of national appropriation. The Resolution calls upon states launching objects into orbit, or beyond, to furnish information promptly to the COPUOS, through the secretary-general, for the registration of launchings. It further requests that the secretary-general maintain a public registry of the information furnished.

International Geopolitics and Space Regulation

A few years later, the Committee discussed and approved a declaration of principles to define a common legal basis for the peaceful use and exploration of outer space. On December 13, 1963, the UN General Assembly adopted Resolution 1962 (XVIII), Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space. The Resolution recognizes the common interest of all humankind in the progress of the exploration and use of outer space for peaceful purposes and for the benefit of states irrespective of their degree of economic or scientific development. The Declaration establishes the fundamental principles for conducting space activities, such as the freedom of exploration and use by all states on a basis of equality and in accordance with international law; the prohibition of national appropriation by claim of sovereignty, by means of use or occupation, or by any other means; the international responsibility for national activities in outer space, whether carried out by governmental agencies or by nongovernmental entities; the principle of due regard for the corresponding interests of other states; the duty to register an object launched into outer space and exercise jurisdiction and control over such object; the principle of liability for damages produced by such object; and the duty to assist the astronauts, as envoys of humankind in outer space, in the event of accident, distress, or emergency landing on the territory of a foreign state or on the high seas.

The reaching of a consensus on the adoption of a few legal principles was a fundamental step in the evolution of international space law. A few months before the adoption of the Declaration, another important legal instrument was adopted thanks to the achievement of a compromise between the United States and the USSR. On August 5, 1963, the Treaty Banning Nuclear Weapons Tests in the Atmosphere, in Outer Space, and Under Water (Nuclear Test-Ban Treaty), which banned all tests of nuclear weapons in outer space, was enacted. The Treaty contained the first rules prohibiting nuclear explosions in outer space and thus aimed at protecting the space environment and promote the peaceful use of outer space. Furthermore, the reaching of an agreement on this matter between the two superpowers produced a more favorable climate for détente and for the attainment of other legal and political compromises.

Following the adoption of the 1963 Declaration of Principles, the General Assembly requested the COPUOS to consider the incorporation of the principles in an international agreement. In 1966, the USSR submitted a draft text of a treaty on principles, followed by a counterproposal by the United States. The Legal Subcommittee then established a working group to discuss both proposals and to define a group of articles to be agreed on by all parties. After a subsequent discussion during the session of the main committee, an agreement on the text was reached (Hobe, Schmidt-Tedd, & Schrogl, 2009).

The International Rules and Principles on Space Activities

The OST, opened for signature on January 27, 1967, and entered into force on October 10 of the same year, is the main legal instrument that codifies the general principles of international law of space activities, and it is the result of a reciprocal understanding between the United States and the USSR. The legal regime of space as outlined by the OST is that

International Geopolitics and Space Regulation

of a *res communes omnium*, a common good in which the principle of free access applies, although subject to a few conditions such as the conduct of activities in accordance with the interests of all states, without discrimination based on the degree of economic or scientific development, and the condition of the peaceful nature of the activity. The free exploration and use of outer space are prerogatives of all humanity and must be conducted “with due regards to the corresponding interests of all other states.”

In addition to the principles of free access, exploration, and use, the OST established the prohibition of appropriation of outer space, including the Moon and other celestial bodies, by claim of sovereignty, by means of use or occupation, or by any other means (Art. II); the compliance of space activities with international law (Art. III); and the prohibition of placing weapons of mass destruction in orbit (Art. IV). Furthermore, other obligations were established. Articles VI and VII prefigure the legal regime concerning state responsibility and liability for activities conducted in outer space, and Article VIII concerns the registration of space objects (Hobe et al., 2009).

The compromise between the United States and the USSR is clear when considering the wording of Article VI of the OST, which establishes international responsibility for national activities, including that of nongovernmental agencies. The principle of responsibility established by Article VI, which derives from Principle 5 of the 1963 Declaration of Principles, in the first proposal by the USSR, referred exclusively to states. As at the time the United States had already planned for private activities in outer space, it rejected the proposal. A Working Group on Article VI composed the dissent. The acceptance of the wording of Article VI by the USSR was influenced by the presumption that launchers would be state-run in the long term, and therefore states could practically control their space activities (Hobe et al., 2009).

