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SPACE LAW, SUBJECTS AND JURISDICTIONS: PRE-1963 PERIOD

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ORCID ID: <https://orcid.org/0009-0005-2202-9482>**Marinich V.K., Myklush M.I. Space Law, Subjects and Jurisdictions: pre-1963 period.**

This article is a continuation of an extensive study of the process and results of the regulation of space activities over the period from 1958 to the present, the purpose of which is a deep analysis of international documents adopted over the entire period of space activities.

The article is focused on an attempt to answer some controversial or unresolved issues related to the regulation of relations in outer space and on celestial bodies.

Thus, for example, there are still many different theories and discussions on the topic: Does space law exist or not, and provided it exists, what documents can be attributed to its sources? Who can be the founder of space law, and to what extent? What can be the subjects and objects of space activities and space law? And, of course, one of the most important issues is the question of the jurisdictions of subjects of space activities and space law.

To understand this, it is necessary to return to the origins of the process of regulating space activities, namely, during the period 1958-1963 years, when the technical exploration of outer space and celestial bodies had just begun and the first and most important documents in this area were adopted, namely, the first Resolutions and UN Declaration.

Based on the analysis of these documents and the circumstances in which they were created, as well as taking into account the various opinions of scientists and the basic postulates of the theory of law, and even taking into account some philosophical aspects of human nature, this article attempts to define and describe the essence of space law, existing and possible spatial and territorial jurisdictions and also the subject-object composition of participants in space activities.

Key words: outer space law, space activity, jurisdiction, subjects, objects.

Мариніч В.К., Миклуш М.І. Космічне право, суб'єкти та юрисдикції: період до 1963 року.

Ця стаття є продовженням великого дослідження процесу та результатів регулювання космічної діяльності за період, починаючи з 1958

року і до сьогодні, метою якого є глибокий аналіз міжнародних документів, прийнятих за весь період здійснення космічної діяльності.

Безпосередньо у цій статті робиться спроба відповісти на деякі спірні чи невирішені питання, пов'язані з регулюванням відносин у космічному просторі та на небесних тілах.

Так, наприклад, досі існує безліч різних теорій та дискусій на тему: Космічне право є чи його немає, і якщо воно є, то які документи можна віднести до його джерел? Хто може бути творцем космічного права, та в яких межах? Які можуть бути суб'єкти та об'єкти космічної діяльності та космічного права? І, звичайно ж, одним із найважливіших питань є питання про юрисдикції суб'єктів космічної діяльності та космічного права.

Для того, щоб це зрозуміти, необхідно повернутися до витоків процесу регулювання космічної діяльності, а саме – у період 1958–1963 років, коли тільки почалося технічне освоєння космічного простору та небесних тіл і було прийнято перші найважливіші документи у цій галузі – перші Резолюції та Декларація ООН.

На основі аналізу цих документів та обставин, у яких вони створювалися, а також з урахуванням різних думок вчених та основних постулатів теорії права, і навіть з урахуванням деяких філософських аспектів природи людини, у цій статті робиться спроба визначити та описати суть космічного права, просторово-територіальні юрисдикції, що вже існують і які можуть бути, а також суб'єктно-об'єктний склад учасників космічної діяльності.

Ключові слова: космічне право, космічна діяльність, юрисдикція, суб'єкти, об'єкти.

1. Introduction.

1.1. Problem Statement. It may seem that cosmonautics is a young science. However, in reality, attempts to explore Outer space have very ancient roots.

Already in the third millennium BC, the ancient Egyptians carried out rather complex scientific research of the Universe beyond the Earth. Then it was known about the existence of cosmogonic theories on the origin of the Universe, which are increasingly beginning to resemble scientific hypotheses

put forward by modern physics and astronomy.

Over time, the passion for Space exploration faded, and ancient knowledge was lost.

A new stage in Space scientific exploration can be considered the period of the development of philosophy and science in the 6-4 centuries BC in Ancient Greece. Thus, in the 6th century BC Anaximander of Miletus (approximately lived in the period 611 – 546 BC) found "The law of conservation of matter" and expounded "The Cosmogony" as well as "The theory of primordial" under the name "apeiron" (in the treatise "On nature") [26, p. 42]. Later, Democritus from Abder (approximately lived in the period 460-370 BC) expounded the theory of "The Void" and "Atomism" (in the works "The Great World-System", "On the Planets", "Heavenly Causes", "Description of the Heavens", "Terrestrial Causes", etc.) [26, p. 48-49]. Subsequently, Eudoxus of Cnidus (approximately lived in the period 408-355 BC) outlined his planetary-spherical theory, suggesting that the shape of the Earth and other space objects is spherical (his works have not reached us, but are mentioned in the mathematical "Elements" by Euclid). The result of these studies was Aristotle's (approximately lived in the period 384 – 322 BC) theory of geocentric cosmology (essays "On the Heavens", "Physics", and "Meteorologica").

Later, with the spread and establishment of the Christian religion in Europe, Space exploration acquired an unscientific religious character. This continued until the 16th century AD.

The next stage of Space scientific exploration can be considered the period from the 16th century AD to the beginning of the 19th century AD, which was marked by the creation of the theory on the heliocentric system of the world, outlined in the work "On the Revolutions of the Celestial Spheres" (Latin name is *De revolutionibus orbium coelestium*) by Polish scientist Nicolaus Copernicus (lived in the period 1473 – 1543).

However, the main stage of Space exploration can be called the period that began in the first quarter of the 19th century AD and continues to this day. This is the period of practical space exploration.

The beginning of this period can be characterized by the creation of a formula that established the connection between the speed of the rocket at any moment of its movement, the rate of gas outflow from the nozzle, the mass of the rocket, and the mass of explosives (the rocket equation). The first attempts to create this formula were carried out by British mathematician William Moore, Scottish mathematician and physicist Peter Guthrie Tait, and Russian scientist Ivan Vsevolodovich Meshchersky. This formula acquired its final form in 1897 in a manuscript by Polish-Russian scientist Konstantin Tsiolkovsky (who lived in the period 1857–1935), which was published in 1903 [17, p. 1]. In memory of the first publication, this formula was named the

Tsiolkovsky rocket equation. Although this formula was imperfect and had many shortcomings, it could be considered that the era of practical space exploration had begun.

