

The Astronaut's Legal Status

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The article proposes to define the concept of "astronaut" through the four elements — specialty "astronaut," astronaut's qualification, profession "astronaut" and "astronaut" as the occupation. In this case, it is possible to define the concept of "astronaut" through the labor function of the astronaut. The legal status of an astronaut is considered as a generalization of practical activities in the field of manned astronautics. On the basis of spaceflights experience, additional rules concerning the rights and duties of the astronauts are proposed. A significant list of problems of the astronaut's legal status, which are still pending, is given. It is also proposed to introduce an international component into the astronaut's legal status, and not only to use the full range of rights and privileges of astronauts, which are provided for by international law, but also to empower the cosmonaut with the authority of a state representative at a foreign or international manned space object.

Keywords: astronaut, astronaut's labor function, professional activities of an astronaut, astronaut's rights and obligations, astronaut's legal status, contract for undertaking of a space mission, space law.

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Introduction

Now that the International Space Station is up and running and multilateral cooperation has become the norm, we sometimes forget how long and hard was the road to smooth cooperation in this strategic area affecting the interests of many countries. People have been flying to outer space for almost 60 years now, or, more accurately, their states have been sending them to do some work. The only nations capable of doing that independently are the USSR/Russia, the United States, and China. However, reaching an agreement between the spacefaring nations on joint space legal documents today proved almost as challenging as putting a man into orbit.

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One of the pressing problems of international manned space exploration is the development of a common understanding of the status of an astronaut, which would become the legal basis for unification within reasonable limits of the national legal regulation of space activities.

The author sees his goal in commenting on this task, both from a legal point of view and from the professional position of an astronaut. The solution to the problem should begin with the definition of the term “astronaut” (Notice, that Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space mentions astronauts (cosmonauts) only in the Preamble, and in the normative part refers to the crew of a spacecraft. However, it is interesting to note that the English text uses the term “personnel of a spacecraft,” which is now almost universally superseded by the term “crew”).

First, we make a small remark about the equivalence of a number of homogeneous terms with a single meaning.

Authenticity and semantic appropriateness

For the first time in a multilateral (multilingual) treaty, the notion “cosmonaut” (in the English text — “astronaut”; is used in Anglo-Saxon countries and the Romance languages) was stipulated in the Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (hereinafter — the 1967 Outer Space Treaty), namely in its Article V.

The authenticity of an international treaty text represents the ultimate embodiment of the will of the Parties, its final approval, and the impossibility of further changes. A treaty recognized as equally authentic, made in two or more languages, means that it has the same legal force for each signatory State.

By establishing the authenticity of texts in different languages, the Parties legally fix the linguistic appropriateness. The semantic appropriateness of the text is its conformity to the original translation. The appropriateness of texts means the approval by the parties of the same legal meaning in the treaty in different languages. Thus, recognizing the treaty as authentic, the Parties confirm that the terminology they have chosen is adequate to the meaning and, therefore, semantically appropriate. When making a multilingual international treaty, the main task is not simply to translate the text, but to convey the meaning of the treaty provisions adequately, that is to establish a semantic and legal compliance (Evintov, 1981: 36-38).

In view of the authenticity of the Russian and the English texts of the 1967 Outer Space Treaty both versions can be regarded as fully adequate, therefore, in the legal sense the term of “astronaut” is equivalent to the term of “cosmonaut” and the appropriate Chinese term, which appeared later. (It is noteworthy that the term “astronaut” is used in the texts of the China National Space Administration. In Chinese, a term is used, the transcription of which looks like [yuhanyuan]. The term “taikonaut” was introduced by the Chinese living outside China, and proved to be popular due to the English-language media. In Malaysian, a cosmonaut is pronounced as [angkasavan]. In Korean — [udzhuin], and so on).

Anyway problem of achieving a semantic appropriateness of terminology remains unresolved. Thus, the Outer Space Treaty considers military personnel (Article IV) as cosmonauts, and the Convention on International Liability for Damage Caused by Space Objects refers to other persons onboard a space object.

Definition of the term “astronaut”

The first multilateral treaty using the term “astronaut” was the 1967 Outer Space Treaty.