The principles established by the 1967 OST were then specified and detailed in the following treaties: the Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space, opened for signature on April 22, 1968, and entered into force on December 3, 1968; the Convention on International Liability for Damage Caused by Space Objects, opened for signature on March 29, 1972, and entered into force on September 1, 1972; the Convention on Registration of Objects Launched into Outer Space, opened for signature on January 14, 1975, and entered into force on September 15, 1976; and the Agreement Governing the Activities of States on the Moon and Other Celestial Bodies (Moon Agreement), opened for signature on December 18, 1979, and entered into force on July 11, 1984 (Hobe, Schmidt-Tedd, & Schrogl, 2013).

The latter agreement is particularly interesting because of the geopolitical context during which it was negotiated. During the 1960s, new states emerged from the process of decolonization, producing a different majority within the UN bodies, with the prevalence of developing over developed states, thus marking a shift in international politics. The drafting of the Moon Agreement was certainly influenced by the struggle for the establishment of a new international economic order, and, considering the previous space treaties, it represented a different perspective, which took into account the needs of developing

International Geopolitics and Space Regulation

countries through the concept of the common heritage of humankind, applicable to the Moon and its natural resources, in order to reach an equitable sharing of the benefits deriving from the use of the resources of the Moon. The Moon Agreement was also discussed in parallel to the Third Conference on the Law of the Sea, another international process concluded with the explicit recognition of the concept of the common heritage of humankind in the text of the UN Convention on the Law of the Sea, adopted in 1982, in relation to seabed, ocean floor, and subsoil thereof, beyond the limits of national jurisdiction.

As anticipated, in addition to the conventional rules, a few declarations of principles refer to space activities (Kopal, 1988), which aim at regulating certain aspects such as radio and television broadcasting, remote sensing, nuclear energy sources in space, and international cooperation in the field of space. The UN General Assembly adopted several resolutions that established the general principles applicable to these activities: No. 37/92 of December 10, 1982, on the Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting (Christol, 1985); No. 41/65 of December 3, 1986, on the Principles Relating to Remote Sensing of the Earth from Outer Space (Marchisio, 2004); No. 47/68 of December 14, 1992, on the Principles Relevant to the Use of Nuclear Power Sources in Outer Space; and No. 51/122 of December 13, 1996, containing the Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries (Hobe, Schmidt-Tedd, & Schrogl, 2015; Marboe, 2012).

Among them, the Declaration of Principles drafted by the COPUOS and consensually adopted by the UN General Assembly has a special significance for space activities. Although merely recommendations, “they can pave the way for the consolidation of customary rules of international law. In this perspective, the decisive element comes from the practice of states prior to, concomitant with, and following the UN recommendation process” (Marchisio, 2005, pp. 232–233). According to the International Court of Justice (1996, 254–255),

[the] General Assembly resolutions, even if they are not binding, may sometimes have normative value. They can provide, in certain circumstances, important evidence for establishing the existence of a rule or the emergence of an *opinio juris*. To establish whether this is true of a given General Assembly resolution, it is necessary to look at its content and the conditions of its adoption; it is also necessary to see whether an *opinio juris* exists as to its normative character.

All the aforementioned declarations have been adopted by consensus, except for Resolution No. 37/92 on Principles Governing the Use by States of Artificial Satellites for International Direct Television Broadcasting. This resolution addresses a broad range of issues related to direct broadcasting. The lack of consensus in some way undermined the possibility for such a resolution to be considered as having some normative value, for instance to be the expression of the acceptance of these principles as law (*opinio iuris communis*).

International Geopolitics and Space Regulation

Some of the principles enshrined in the document have a universal recognition. During the discussions, no objection arose on the applicability of international law to space activities, the enjoyment of the benefits for such activities, the promotion of international cooperation, or the promotion of free dissemination and mutual exchange of information. On the contrary, other principles were highly debated, such as the compatibility between broadcasting services and nonintervention in internal affairs; the responsibility of states for broadcasting activities; and the duty to inform, consult, or reach a prior agreement between the state that transmits and the state that receives. However, the evaluation of the legal status of the principles should be done on a case-by-case basis. Furthermore, whether such principles can properly address the new context of space activities, which has profoundly changed since 1982, is questionable.