At the same time, processes for regulating space activities are beginning to emerge. In 1932 Vladimir Mandl published the first study on the so-called "space law", and in 1953 Wolf Heinrich Prince of Hanover presented his doctoral thesis entitled "Luftrecht und Weltraum" ("Air Law and Space") [17, p. 1].

The 1950s can be called the period of the beginning of the Outer Space Race, in which the USSR seized the initial leadership. Ukrainian and Soviet scientist Sergei Pavlovich Korolev (lived in the period 1906 – 1966) developed and created space vehicles with three- and four-stage launchers, which on October 4, 1957, allowed him to launch into near-Earth orbit the first in the history of mankind satellite "Sputnik 1". This launch shocked everyone because the satellite "Sputnik 1" weighed 84 kg, while the USA was just developing the possibility of launching into space a satellite weighing 10 kg [14, p. 353]. However, the hype had not yet subsided, as on November 3, 1957, the USSR launched a satellite "Sputnik 2" weighing 508 kg with the first animal on board (the dog Layka) [14, p. 353]. In 1958, with the direct participation of Sergei Korolev, the geophysical satellite "Sputnik 3" was developed and launched into space, and then the paired Electron satellites for the study of the Earth's radiation belts were also launched. The reason for such a success was that in the USSR, the organization of space vehicle launches into space was carried out only by military state bodies that had the appropriate technologies and resources.

Only on January 31, 1958 the United States managed to launch its first research satellite into orbit using the space vehicle "Jupiter C". Although it was a joint military-civilian state project, from that moment the United States faced a division of space activities into military and civilian. Military space vehicles were launched into space by military government agencies under the direction of the Department of Defense (DOD), and launches of civil research space vehicles were carried out by civilian government agencies under the control of the National Aeronautics and Space Administration (NASA), established under the National Aeronautics and Space Act (NASAct), adopted in 1958 [14, p. 353].

Further, the development of space activities took place very rapidly. Already in 1959 three automatic stations to the Moon were created and launched in the USSR. On April 12, 1961, Sergei Korolev managed to create and launch the first manned spacecraft "Vostok 1", which allowed Yuriy Gagarin to carry out the world's first human flight into space. Since that moment, representatives of more than

40 countries of the world have already gone into space, many of which have directly participated in the work of the International Space Station. Just over 60 years have elapsed since the first manned flight into space, but plans for space tourism, human exploration of the Moon and Mars, and flights beyond the Solar System are already being seriously discussed in the scientific society.

All these research and scientific and technical achievements in the field of space eventually led to the need to regulate relations among participants in space activities.

At the same time, it was clear that existing international documents (for example, the Chicago Convention of 1944) could not regulate the relationship on the use of space vehicles, since they concerned only 'aircraft', whereas the concept of 'spacecraft' (or 'space vehicle') does not meet the requirements of the definition of an 'aircraft' as laid down in air law [17, p. 4].

At the initial stage, the States that participated in the space race developed their standards related to the training of astronauts, the creation of spacecraft, and the behavior of astronauts in space. However, the jurisdiction of all these regulations extended only to the territory of the relevant State.

Thus, the international community was faced with the question of creating a common law that could regulate space activities outside the States.

The implementation of this task was carried out by both certain States and the international community under the leadership of the United Nations General Assembly (the UN GA or the UN General Assembly), which subsequently led to the emergence of a fairly large number of international and national acts in the field of space activities.

However, to date, these documents have not given answers to questions about what can be considered Space Law and its sources as well as about the subjects and jurisdictions in space activities and space law.

To understand this, it is necessary to return to the origins of the process of regulating space activities, namely, to the period 1958-1963, when the technical exploration of outer space and celestial bodies had just begun and the first most important documents in this area were adopted, namely, the first Resolutions and UN Declaration.

The main documents on the regulation of space activities created by the international community in the period up to 1963 can be considered the following:

- the UN General Assembly Resolution No. 1148 (XII) "Regulation, limitation and balanced reduction of all armed forces and all armaments; conclusion of an international convention (treaty) on the reduction of armaments and the prohibition of atomic, hydrogen and other weapons of mass destruction", adopted by the UN GA during its 12th session at the

716th plenary meeting, 14 Nov. 1957 (the UN GA Resolution 1148) [6];

- the UN General Assembly Resolution No. 1348 (XIII) "Question of the peaceful use of outer space", adopted by the UN GA during its 13th session at the 792nd plenary meeting, 13 Dec. 1958 (the UN GA Resolution 1348) [7];

- the UN General Assembly Resolution No. 1472 (XIV) "International co-operation in the peaceful uses of outer space", adopted by the UN GA during its 14th session at the 856th plenary meeting, 12 Dec. 1959 (the UN GA Resolution 1472) [8];

- the UN General Assembly Resolution No. 1721 (XVI) "International co-operation in the peaceful uses of outer space", adopted by the UN GA during its 16th session, 20 Dec. 1961 (the UN GA Resolution 1721) [12];

- the UN General Assembly Resolution No. 1802 (XVII) "International co-operation in the peaceful uses of outer space", adopted by the UN GA during its 17th session at the 1192nd plenary meeting, 14 Dec. 1962 (the UN GA Resolution 1802) [13];

- Treaty banning nuclear weapon tests in the Atmosphere, in outer space and under water (No. 6964), signed at Moscow (Union of Soviet Socialist Republics, United States of America and United Kingdom of Great Britain and Northern Ireland), on 5 August 1963 (the Treaty № 6964) [21];

- the UN General Assembly Resolution No. 1884 (XVIII) "Question of general and complete disarmament", adopted by the UN GA during its 18th session at the 1244th plenary meeting, 17 Oct. 1963 (the UN GA Resolution 1884) [9];

- the Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space, adopted by the UN GA during its 18th session at the 1280th plenary meeting, 13 Dec. 1963, No. 1962 (XVIII) (the Declaration of Legal Principles) [10];

- the UN General Assembly Resolution No. 1963 (XVIII) "International Co-operation in the peaceful uses of outer space", adopted by the UN GA during its 18th session at the 1280th plenary meeting, 13 Dec. 1963 (the UN GA Resolution 1963) [11].