In space flight practice, the term “astronaut” is used in different contexts to denote the corresponding specialty, qualification, position, and profession (in Russian labor law, these four components describe as the labor function). Considering the concepts of “cosmonaut” and “astronaut” as equivalent, we will understand these components as follows:

- a) specialty “astronaut” is a combination of knowledge and special skills obtained as a result of special professional training for spaceflight activity for design, testing (including flight-design tests) and the operation of space technology, research (including scientific research in space flight), as well as the use of outer space and celestial bodies;
- b) astronaut qualification¹ is the level of preparedness and professional skill that characterizes the degree of suitability of an astronaut for carrying out professional activities for the position “test-cosmonaut,” or “cosmonaut-researcher,” or “astronaut-pilot,” or “astronaut-specialist in-flight” etc.;
- c) the position “astronaut”² is a full-time unit intended to be replaced by an employee fit for performing the professional activities of an astronaut, and is characterized by a range of professional duties, a set of professional rights and a scope of responsibility (professional status of an astronaut), which determines the type and professional workload of an astronaut in accordance with qualifications;
- d) profession “astronaut” is a type of activity of a person who owns the specialty “astronaut” and replaces (has ever replaced) the full-time position “astronaut” (see the previous definition).

Then the basic definition of “astronaut” in a proposed international convention could look like this:

An astronaut of state N is a citizen of this state, selected in accordance with professional requirements for space flight activity for design, testing (including flight-design tests) and operation of space technology, research (including space research flight), as well as the use of outer space and celestial bodies, owning a set of theoretical knowledge and practical skills acquired as a result of special training, and replaces (has ever replaced) the full-time position of the astronaut in the National Space Agency.

No matter what the concept of “astronaut” is considered, it all comes down to the concepts of “profession,” “professionalism,” that are professional requirements, professional selection, professional training, professional activity, and finally, the professional status of an astronaut. In Cologne’s commentary on space law, an astronaut is even considered as “human beings traveling into outer space for professional reasons” (Hobe et al., 2017).

Therefore, a number of additional definitions are required:

¹ Russian cosmonauts can obtain one of the two qualifications — “test-cosmonaut” or “cosmonaut-researcher”.

² We may refer to the practice of the Soviet / Russian cosmonautics: “test-cosmonaut,” “cosmonaut-researcher.” Flight positions (roles, functions) of cosmonauts change: “commander of the crew,” “flight engineer,” “cosmonaut-researcher”. In the US national legislation they use of the term “astronaut” to refer to those selected to join the NASA corps as well as the corresponding gradation of space crew members: “commander”, “pilot”, “mission specialist”, “flight engineer” and “payload specialist”.

- a) professional requirements — a set of conditions, including the availability of professional training in the specialties required in the field of space activities, the length of service in at least one of these specialties, and the state of health of a person participating in a competition for filling positions of candidates for astronauts or astronauts announced by the authorized body for space activities, suitable for carrying out professional activities of an astronaut;
- b) professional selection — a procedure for assessing a person's compliance with established professional (including medical) requirements, in order to allow him access to professional activities of an astronaut;
- c) professional training of an astronaut is a set of knowledge and special skills acquired in the course of preparation for spaceflight activities under the programs approved by the authorized body for space activities;
- d) professional activity of an astronaut is spaceflight activity for design, testing (including flight-design tests) and operation of space technology, research (including scientific research in space flight), outer space and celestial bodies;
- e) professional status of an astronaut is an established set of rights, duties, and responsibilities of an astronaut.

When discussing the prospects of legal regulation of the cosmonaut's work at the level of international law, it is useful to specify the concept of "professional activity." We emphasize that professional activity is not only performing a space flight, but also preparing for it. We detail the components of the cosmonaut's professional activity as participation:

- a) in the development of samples of space technology (avionics), their expertise in the design, creation and testing;
- b) in the development of on-board documentation;
- c) in the development of reporting documentation on the results of a manned space flight, the formulation of conclusions, assessments, proposals and recommendations on the results of the flight;
- d) in the analysis of the results of experiments, studies and applied work carried out both by himself and by the astronauts of other crews in manned space flights;
- e) in ground (flight, sea) tests of space technology and equipment (installations, apparatus, systems, devices) for target and special experiments, research and applied work onboard a manned space object;
- f) in conducting research and testing on space topics;
- g) in conducting and organizing the training of candidates for astronauts, astronauts and crews;
- h) in the mission control of manned spaceflights and operations of the rescue service when the crews return to Earth;
- i) in other works entrusted to the astronaut and/or stipulated by the contract for the preparation for the execution of a manned space flight (if any), the contract for the implementation of a manned space flight, and by the professional standard of the astronaut.

Russian cosmonaut's legal status

The Law of the Russian Federation of August 20, 1993, No. 5663-I “On Space Activities” (On Space Activities, 1993) established that the legal status of astronauts is determined by the Government of Russia. By the Decree of the Government of the Russian Federation dated May 10, 2017 No. 551, the Regulation on the Cosmonauts of the Russian Federation (On approval, 2017) was approved, aimed at filling the gaps in the legal regulation of the professional activities of astronauts. This was not fully successful.