Resolution No. 37/92 was adopted by a vote of 108 to 13, with 13 abstentions. The United States and other Western states voted against or abstained, while the USSR, Eastern, and third world states voted in favor. This document perfectly reflects the political situation of the Cold War, the accusation of cultural imperialism of the developing states against the developed states, and the international debate that originated during the 1970s related to the new international economic order, with the appendix of the New World Information and Communication Order. At the time, some authors remarked that if the new economic order meant eliminating situations of inequality and reorganizing the world market in such a way as to enable all countries to develop by making optimal use of their natural and human resources—if it represented the economic complement of full independency—then it was applicable to the information order too (Jakhu, 1981).

The subsequent declarations, adopted by consensus, reflect the compromise between the United States and the USSR on the one side and takes into account the needs and interests of developing states on the other side. In this sense, Resolution No. 41/65, the Principles Relating to Remote Sensing of the Earth from Outer Space, provides that remote sensing activities shall be carried out for the benefit and in the interests of all countries, irrespective of their degree of economic, social, or scientific and technological development, and taking into particular consideration the needs of developing countries (Principle II). Moreover, according to Principle XII, as soon as the primary data and the processed data concerning the territory under its jurisdiction are produced, the sensed state shall have access to them on a nondiscriminatory basis and on reasonable cost terms. The sensed state shall also have access to the available analyzed information concerning the territory under its jurisdiction in the possession of any state participating in remote sensing activities on the same basis and terms, particularly regarding the needs and interests of developing countries.

In addition, the role of new actors in international relations (e.g., Group of 77) is evident in the adoption of Resolution No. 51/122 containing the Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries. Notwithstanding its nonbinding value, the Declaration provided guidance on how to structure international cooperation in the exploration and use of outer space and represented the le-

International Geopolitics and Space Regulation

gal and political background for the Third United Nations Conference on the Exploration and Peaceful Uses of Outer Space in 1999 (Hobe et al., 2015).

The mentioned treaties and declarations, together with general international law, constitute the international *corpus iuris* applicable to space activities. These rules are the result of an international society and of geopolitical dynamics that have profoundly changed. Almost all of these legal instruments reproduce the tensions of the international relations within the Cold War and represent a compromise between different visions (United States/URSS, spacefaring states/emerging spacefaring states, developed countries/developing countries) to protect a common interest: the peaceful use of outer space.

The space treaties and declarations of principles, elaborated and adopted in the context of the UN, perfectly fit the characteristics of the first and second evolutionary phases of activities of the COPUOS. During the third phase, important legal acts have been adopted, such as the Recommendations on Enhancing the Practice of States and International Intergovernmental Organisations in Registering Space Objects, endorsed by the UN General Assembly Resolution No. 62/101 of December 17, 2007, and the Space Debris Mitigation Guidelines of the United Nations Committee for the Peaceful Uses of Outer Space, endorsed by UN General Assembly Resolution No. 62/217 of December 22, 2007 (Marchisio, 2013).

From International Rules to National Legislation

Space activities are increasingly relevant for the well-being of humankind. Many services provided by public and private companies, such as satellite broadcasting, weather forecasts, or satellite navigation, have a strong socioeconomic impact. In addition, the protection of the environment in outer space has become a central theme in the international debate, with a focus on mitigation and removal of space debris. The cited trend concerning private activities is not a novelty in the space sector, but, compared to a few years ago, there are many more actors conducting activities in outer space (Hobe, 2010). The growing involvement of private actors in space activities has led to new forms of marketing of goods and services that have prompted regulation, especially at the national level. This does not exclude that, at the international level, the states have full responsibility for the activities carried out in outer space and for the damages deriving from them.

The issues previously described are mainly regulated by a growing number of national acts, adopted to regulate space activities on an internal level. Since the beginning of space activities, many states have enacted national space regulatory frameworks but, after the end of the United States-USSR competition, there was an exponential growth of such provisions (Freeland, 2012; Hobe, Schmidt-Tedd, & Schrogl, 2006; Jakhu, 2010; Marboe, 2015; von der Dunk, 2011). National space legislation presents both pros and cons. The advantage to adopting national legal provisions is that they are detailed and define specific conducts. The disadvantage is that such regulations do not exist in every state. Moreover, the same concept could be differently interpreted due to specific national interests. Indeed, such national regulations present different contents and characters but

International Geopolitics and Space Regulation

have a common element: they are largely inspired by the general principles contained in international treaties on space activities.