1.2. The article is aimed at analyzing and systematizing the above documents.

The aforementioned will ensure the possibility to identify (define, classify, and formulate) the basic principles, concepts, models, and rules of space activities, spatial and territorial jurisdictions as well as the subject-object composition of participants in space activities.

In addition, the results of this study make it possible to understand what issues remained unresolved in the field of space activities at this stage and also understand the new tasks the international community has to solve and identify possible solutions.

1.3. The status of the issue. At the same time, it should be noted that today many scientists, dip-

lomats, and honored lawyers have studied the evolution of the process of regulating space activities.

However, it is necessary to underline that the majority of them provided deep analysis only of global international documents on the regulation of space activities, such as international treaties or UN conventions. At the same time, other international documents, such as Resolutions and Declarations adopted by the United Nations General Assembly were subjected to only superficial analysis concerning their insignificance. In turn, it was precisely this position that led to the emergence of a "patchwork" and "leaky" quilt, which today consists of the so-called Space Law, where most of the processes have remained unsettled or are irresponsibly violated.

In addition, it is essential to pay attention to the fact that, in general, scientists considered the process of regulation of space law only from the point of view of states or international organizations, bypassing the point of view of such participants in space activities as people, non-governmental, and commercial organizations. This has led to the fact that such studies have become one-sided and have missed other important elements of the process of regulation of space activities.

In this regard, it is necessary to conduct a new study of this process to get answers to all of the above questions.

2. The basic material. Outer space law.

2.1. Outer space law: to be or not to be, that is the question.

That is, already at this stage, the foundation was laid for the creation and future development of rules for the regulation of space activities.

At the same time, when analyzing the scientific literature, one can notice that most scientists and writers confidently apply the term "The Space law" (or "Outer space law") to the process of regulating space activities. For example, a book on the regulation of space activities, which was written by a member of the International Institute of Space Law Albert K. Lai, contains in its title the phrase "The Law of Outer Space" [20]. British legal scholar Bin Cheng named his book on the same topic "Studies in International Space Law" [16]. A book about the history of the process of regulating space activities, which was written by Prof. Dr. I. H. Ph. Diederiks-Verschuur is called "An introduction to space law" [17]. Fabio Tronchetti called his book on space activities "Fundamentals of Space Law and Policy" [25], and Imre Anthony Csabafi named his book "The concept of state jurisdiction in international space law" [3]. Many other lawyers, scientists, and authors analyzed the process of regulating space activities, including through the UN Resolutions and Declarations as well as through international treaties.

As Fabio Tronchetti noted, expressing a fairly widespread opinion, everyone usually understands

by space law the set of international and national rules and regulations governing human activities in and relating to outer space [25, p.viii].

However, everything is not as clear as it seems at first glance, since there are many other opinions on this topic.

For example, according to a fairly common point of view, it is believed that the Declaration of Legal Principles is no more than an academic exercise [5, p. 21] and only a formal declarative source as well as the UN General Assembly Resolutions have no legal force because they are only recommendations [3, p. 101] even for the UN members [5, p. 19].

As the French delegate noted on this occasion, when discussing the Declaration of Legal Principles at the plenary session of the Assembly, the set of Resolutions and Declarations of the UN General Assembly cannot be called space law, because they cannot inherently create binding norms for everyone [1, p. 147]. Moreover, the French delegation stated that this Declaration is only a document of intent, and the UN General Assembly Resolutions, even if they are adopted unanimously, cannot create legal obligations that can occur only from international agreements [5, p. 19]. Further, delegates from many other countries also drew attention to this fact [1, p. 157–159]. And if the UN's authority to adopt Resolutions and Declarations on the regulation of space activities has never been questioned, then there have been many legal disputes about the legal effect of such documents [5, p. 17]. As a result of such discussions, most delegations disagreed on whether the Resolutions and Declarations of the UN General Assembly could be considered the foundations of space law, except for the USA delegation, who insisted that at least the Declaration reflected international law as accepted by the United Nations members [5, p. 18].

In turn, many lawyers and scientists, on the contrary, believe that the Resolutions and Declarations of the UN General Assembly can form a positive international outer space law and be legally binding even without having the legal effect of a Treaty [5, p. 17]. It was even suggested that the UN General Assembly Resolutions on the Organization of Space Activities can create an "instant" custom law [5, p. 17]. At the same time, even supporters of this point of view believe that the Resolutions and Declarations of the UN General Assembly can be called space law only conditionally, and then with the characteristic of "Soft Law", where most of the conditions are fulfilled only voluntarily and is not legally binding rules of international law, but is only non-binding "norms" or guidelines found [15, p. 405].

Even though most States voluntarily began to comply with the conditions and principles set out in the Resolutions and Declaration of the UN General Assembly (or pretended to comply), this issue remains open.

Given this situation and a large number of different opinions on this topic, for further analysis of documents regulating space activities, it is still necessary to determine the "existence or absence of space law".

At the same time, many legal scholars can say that space law was formed in the middle of the 20th century, and the UN documents or interstate agreements became the basis for it, and some will even say that space law could even be called a kind of stable oral agreement between two or more astronauts who are simultaneously in outer space.

At the same time, historians and theologians can say that space law has existed for a very long time and it appeared back in the days when the first people began to talk about traveling beyond the Earth (space, paradise, the afterlife, Olympus, Nirvana, and so on) and about the rules of behavior in such journeys, described in numerous myths, legends, and cosmogonic theories.

However, if we abstract from the ancient perception of the world, which sometimes seems too metaphysical to people, then we can say that we should not expect from "space law" the form in which people are used to recognize the "law", due to the exclusivity of the environment in which this new "law" will be formed. It can even be assumed that space law will not always be based on "heavy" international acts and its basis may be new principles and conditions beyond state agreements.

At the same time, it should be noted that the comparison of space law with maritime and air law, which often occurs during such discussions, cannot be considered correct. After all, maritime and air laws regulate relations in the redistribution of the planet Earth, where a person is born, grows up, and lives, and where all natural environments are interconnected with each other and with humans. However, the environment for the application of space law is outer space and celestial bodies outside the Earth, which are not a human habitat - for a person this environment is alien, where he is only a guest. In turn, when people come to someone else's environment, the principle of "alien room" appears for them and they cannot set their own rules there, but can only agree on how they should behave being a guest. That is, they can only set rules for their behavior in an "alien room", which we can understand as Extraterrestrial or Space law.

At the same time, to determine the existence of such a Space law, it is necessary to form its description and understanding. For this, first of all, it is important to understand what characteristics of general "law" can be applied to describe "space law", and to which subjects it will be applied.

According to O. F. Skakun, academician of the National Academy of Legal Sciences of Ukraine, the law is a system of legal principles and norms (rules of conduct) formed in society as a fair measure of

freedom and equality, which are established and provided by the state [23, p. 227]. In turn, Fabio Tronchetti describes law as the system of regulations to govern the conduct of the people of a community, society, or nation, in response to the need for regularity, consistency, and justice [25, p. vii]. The majority of other scientists and lawyers adhere to approximately the same opinions regarding the interpretation of the so-called "internal" law (but sometimes in different formulations). In turn, "external" law (or public international law) covers relations between states in all their myriad forms and regulates the operations of the many international institutions and non-governmental organizations [22, p. 2].

That is, we can conditionally assume that law is a system of permanent principles and norms regulating the relations and behavior of certain subjects (participants) within the community (or society, nation, or state) as well as regulating relations among such communities (or societies, or nations, or states).

However, this formulation cannot be used in full to describe space law, since it does not take into account the exclusive environment of its application (outer space and celestial bodies outside the Earth). So, to date, it is unknown about the existence of specific nations and States outside the Earth, within which such a law could be applied. This means that it is necessary to exclude from this formula the processes of regulating relations within "nations" and "states". At the same time, such processes of regulating relations can occur among nations and states, within the framework of specific unions or other associations based on international agreements.

Thus, taking into account the above, Outer space law can be described as a system of permanent principles and norms governing the relations and behavior of certain subjects within a community or society, or union of nations, or union of other organizations. At the same time, the term community, in this case, can be applied to people, and the term society could be applied to all intelligent beings in the Universe.

In addition, for the correct interpretation of the concept of "law", first of all, it is necessary to take into account not the established theoretical dogmas, but the etymology of the word "law" itself and recall how the Ancient Roman lawyer Ulpianus described its origin: "*Est autem a justitia appellatum: nam, ut eleganter Celsus definit, jus est ars boni et aequi*" [4, p. 18] (translated by the author: "it comes from the word 'justice', because according to the excellent definition of Celsus, law is the art of the good and justice").

In turn, the concept of "justice" is a certain spiritual and moral form of the state of the attitude of everyone to everyone. There are many different philosophical, legal, and economic definitions of the

concept of "justice", but all these definitions can be conditionally reduced to an interpretation that describes a just society as a society of equal rights and equal opportunities based on impartial and unbiased relations.

Given this interpretation, the concept of "justice" can only be applied to the term "principles", which can express an impartial and unbiased attitude to something. It cannot be applied to the term "norms of behavior" (not to be confused with moral norms), since "norms of behavior" are often based not on justice, but on the stability of society, on the partiality of the majority of society, and standards of behavior recognized by the majority of society or a small group governing society (and not the whole society). That is, the norms of behavior cannot be fair for everyone, but can only be considered conditionally fair by the majority of society (although even this rarely happens in modern times).

At the same time, a very important point, in this case, is that the principles inherently presuppose their voluntary execution, and the execution of norms of behavior is often mandatory-compulsory, despite doubts about their fairness. That is, the essence of the principles is to show how it is possible to act correctly (fairly) and how it is possible to act incorrectly (unfairly) without responsibility for wrong actions. In turn, the essence of the norms of behavior is to indicate how it is allowed to act (because their creators believe that it is "right"), and how it is impossible to act (because their creators believe that it is "wrong") with the mandatory establishment of responsibility for their violation.

Accordingly, given such a difference in principles and norms, it can be assumed that the principles and norms of behavior can be applied to different subjects. How can we not remember here Irish and British writer and philosopher Jonathan Swift, who wrote that not everyone can be considered an "Animal Rationale" (a rational being), because in most cases a person is only an "Animal capax Rationis" (capable of reason) [19, p. xxxiv]. He proceeded from the fact that for "Animal rationale" it is enough only to know how to act correctly (that is, to know fair principles) to do the right thing. In turn, for "Animal capax rationis" and for all others prescribed norms are needed to indicate how to act and the types of actions that are punished.

At the same time, taking into account the fact that Space law is a new sphere of law that is not related to human habitats, one can afford to form an absolutely new concept of law regulating space activities based on combining established doctrinal concepts of law with its original purpose and philosophical concepts of justice and the essence of human nature or another individual.

To do this, space law can be conditionally divided into at least two sections (branches): Animal rationale jus (law consisting only of fair principles of

behavior, to which any willing subjects can join) and the Law of Norms (law, the application of which is carried out based on norms of behavior). Given this division, it is necessary to determine which subjects of space activities to each type of Space law can be applied.

In a global sense, the subjects of law outside the Earth can be anyone who can understand Space law and carry out their activities following its principles and norms. These can be various individuals (bio-social beings, such as humans [23, p. 55], or extraterrestrial intelligent beings). Also, the subjects of this right can be societies and communities of individuals (created both within the Earth and outside the Earth). In addition, the subjects of Space law can be various forms of political and territorial organization of society (such as States [23, p. 117] and similar organizations) as well as their unions and associations.