In this sense, such regulatory frameworks aim at providing a regime for authorization and control of space activities, establishing a national register for the registration of objects launched into outer space, and defining procedures for compensation of damages caused to third parties. Legislation could define other particular aspects relevant for space activities, such as forms of compulsory insurance schemes to cover risks and potential damages; guarantees of environmental protection and debris mitigation and removal; standards to guarantee the safety of activities; export control of sensitive technologies; forms of incentives and derogation regarding the procedure for authorization; protection of intellectual property rights; transfer of ownership of an object already in orbit; and commercial activities, as in the case of small satellites, suborbital flights, or the exploitation of resources from asteroids.

The analysis of national regulatory frameworks shows two main categories of national acts. On the one side, states have adopted organic regulatory frameworks that, with different nuances, regulate all the possible issues of space activities; on the other side, states that have not adopted organic legal acts have preferred to enact one or more regulatory instruments to regulate specific activities to be conducted in outer space.

From an institutional point of view, states conducting space activities have created institutional entities to support their space programs. These bodies can assume different legal forms, such as agencies, secretariats, or offices. Following the end of the Cold War, many states created their own space-dedicated bodies, mainly national space agencies. The proliferation of space agencies is a direct effect of the new geopolitical context (Peter, 2006). This trend of institutionalization of space actors is an ongoing process, and it is complemented by a proliferation of private entities that conduct space activities such as, for example, SpaceX, Blue Origin, Rocket Space, One Space, Virgin Galactic, and Planetary Resources.

Furthermore, the end of the Cold War busted the regionalization of space cooperation, begun in Europe during the 1970s, with the creation of the European Space Agency (ESA). The ESA is an international organization with 22 member states, established in 1975 with the merging of the European Space Research Organisation with the European Launcher Development Organisation. The purposes of the ESA are to provide for and to promote, for exclusively peaceful purposes, cooperation among European countries in space research and technology and their space applications, with a view to use such information for scientific purposes and for operational space applications systems: by elaborating and implementing a long-term European space policy; recommending space objectives to the member states and managing the policies of the member states with respect to other national and international organizations and institutions; elaborating and implementing activities and programs in the space field; coordinating the European space program and national programs and progressively integrating the latter into the European space program; and elaborating and implementing the industrial policy appropriate

International Geopolitics and Space Regulation

to its program and recommending a coherent industrial policy to the member states (ESA Convention, 1975, Art. II).

The ESA is an example of an operational international organization for space activities and represents a successful working model for scientific, technological, and political cooperation in space at a regional level. Based on this model, the regionalization of space cooperation was later complemented by the creation of the Asia-Pacific Space Cooperation Organization in 2005 and by other regional institutional initiatives such as the Asia-Pacific Regional Space Agency Forum, the proposal to establish an African space agency within the context of the African Union.

The Future of Outer Space Law and Geopolitics

Geopolitical aspects of international relations have always been dynamic elements, which evolve rapidly over time. As space policies and programs are an important part of the politics of power and of the international prestige of a state, it can be expected that space activities will also influence the broader geopolitical context as well as the definition and adoption of further legal provisions. The previously described evolution, along with technological changes, poses political challenges to the actors involved in the space arena and creates a competitive geopolitical situation in which states aim at protecting their national interests in outer space. In this context, international space governance plays a fundamental role in bringing together national interests toward a collective interest in protecting and promoting space activities for the benefit of humankind and with due regard to the corresponding interests of all states.

Space regulations and governance are indeed important and interrelated concepts. As Marchisio (2018, p. 57) specifies, there are two different level of governance:

[f]irstly, there is a normative or substantial level of governance, through space law as a *corpus* of rules and key legal principles that address behaviours in outer space; secondly, we have a structural level of governance, an institutional framework capable of applying, revising if necessary, adapting the rules, and monitor their compliance.

The international legal regime previously described has been created within a relatively short time period, and it is rooted in the era of Cold War. Such principles and rules have been complemented with national regulatory frameworks. These national rules can “easily” be adapted through amendment procedures or with the enactment of a new legislation in order to respond to new exigencies and needs. On the other hand, international obligations enshrined in multilateral agreements must undergo “hard procedures,” involving the consensus of all parties, to be amended. In this context, declarations of principles are important instruments for the interpretation of the obligations proposed by treaties and for the progressive development of international law, even if their legal nature is nonbinding (Arangio-Ruiz, 1972). However, they do not provide an authentic interpretation of the obligations, nor do they create general rules. Such declarations represent

International Geopolitics and Space Regulation

the *opinion iuris* of the states, while consistent practice will be needed to create a customary rule. A proper interpretation of the obligations of treaties would be surely provided by international courts and tribunals, but there are no pending cases, nor previous decisions, issued on the interpretation of provisions contained in the UN space treaties.