Of course, even from the essence of the name Animal rationale jus, it can be understood that this section (branch) of Space law can be applied only to biosocial beings because neither states nor various societies and communities can be animal rationale (they can only be their participants or representatives). At the same time, Animal rationale jus can only be applied within a certain community or society of animal rationale, but cannot be applied among such societies or communities. Accordingly, the Law of Norms will apply to all other subjects of space activity.

Thus, Outer space law will consist of two sections (branches), each of which will have its subject composition: Animal rationale jus (that conditionally can be called "The Law of Principles") and the Law of Norms.

Based on this, each of these sections of Outer space law can be described as follows.

The Law of Principles (or Animal rationale jus) is a system of permanent principles describing fair forms of relations and behavior for individuals (animal rationale) within the community or society created by them.

In turn, the Law of Norms is a system of permanent norms regulating the relations and behavior of subjects (not animal rationale) within the community, society, or union created by them. The Law of Norms is a classical type of law that is widespread in modern society and consists of Private Law and Public Law as it was defined in ancient times [4, p. 18]. At the same time, only Private International Law and Public International Law will be applied to space activities (since the environment of their application will be located outside the sovereign territories of the subjects of space activities). Conditionally, these two subtypes of law can respectively be called Space Private Law and Space Public Law.

Based on this, we can finally try to determine the possible authors (creators) of such a law and well-

known manuscripts of such authors (creators) that can be considered sources of this type of law.

When it comes to the Law of Principles, then neither states, nor private companies, nor unions of states can be the authors (creators) of such a section (branch) of law, since this law is not and cannot be another element of *Corpus juris gentium*. The Law of Principles is the exclusive law of individuals. Accordingly, the authors (creators) of this section (branch) of the law can only be individuals who consider themselves to be *Animal rationale* and understand what is right and what is wrong. However, can individuals who are authors (creators) of the Law of Principles dictate the conditions of activity in space for all other individuals? Of course, they cannot act in such a way. In essence, the Right of Principles can be created only based on goodwill. That is, one or more individuals cannot impose, but can only offer their community or the whole society the principles of relationships and behavior that they consider fair. However, these principles will become legal only when all other individuals (*Animal rationale*) of this community or society join them voluntarily. At the same time, this principle will apply only to the community or society for which it was created.

To date, in scientific circles, there is no information about the creation or attempts to create such a law as *Animal rationale jus* (or the Right of Principles). Most likely, this is the kind of "law" that has yet to be developed, and which can go beyond the dogmatic image of law and can become a new law for the whole Universe, namely, "*Universum jus*".

In terms of Space Private Law and Space Public Law, which are part of the Law of Norms, then today it is considered that only states can be the authors (creators) of these types of law, and the subjects of these laws can be individuals, states, state and non-state organizations as well as unions or associations of states (on the similarity of the UN) and various associations.

However, it is necessary to draw attention to the fact that in this case, the object of application of Space law does not belong to any of these subjects.

At the same time, the actual jurisdiction of the UN (which operates based on its Charter which is only an international agreement) is limited by the jurisdiction of the Member States of the Organization, which in turn are limited by their territorial jurisdiction. That is, for the UN and the states there is a kind of "home room" principle, which implies the presence of a sovereign territory within which they can act in full, and beyond which they have no universally recognized rights. Thus, two principles operate simultaneously for the UN and states, namely, the principle of "home room" and the principle of "alien room", which was mentioned earlier. Accordingly, the UN and States cannot establish norms of conduct for non-State participants in space activities and cannot even use material resources in an envi-

ronment that is outside their spatial and territorial jurisdiction. States can only agree on how to interact and not harm each other based on international treaties and other international acts, and can also assume unilateral obligations in the form of public promises (*stipulatio*), which can be considered the UN General Assembly Resolutions or other official documents. At the same time, the opinion of some lawyers about the non-binding and insolvency of the UN General Assembly Resolutions cannot be considered correct because all activities of states are carried out on behalf of and at the expense of their people. Thus, States cannot spend their people's money to adopt meaningless Resolutions at the UN - on the contrary, their every action has legal consequences. Moreover, history shows that the delegates of the States that signed the UN General Assembly Resolutions had repeated discussions and agreed on the text, essence, and purpose of the UN General Assembly Resolutions [5, p. 18–19]. Thus, in a sense, these Resolutions can be considered the fruit of certain agreements of the signatory States, that is, international treaties, although not in the usual format, in the format of "*Conventionalis stipulation*" (a contractual public promise to fulfill certain obligations). By fulfilling these obligations, the States have additionally turned them into an international legal custom. In turn, according to the generally accepted doctrine of law [23, p. 206–207] and also under the provisions of Article 38.1 of the Statute of the International Court of Justice there were listed sources to which the Court is to look in determining a case. In this case, it is worth mentioning that the sources of international law can be both international treaties and international legal customs.

That is, obviously the Resolutions and Declarations of the UN General Assembly cannot be binding on States that have not signed them, but they are binding on those States that have signed these acts and thus, as pioneers in this field, have assumed unilateral and multilateral obligations. Thus, the Resolutions and Declarations of the UN General Assembly can be part of the Space Public Law.

In turn, it should be noted that since the environment for the application of Space law does not also belong to non-State participants of space activities, they also cannot dictate the conditions of space activities to the States and UN. In turn, unlike States, non-state actors in space activities do not have territorial jurisdiction and sovereignty and are not bound by the principle of "home room". That is, they are not limited to any territory for carrying out space activities in full. However, according to the "alien room" principle, non-State actors in space activities also cannot dictate conditions to States and each other and will have to negotiate among themselves. At the same time, given the possibility of creating an unlimited number of different space communities, Space Private Law may consist of an

unlimited number of contracts regulating relations in such communities. Such diversity will exist until all non-governmental communities decide to act based on a single generally accepted agreement or move to a new level of Animal rationale jus.

Thus, taking into account all of the above, we can conclude the following.

Space Law is a set of legal systems regulating space activities, implying different legal ideologies and different subject compositions as well as the environment of the application, which extends to outer space and celestial bodies beyond the Earth.

Space Law can consist of many legal systems, of which three systems are currently distinguished, namely, Animal rationale jus (or the Law of Space Principles), Space Private Law, and Space Public Law.

The Law of Space Principles (or Animal rationale jus) is a system of permanent principles of space activity developed by individuals (animal rationale) and describing fair forms of relations and behavior for such individuals within the community or society created by them.

Public Space Law is a system of permanent norms created by public subjects of space activities (various forms of political and territorial organization of society, such as States and similar organizations as well as their unions and associations) and regulating the behavior of such subjects and relations among them.

Space Private Law is a system of permanent norms created by non-public subjects of space activities (organizations and/or individuals who do not consider to be animal rationale), and regulating the relations and behavior of such subjects within the community, society, or association created by them.

Taking into account the above, it can be concluded that as of the end of 1963, part of Space Law already existed, namely, Space Public Law, which consisted of unilateral obligations of some States expressed in Resolutions and Declarations of the UN General Assembly.

2.2. Goals, objects, and participants of space activities as possible objects and subjects of space law.

2.2.1. It is necessary to say that during this period space activity was very active and its main participants were states (the USA and the USSR) that launched objects into space as well as the UN, which tried to regulate this process. However, the USA and the USSR received the status of participants in space activities ex post facto as a result of their successful launches of objects into space. At that time, the rest of the States were only witnesses of space activities. However, since the UN GA Resolution 1472, the status of participants in space activities has been assigned to all States.

Later, the Resolutions and Declarations of the UN General Assembly established the status of partici-

pants in space activities for non-governmental organizations (the UN GA Resolution 1721) and astronauts, that is, for people who flew into space (the UN GA Resolution 1802 and the Declaration of Legal Principles).

Thus, during this period, a group of subject-object elements that had or could have been related to space activities gradually began to form.

At the same time, only States and international organizations were singled out as subjects of Space law on the similarity of the UN [24, p. 39]. This was justified by the fact that only States and international organizations are parties to international legal relations that arise in connection with space activities carried out under their jurisdiction and control [24, p. 39]. On this basis, people (and, accordingly, astronauts) were treated not as subjects of space law, but as objects because they were not participants in international legal relations [24, p. 39].

However, such a conclusion, even though it is supported by many scientists, contradicts the very essence of the concept of a "subject", which is considered to be any initiator and active participant in an activity that has a goal and moves toward it as well as makes decisions and controls such activities [24, p. 39]. After all, it is the astronaut who takes a direct active part in space activities. Although he often performs the tasks of his state of registration, only he decides how exactly to perform these tasks and whether to perform them or not. In turn, the state cannot force an astronaut to do something with which he does not agree, and also cannot terminate the existence of an astronaut without his consent as an ordinary object. In addition, it is necessary to understand that in outer space (outside the space vehicle), an astronaut is not subject to the jurisdiction of international law and the jurisdiction of his state at all, and he automatically becomes a separate participant in legal relations with other astronauts. At the same time, as mentioned earlier, Space Law is not only international legal relations. Moreover, landing on the territory of a foreign state or being in a foreign space module, an astronaut automatically becomes a participant even in international legal relations. At the same time, it is also necessary not to forget that the Declaration of Legal Principles determined that "*States shall regard astronauts as envoys of mankind in outer space*". This means that even the UN has recognized the astronaut's status as a subject of Space Law. After all, an object cannot be an active participant in space activities, a participant in international relations, and a representative of all mankind.

That is, an astronaut is not only an independent representative of humanity but also a subject of space activity who performs work in outer space for the state or for another subject and independently makes decisions (including legal ones), although

taking into account the working orders of the relevant employer subject.

Also, it is necessary to take into account that the subject of space law and space activities can be not only someone who is in space but also someone who takes part in the preparation for a flight into space or just wants to take part in space activities.

However, it is necessary to understand that not every participant in international legal relations can be a subject of space law, but only those who participate or want to participate in space activities.

Taking into account the above, it is possible to distinguish the following subjects of space activity, which may have the status of subjects of space law: individuals (humans and possibly extraterrestrial intelligent beings), states (or other similar forms of political and territorial organization of society) and their associations and unions as well as various societies and communities of individuals (created both within the Earth and outside the Earth).

2.2.2. At the same time, the object of space law can be considered any goals and any side of space activity, to which the active ability of one or more subjects of such activity is directed [24, p. 39]. Accordingly, such objects can be all objects and purposes of space activities, which were declared by the subjects of Space Law in the UN Declaration and Resolutions for this period.

At the same time, such objects can be divided into several types, namely, natural objects, man-made objects, technical phenomena, and natural phenomena.

Man-made objects of space activity include the following objects mentioned in international documents at that time: satellites (the UN GA Resolution 1721), objects launched into outer space (the UN GA Resolution 1721 and the Declaration of Legal Principles), rocket launching facilities (the UN GA Resolution 1802), space vehicle (the UN GA Resolution 1802).

Technical phenomena include "satellite communication" (the UN GA Resolution 1721).

Natural objects of space activity include such objects as outer space (mentioned in all documents) and celestial bodies (the UN GA Resolution 1721 and the Declaration of Legal Principles).

At the same time, it is necessary to remember that as an object of Space Law, outer space is a separate *all-encompassing* spatial and territorial unit that does not fall under the jurisdiction of any State on Earth but falls under the jurisdiction of international law in relations among States.

In turn, the celestial body is a separate *large* spatial-territorial unit that does not fall under the jurisdiction of any State on Earth (except for the territories of the States on Earth) but falls under the jurisdiction of international law in relations among States.

Natural phenomena include any changes occurring in the nature of the planet Earth (the UN GA

Resolution 1721) as well as any phenomena in the Universe outside the Earth.

2.2.3. Considering the above, we can say that as of the end of 1963, it was already possible to distinguish a group of subjects and a group of objects of space law that were direct or predictable participants in space activities.

2.3. Relationships and jurisdiction. In turn, the existence of established subjects of space law also presupposed the establishment of rules for such subjects regarding the implementation of space activities. In this connection, the UN General Assembly has taken the first steps to streamline incipient space activities. However, the formation of general principles and rules of space activities, in the end, led to the need to resolve one of the most important issues of space activities and space law – the definition of rules of relations and jurisdiction of subjects of space activities.