Notwithstanding these issues, the ideals surrounding fundamental international space obligations are shared by all spacefaring states. Moreover, even if adopted in the past, these obligations carry out a long-term perspective that could respond to current and future challenges (Freeland, 2017). Furthermore, Article III of the OST, and its openness to general international law and the UN Charter, have granted the application of relevant provisions of other areas of international law to space activities. Nevertheless, the adoption of agreed ad hoc legal regulatory frameworks would represent the best option to respond to specific needs.

At the institutional level, a dedicated international organization or body with a solid mandate for applying, revising, adapting, and monitoring the compliance of the rules does not exist. The COPUOS is the main international forum for discussing space affairs, and during the years its work has produced excellent results in law-making, while it lacks the legal authority for monitoring and enforcing the rules. In this regard, it is important to recall that, given the equality between the primary members of the international community, such an enforcing body would not be required as each state could react with countermeasures or settle the dispute through pacific means, or the UN Security Council could intervene in matters or situations that represent a threat to peace, breach of peace, or act of aggression. However, a body that could give authentic and official interpretations of the treaties and address violations of obligations even before the arising of a dispute is still needed.

Furthermore, several international initiatives aim at creating specific legal regimes, mainly to address safety, security, and sustainability of space activities (Marchisio, 2015). Most of them are nonbinding in nature, but their value, in some cases, goes far beyond the legal status. Among these initiatives, there are some examples of the design of institutional mechanisms for the monitoring of the implementation of the provisions of the legal instrument.

The first example is the Draft International Code of Conduct for Outer Space Activities. The 2007 proposal by the European Union of a draft code on space activities was conceived as a reaction to the UN General Assembly Resolution No 61/75 of December 6, 2006, which called for member states to submit proposals on transparency and confidence-building measures within the context of prevention of an arms race in outer space. According to the proposal, an annual Meeting of the Subscribing States of the Code would be called to define, review, and further develop the commitments and facilitate their implementation. Furthermore, the Code foresees the designation of a Central Point of Contact tasked with receiving and communicating notifications of new subscriptions, facilitating information exchange, serving as secretariat at the meetings, maintaining an electronic database and communications system, and exercising organizational functions.

International Geopolitics and Space Regulation

The second example is the Draft Treaty on the Prevention of the Placement of Weapons in Outer Space, the Threat or Use of Force against Outer Space Objects (PPWT), proposed in 2008 by Russia and China and revised in 2014. Article VI of the Draft PPWT provides that, to promote the implementation of the purposes and provisions of the Treaty, the state parties shall establish the Executive Organization of the Treaty, which will consider matters related to the operation and implementation of the Treaty; receive for consideration inquiries by a state party or a group of states parties related to an alleged violation of the Treaty; organize and conduct consultations with the state parties in order to address the situation related to the alleged violation of the Treaty; refer the dispute to the UN General Assembly or the UN Security Council if the problem related to the alleged violation of the Treaty remains unresolved; organize and hold meetings to discuss and accept the proposed amendments to the Treaty; develop procedures for collective data sharing and information analysis; collect and distribute information provided as part of transparency and confidence-building measures; receive notifications on the accession of new states to the Treaty and submit them to the secretary-general of the UN; and consider, upon agreement with the state parties, other procedural and substantive matters. This kind of proposal highlights the paramount importance of creating institutional bodies tasked with monitoring and facilitating the implementation of legal provisions as well as the fundamental connection between legal and institutional dimensions of governance, which remains an open issue in the international legal debate concerning regulation of space activities.

Further Reading

Achilleas, P. (Ed.). (2009). *Droit de l'espace: Télécommunications, observation, navigation, défense, exploration*. Brussels, Belgium: Larcier.

Deudney, D. (2002), Geopolitics as theory: Historical security materialism. *European Journal of International Relations*, 6, 77-100.

Dolman, E. C. (2002). *Astropolitik: Classical geopolitics in the space age*. London, U.K.: Frank Cass.

Gabrynowicz, J. I. (2004). Space law: Its Cold War origins and challenges in the era of globalization. *Suffolk University Law Review*, 37, 1041-1053.