As mentioned earlier, the real jurisdiction of the UN is limited by the jurisdiction of the UN member States, which in turn are limited by their jurisdiction (the principle of "home room"). Accordingly, over time, the question arose about how extensive the Space Public Law created by such entities can be, and how far it can extend if it relies on the jurisdiction of States.

In this regard, it should be noted that the notion of jurisdiction finds its origin in the concept of territory, the principle of sovereign equality, and non-interference with the domestic affairs of States [3, p. 50]. That is, as mentioned earlier, the jurisdiction of states is carried out according to the principle of "home room".

For a long period, it so happened that, protecting their territorial integrity (that is, access to natural, human, and tax resources within a certain territory), states adopted a large number of various regulatory legal acts (constitutions, declarations, codes, and similar acts) as the basis for their legal activities [23, p. 118]. These normative legal acts, on the one hand, approved the jurisdiction of States in the territories occupied by them, and on the other hand, limited their jurisdiction only to these territories. That is why, although States can represent the interests of their people in international relations, their special administrative apparatus has the authority to manage, protect order, persuade, and compel only on their territory [23, p. 86]. Thus, the States have established the legal principles of "home room" and "alien room", according to which they can use resources only on their territory, and, accordingly, do not have the right to use any objects (resources) outside their territory. In turn, the UN General Assembly does not have the authority to grant such a right of use to States, since this is not provided for by the UN Charter. Moreover, according to paragraph 7 of Article 2 of its Charter, the UN has no right to inter-

ferre in the internal affairs of states at all, even to expand their territorial jurisdiction.

In this regard, the authors of the first UN GA Resolution 1148 recognized that no State on Earth has the right of sovereignty and, accordingly, jurisdiction in outer space [5, p. 12].

However, attention should be given to the fact that States do not have jurisdiction in outer space and on celestial bodies (outside the Earth), and it does not require recognition by the States and the UN. It simply needs to be accepted as truth. Everything is quite simple. The state can act freely only within the boundaries of its territorial jurisdiction.

However, despite this, there is a concept of public international law, according to which a state can also act where it is not directly prohibited and restricted by international law, and sometimes may even go beyond international law [2, p. 146]. That is, the essence of this concept of "narcissus" is that states can decide for themselves whether or not to limit activities to their territory. Moreover, within the framework of this concept, three theories about jurisdictions in neutral territories have emerged, namely, "Res Communis", "Res Nullius", "the Common Heritage of Mankind" or "Res Communis Humanitatus" [2, p. 147].

According to the first theory "Res Communis" or "Res Communis Omnium", outer space and celestial bodies are considered a common territory. Therefore, all States, their citizens, and international legal entities are free to explore, use, and develop a common territory (the "commons" area). Naturally, most technologically advanced states adhere to this theory, since it allows them to act as if on equal terms, but to enrich much faster than underdeveloped states [2, p. 147].

According to the second theory, "Res Nullius", outer space and celestial bodies are a territory that does not belong to anyone. Therefore, certain States have the right to own and control the "commons" for their exclusively sovereign purposes by right of first discovery or use [20, p. 38]. This imperialist and colonial theory is attractive to states claiming world hegemony.

According to the third theory, "Res Communis Humanitatus", outer space and celestial bodies are common territory for all mankind. Therefore, all States, their citizens, and international legal entities are free to explore, use, and develop a common territory in the interests of humanity and provided that they share the benefits with other participants (that is, there is an aspect of sharing) [2, p. 147].

However, all these theories are only theories, and the concept itself is not perfect and cannot extend to outer space and celestial bodies.

Although, according to Ogunbawo O. Ogunbawo, agreeing with the UN GA Resolution 1721, the States chose the theory that outer space and cele-

tial bodies are not "Res Nullius", but "Res Communis Omnium" [5, p. 12].

However, in this regard, we would like to note that the wishes of representatives of certain States, even if they are stated by the majority of States, cannot violate the principles of the "home room" and the "alien room" based on the territorial jurisdiction of States.

Outer space and celestial bodies cannot belong to States, and the issue of their use can only be decided by individuals (in this case, people who are ready to act for the benefit of all mankind, that is, Animal Rationale).

In this regard, it would be more correct to present this concept of the use of outer space with a different formulation, namely, "Res Nullius Status et Res Communis Animal Rationale", or in a simpler version, namely, "Res Communis Animal Rationale".

In any case, taking into account the above-mentioned theories and contradictions, the situation with the regulation of space activities required the creation of new rules of relations for subjects of space activities, beyond the classical norms of international and national law.

In this regard, already in the UN GA Resolution 1721, the UN General Assembly adopted a provision according to which "International law, including the Charter of the United Nations, applies to outer space and celestial bodies" [12].

Further, the Declaration of Legal Principles stated that "The activities of States in the exploration and use of outer space shall be carried on in accordance with international law, including the Charter of the United Nations ... " [10].

That is, the UN General Assembly proposed that States as subjects of space activities regulate their relations in outer space and on celestial bodies based on existing norms of international law.

Thus, the UN General Assembly proposed to change the existing jurisdiction of international law in relations among States (as subjects of space activities) and extend it beyond the limits of planet Earth to outer space and celestial bodies (as objects of space activities and separate spatial-territorial units) [1, p. 130].

However, as mentioned earlier, the real jurisdiction of the UN is limited by the jurisdiction of the Member States of the Organization, which in turn are limited by their territorial jurisdiction. That is, in fact, within the territory of the Member States of the Organization, this document applies to all subjects, but outside their territories (in outer space and on celestial bodies) only to relations among these States as subjects of international law. The Netherlands delegate expressed the same opinion when discussing the Declaration of Legal Principles at the plenary session of the UN General Assembly [1, p. 146].

That is, we can say that the rules of relations established by these documents extended to "outer

space" and "celestial bodies", but were limited only to relations among States, which should be regulated according to international law.