Hobe, S., & Freeland, S. (Eds.). (2013). *In heaven as on Earth? The interaction of public international law on the legal regulation of outer space*. Cologne, Germany: Institute of Air and Space Law of the University of Cologne.

Hobe, S., Schmidt-Tedd, B., & Schrogl, K.-U. (Eds.). (2009). *Cologne commentary on space law*, Vol. 1. Cologne, Germany: Carl Heymanns.

Hobe, S., Schmidt-Tedd, B., & Schrogl, K.-U. (Eds.). (2013). *Cologne commentary on space law*, Vol. 2. Cologne, Germany: Carl Heymanns.

International Geopolitics and Space Regulation

Hobe, S., Schmidt-Tedd, B., & Schrogl, K.-U. (Eds.). (2015). *Cologne commentary on space law*, Vol. 3. Cologne, Germany: Carl Heymanns.

Jakhu, R. S., & Dempsey P. S. (Eds.). (2017). *Routledge handbook of space law*. New York, NY: Routledge.

Lachs, M. (2010). *The law of outer space: An experience in contemporary law-making. Reissued on the occasion of the 50th anniversary of the International Institute of Space Law*. Leiden, The Netherlands: Martinus Nijhoff.

Lafferanderie, G. (Ed.). (1997). *Outlook on space law over the next 30 years: Essays published for the 30th anniversary of the Outer Space Treaty*. The Hague, The Netherlands: Kluwer.

Lyall, F., & Larsen, B. (2018). *Space law: A treatise*. London, U.K.: Routledge.

Marboe, I. (Ed.). (2012). *Soft law in outer space: The function of non-binding norms in international space law*. Cologne, Germany: Böhlau.

Marchisio, S. (2004). The 1986 United Nations principles on remote sensing: A critical assessment. In *Studi di diritto internazionale in onore di Gaetano Arangio-Ruiz* (pp. 1311-1340). Napoli, Italia: Editoriale Scientifica.

Marchisio, S. (2005). The evolutionary stages of the legal subcommittee of the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS). *Journal of Space Law*, 31, 219-242.

Marchisio, S. (2013). Nandasiri Jasentulyana keynote lecture: The draft code of conduct in outer space activities. In *Proceedings of the International Institute for Space Law* (Vol. 55, pp. 3-23). The Hague, The Netherlands: Eleven International.

Marchisio, S. (2018). Il trattato sullo spazio del 1967: Passato, presente e futuro. *Rivista di diritto internazionale*, 101, 205-213.

Moltz, J. (2011). *The politics of space security: Strategic restraint and the pursuit of national interests*. Stanford, CA: Stanford University Press.

Sheehan, M. (2014). *The international politics of space*. New York, NY: Routledge.

von der Dunk, F., & Tronchetti, F. (Eds.). (2015). *Handbook on space law*. Cheltenham, U.K.: Edward Elgar.

Zhukov, G. P., & Kolosov, Y. (2014). *International space law*. Moscow, Russia: Statut.

References

Agreement Governing the Activities of States on the Moon and Other Celestial Bodies. December 18, 1979. 1363 U.N.T.S. 3.

International Geopolitics and Space Regulation

Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space. April 22, 1968. 672 U.N.T.S. 119.

Al Rodhan, N. (2012). *Meta-geopolitics of outer space: An analysis of space power, security and governance*. New York, NY: Palgrave Macmillan.

Arangio-Ruiz, G. (1972). The normative role of the General Assembly of the United Nations and the Declaration of Principles of Friendly Relations. *Recueil des Cours de l'Académie de Droit International*, 137, 419-742.

Christol, C. Q. (1982). *The modern international law of outer space*. New York, NY: Pergamon.

Christol, C. Q. (1985). Prospects for an international regime for direct television broadcasting. *International Comparative Law Quarterly*, 34, 142-158.

Clarke, A. C. (1959). *The exploration of space*. New York, NY: Harper.

Convention for the Establishment of the European Space Agency. (CSE/CS(73)19, rev.7). May 30, 1975.

Convention on International Liability for Damage Caused by Space Objects. September 2, 1972. 961 U.N.T.S. 187.

Convention on Registration of Objects Launched into Outer Space. November 12, 1974. 1023 U.N.T.S. 15.

Deudney, D. (2002), Geopolitics as theory: Historical security materialism. *European Journal of International Relations*, 6, 77-100.

Dolman, E. C. (1999). Geostrategy in the space age: An astropolitical analysis. *Journal of Strategic Studies*, 22, 83-106.

Dolman, E. C. (2002). *Astropolitik: Classical geopolitics in the space age*. London, U.K.: Frank Cass.

Draft International Code of Conduct for Outer Space Activities, March 31, 2014.

Draft Treaty on the Prevention of the Placement of Weapons in Outer Space, the Threat or Use of Force against Outer Space Objects. June 16, 2014.

Freeland, S. (2012). The development of national space law. In S. Freeland, R. Popova, & S. Passy (Eds.), *Contemporary issues for national and international space law: Commentary and source materials* (pp. 12-35). Sofia, Bulgaria: AMG Publishing.

Freeland, S. (2017). International law and the exploration and use of outer space. In M. Ambrus, R. Rayfuse, & W. Werner. (Eds.), *Risk and the regulation of uncertainty in international law* (pp. 77-96). Oxford, U.K.: Oxford University Press.

International Geopolitics and Space Regulation

Frutkin, A. W. (1965). *International cooperation in space*. Englewood Cliffs, NJ: Prentice-Hall.

Gabrynowicz, J. I. (2004). Space law: Its Cold War origins and challenges in the era of globalization. *Suffolk University Law Review*, 37, 1041–1053.

Havercroft, J., & Duvall, R. D. (2009). Critical astropolitics: The geopolitics of space control and the transformation of state sovereignty. In N. Bormann & M. Sheehan. (Eds.), *Securing outer space: International relations theory and the politics of space* (pp. 42–58). London, U.K.: Routledge.

Hays, P. L., & Lutes, C. D. (2007). **Towards a theory of space power**. *Space Policy*, 23, 206–209.

Hibbs, A. R. (1966). Space man versus space machine. In L. M. Hirsch (Ed.), *Man and space: A controlled research reader* (pp. 87–100). New York, NY: Pitman.

Hobe, S. (2010). The impact of new developments on international space law (new actors, commercialisation, privatisation, increase in the number of “space-faring nations”). *Uniform Law Review*, 15, 869–881.

Hobe, S., Schmidt-Tedd, B., & Schrogl, K.-U. (Eds.). (2006). *Project 2001 Plus: Global and European challenges for air and space law at the edge of the 21st century*. Cologne, Germany: Carl Heymanns.

Hobe, S., Schmidt-Tedd, B., & Schrogl, K.-U. (Eds.). (2009). *Cologne commentary on space law*, Vol. 1. Cologne, Germany: Carl Heymanns.

Hobe, S., Schmidt-Tedd, B., & Schrogl, K.-U. (Eds.). (2013). *Cologne commentary on space law*, Vol. 2. Cologne, Germany: Carl Heymanns.

Hobe, S., Schmidt-Tedd, B., & Schrogl, K.-U. (Eds.). (2015). *Cologne commentary on space law*, Vol. 3. Cologne, Germany: Carl Heymanns.

International Court of Justice. (1996). Legality of the threat or use of nuclear weapons, advisory opinion. *ICJ Reports*, 1996, 226–267.

Jakhu, R. S. (1981). Direct broadcasting via satellite and new information order. *Syracuse Journal of International Law and Commerce*, 8, 375–390.

Jakhu, R. S. (Ed.). (2010). *National regulation of space activities*. Dordrecht, The Netherlands: Springer.

Jenks, C. W. (1965). *Space law*. London, U.K.: Stevens.

Jervis, R. (1976). *Perception and misperception in international politics*. Princeton, NJ: Princeton University Press.