In addition, the Declaration of Legal Principles stated that "*The State on whose registry an object launched into outer space is carried shall retain jurisdiction and control over such object, and any personnel thereon, while in outer space. Ownership of objects launched into outer space, and of their component parts, is not affected by their passage through outer space or by their return to the earth*" [10].

That is, based on this provision, the national jurisdiction of States was extended to objects belonging to them in outer space beyond their classical territories on planet Earth.

Thus, the UN GA Resolution 1721 and the Declaration of Legal Principles established rules that can be conditionally called "Rules of Space Relations and Space Jurisdictions", and which could be stated as follows (as of the end of 1963):

«The activities of States in the exploration and use of outer space and celestial bodies shall be carried on in accordance with international law, including the Charter of the United Nations.

The jurisdiction of States extends to all objects registered by them located in outer space and to astronauts located inside such objects".

According to these Rules, relations among States in outer space and on celestial bodies were regulated by international law, and relations among astronauts inside a state object (which is located in outer space) were governed by the law of the State to which this object belongs.

At the same time, despite the simplicity, these Rules still left more questions than they gave answers.

First of all, it is necessary to pay attention to the fact that these Rules did not regulate relations among astronauts outside of objects launched into outer space (in outer space and on celestial bodies) and did not regulate relations among private and non-governmental subjects of space activities at all.

Also, these Rules did not apply to objects launched into outer space, which could later land on celestial bodies (including in their airspace and on a solid surface).

However, the most important drawback of these Rules was that the issue of the delimitation of outer space and the spatial-territorial (air) borders of States remained unresolved. That is the issue of the spatial-territorial jurisdiction of States.

Thus, according to Article 1(1) of the Chicago Convention on International Civil Aviation, which was adopted on December 7, 1944, "*The contracting States recognize that every State has complete and exclusive sovereignty over the airspace above its territory*".

In other words, taking into account this Convention, we can state that the spatial-territorial juris-

isdiction of states extends upwards into space and down to the center of the Earth, resembling something like the shape of an inverted cone, with uneven sides that coincide in shape with the borders of states on the surface of the Earth [18, p. 4]. At the same time, the jurisdiction of states is absent outside their territory, that is, in the airspace over terra nullius or the open sea [18, p. 4].

Initially, everything seemed quite clear. However, then the question arose about where the airspace of States ends and outer space begins. In this regard, many versions of such a distinction have arisen.

For example, there were versions about the limitation of the airspace of states by the upper boundary on which the force of gravity acts. However, it would be difficult to turn this version into a rule, since it is very difficult to determine an object with an ideal shape, weight, and density on which an experiment with the force of gravity could be carried out.

Also, there is a theory that Bin Cheng expressed which suggests considering this issue from the point of view of the geophysical meaning of the term "airspace", that is, the airspace ends where the air ends [18, p. 5]. However, in this case, it is necessary to remember that 'air is a mixture of gases and is not a chemical compound'. In this regard, some scientists have proposed to consider the height of 5.8 kilometers as the upper limit of airspace, below which half of the air in the Earth's atmosphere is located [18, p. 5]. According to another version, it was proposed to consider the height of 60 miles (approximately 100 kilometers) as the upper limit of the airspace, above which a vacuum can already begin [18, p. 5]. There were also versions that the vacuum begins only above 400 miles (about 644 kilometers) [18, p. 5]. In addition, a version was put forward according to which it was proposed to consider the maximum upper limit of the airspace as the maximum height at which there is enough air to 'lift' from the air for flights of airplanes and balloons [18, p. 6]. At the same time, according to Bin Cheng, airspace exists where there is an atmosphere (including all its various layers, the troposphere, the ozonosphere, the ionosphere, and, to some extent, the exosphere), that is, at an altitude of 450 to 1000 kilometers above sea level [18, p. 7-8]. However, the upper limit of the atmosphere is also a controversial issue today.

Also, there are several other theories on this topic, classified by McDougal, Lasswell, and Vlasic as follows: 1) proposals based upon prescriptions of the Air Conventions, 2) proposals based upon varying physical characteristics of space, 3) proposals based upon varying natures of flight instrumentalities, 4) proposals based upon the factors of effective control, e) proposals based upon the earth's gravitational effects, and 5) proposals based upon arbitrarily chosen altitudes.

However, as of the end of 1963, most of these theories were only the subject of backstage negotiations and none of them were taken into account. Even today, it is believed that none of these theories is considered acceptable from a scientific point of view [1, p. 138]. However, it should be noted that perhaps the theories turned out to be untenable because none of them contains an economic component and stratification of airspace (for example, an air economic layer, an air military layer, an air orbital layer, etc.). In any case, the States have not been able to agree on such a delimitation of spaces. It is still unclear how far the jurisdiction of States extends in the airspace over their territory [1, p. 137].

The absence of such a distinction practically nullified all efforts to regulate space activities, since it was unclear where aeronautics ends and cosmonautics begins.

3. Conclusions.

It is necessary to say that as of the end of 1963, the UN General Assembly had made several efforts in the field of regulating space activities. Although not all ideas were implemented and not all proposals had a positive context for the development and welfare of mankind, all these actions can be considered an important step towards the settlement of relations in space activities.

Summarizing the study of legal documents on space activities for the period 1958-1963, we can state that already in this period the first principles, concepts, and rules of space activities were formed, which led to the emergence and development of a completely new area of law - the so-called Space Law.

At the same time, as a result of the study, a definition was formed, according to which Space Law can be considered as a set of legal systems regulating space activities, having different legal ideologies and different subject composition as well as the environment of the application, which extends to outer space and celestial bodies beyond the Earth.

Considering that Space Law may consist of multiple legal systems, three possible legal systems of this law were identified, namely, Animal rationale jus (or Law of Space Principles), Space Private Law, and Space Public Law.

Also, it was established that at the end of 1963 there already existed Space Public Law, which mainly consisted of Conventionalis stipulatio, formalized in the form of Resolutions and Declarations of the UN General Assembly.

Certainly, it shall be acknowledged that at the early stage of its development, Space Law had many gaps, shortcomings, and unresolved issues. However, it is these nuances that today make it possible to understand how this area of law should be further developed.

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