International Geopolitics and Space Regulation

- Kash, D. (1967). *The politics of space cooperation*. Lafayette, IN: Purdue University Studies.
- Kopal, V. (1988). The role of United Nations Declarations of Principles in the progressive development of space law. *Journal of Space Law*, 16, 5–20.
- Lachs, M. (1964). The international law of outer space. *Recueil des Cours de l'Académie de Droit International*, 113, 1–115.
- Mackinder, H. J. (1904). The geographical pivot of history. *The Geographical Journal*, 23, 421–444.
- Marboe, I. (2015). National space legislation. In F. von der Dunk & F. Tronchetti (Eds.), *Handbook on space law* (pp. 127–204). Cheltenham, U.K.: Edward Elgar.
- Marboe, I. (Ed.). (2012). *Soft law in outer space: The function of non-binding norms in international space law*. Cologne, Germany: Böhlau.
- Marchisio, S. (2004). The 1986 United Nations principles on remote sensing: A critical assessment. In *Studi di diritto internazionale in onore di Gaetano Arangio-Ruiz* (pp. 1311–1340). Napoli, Italia: Editoriale Scientifica.
- Marchisio, S. (2005). The evolutionary stages of the legal subcommittee of the United Nations Committee on the Peaceful Uses of Outer Space (COPUOS). *Journal of Space Law*, 31, 219–242.
- Marchisio, S. (2013). Nandasiri Jasentulyana keynote lecture: The Draft Code of Conduct in Outer Space Activities. In *Proceedings of the International Institute for Space Law* (Vol. 55, pp. 3–23). The Hague, The Netherlands: Eleven International.
- Marchisio, S. (2015). **Security in space: Issues at stake**. *Space Policy*, 33, 67–69.
- Marchisio, S. (2018). **Setting the scene: space law and governance**. *Ordine internazionale e diritti umani—Gli speciali*, 1, 55–65.
- Moltz, J. (2011). *The politics of space security: Strategic restraint and the pursuit of national interests*. Stanford, CA: Stanford University Press.
- Morgenthau, H. J. (1960). *Politics among nations: the struggle for power and peace*. New York, NY: Knopf.
- Neustadt R. E., & May, E. R. (1986). *Thinking in time: The uses of history for decision-makers*. New York, NY: Free Press.
- Peter, N. (2006). **The changing geopolitics of space activities**. *Space Policy*, 37, 145–153.
- Spykman, N. J. (1944). *The geography of peace*. New York, NY: Harcourt.

International Geopolitics and Space Regulation

Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and Under Water. August 5, 1963, 480 U.N.T.S. 43.

Treaty Between the United States of America and the Russian Federation on Further Reduction and Limitation of Strategic Offensive Arms. January 3, 1993.

Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Reduction and Limitation of Strategic Offensive Arms. May 26, 1972.

Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies. October 10, 1967, 610 U.N.T.S. 205.

United Nations General Assembly. (1958, December 13). Resolution 1348 (XIII): Question of the Peaceful Use of Outer Space.

United Nations General Assembly. (1959, December 12). Resolution 1472 (XIV): International Cooperation in the Peaceful Uses of Outer Space.

United Nations General Assembly. (1963, December 13). Resolution 1962 (XVIII): Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space.

United Nations General Assembly. (1982, December 10). Resolution 37/92: The Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting.

United Nations General Assembly. (1986, December 3). Resolution 41/65: Principles Relating to Remote Sensing of the Earth from Outer Space.

United Nations General Assembly. (1992, December 14). Resolution 47/68: The Principles Relevant to the Use of Nuclear Power Sources in Outer Space.

United Nations General Assembly. (1996, December 13). Resolution 51/122: Declaration on the International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries.

United Nations General Assembly. (2006, December 6). Resolution 61/75: Transparency and Confidence-Building Measures in Outer Space Activities.

United Nations General Assembly. (2007, December 17). Resolution 62/101: Recommendations on Enhancing the Practice of States and International Intergovernmental Organizations in Registering Space Objects.

International Geopolitics and Space Regulation

United Nations General Assembly. (2007, December 22). Resolution 62/217: Space Debris Mitigation Guidelines of the United Nations Committee for the Peaceful Uses of Outer Space.

United States Senate, Subcommittee on Space, Science, and Competitiveness. (2017, May 23). **Reopening the American Frontier: Exploring How the Outer Space Treaty Will Impact American Commerce and Settlement in Space.**

von Bencke, M. J. (1997). *The politics of space: A history of US-Soviet/Russian competition*. Boulder, CO: Westview.

von der Dunk, F. G. (Ed.). (2011). *National space legislation in Europe: Issues of authorization of private space activities in the light of developments in European space cooperation*. Leiden, The Netherlands: Martinus Nijhoff.

York, H. F. (1970). *Making weapons, talking peace: A physicist's odyssey from Hiroshima to Geneva*. New York, NY: Basic Books.

Zhukov, G. P. (1978). Tendances contemporaines du développement du droit spatial international. *Recueil des Cours de l'Académie de Droit International*, 161, 229-328.

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