The logic of the previously proposed legal model (Baturin, 2019) proceeds from the idea of the legal status of an astronaut as a combination of his labor status (labor function and terms of an employment contract), as well as his other rights, duties and responsibilities (professional status), acquired by him and assigned to him in accordance with national law and/or an international treaty, as well as a flight contract (and maybe a flight preparation contract).

The list of cosmonaut rights provided for in the Regulations on Cosmonauts of Russia is extremely short.

It would be logical to start the list of the astronaut's rights with the main thing for him — the right to participate in space flight. Albert A. Harrison absolutely rightly remarked, “once chosen, and candidates must be prepared for their missions” (Harrison, 2001: 99), as well as the right to refuse manned space flight before concluding a contract for its implementation.

It is also advisable to supplement the list with the following rights of the astronaut:

- a) be adopted on the preparation and implementation of manned space flight by the relevant officials;
- b) appeal against unlawful actions of the administration that infringe on his rights;
- c) engage in scientific, pedagogical, and other creative activities, provided that it does not impede the fulfillment of his professional duties.

In order to strictly observe the rights of the astronaut, it is necessary to give a closed list of grounds for his dismissal — the astronaut can be relieved of his position:

- a) at his personal request, submitted in writing;
- b) for health reasons based on the conclusion of the State Medical Commission on the unsuitability for special training;
- c) according to the results of certification in connection with the decision on the impossibility his (her) use for the preparation and implementation of manned space flights;
- d) in case of closure or reduction of manned space programs.

It seems that the above set of rights of the astronaut will be sufficient, provided that some special “flight rights” will be fixed in the Model Contract for space flight.

The list of duties (as opposed to the list of rights) in Russia is never incomplete. Therefore we refer the reader to the Regulations on the cosmonauts of Russia.

The Regulations on Cosmonauts of Russia do not fully regulate the rights and obligations of astronauts related to their professional activities. In particular, it lacks norms on protecting the health of astronauts in flight, ensuring their life and health, taking into account the characteristics of their professional activities. Meanwhile, since the medical component is an important part of the astronaut's professional activity, it should be presented systematically. The astronaut's medical support includes a medical examination and dynamic medical monitoring

of the astronaut's health during his professional activities, as well as the provision of necessary medical assistance.

Especially important are state guarantees of the astronaut's professional activities. An approximate legal norm might look as follows: "The state guarantees the astronaut the unhindered implementation of his professional activities. The state guarantees the astronaut, in connection with the implementation of his professional activities, assistance, and protection as a person performing professional duty in conditions of particular risk. The authorized body for space activities, the organization in charge of the astronaut corps, and their officials are required to:

- a) provide professional activities of the astronaut;
- b) monitor compliance with the terms of the professional activity of the astronaut.

The administration of the organization, which is in charge of the cosmonaut corps, is obliged to coordinate with the astronaut their actions affecting the essential conditions and the procedure for carrying out the professional activities of astronauts".

A Model Contract

The Russian Law "On Space Activities" establishes that the procedure for training cosmonauts, the formation of crews, the approval of a manned space flight program, as well as the professional rights and obligations of cosmonauts are determined by contracts (clause 2 of Art. 20). However, the Law is silent about which body should develop such contracts, and in accordance with which laws and regulatory legal acts, these contracts should be prepared.

The form of a contract for the implementation of a space flight, adopted in Russia now, has developed historically in the first years of the emergence of new Russian statehood, in a difficult economic situation and in the face of multitaps within legislation. Thus, the form and content of the space flight contract are not approved today by any regulatory legal act, in connection with which the legal force of the concluded contracts is flawed, and the contracts themselves are easily disputable. Therefore, space practice really needs a Model Contract for the implementation of a space flight, which would be approved by the authorized body for space activities. On its basis, a contract for a manned space flight for each crew member could be developed.

The Model Contract for the performance of a space flight should regulate the standard stages and situations of astronaut's activities in the implementation of the Space Flight Program that have taken shape in practice. The Model Contract must include provisions on the astronaut's flight activities, list his rights and obligations in flight, establish a procedure for calculating and paying cash compensation. The Model Contract should extend to the period of the manned space flight, which starts from the moment the astronaut was equipped at the launch complex to perform the manned space flight and ends on the day the stationary stage of the astronaut's rehabilitation is completed after he returns to Earth, determined by the conclusion of an expert medical commission.

The Model Contract should provide for the procedure for concluding a separate contract for astronaut's participation in a medical experiment. It is also necessary to establish the grounds and conditions for amending and terminating the contract, liability, and dispute resolution.

The Model Contract for a space flight should include, as an integral part, a draft of procedure for calculating a one-time reward for a manned space flight and a flight program. The section

of the Model Contract dedicated to the rules of monetary compensation to the astronaut, and in case of his death to his spouse, children, and parents, upon receipt of disability or injury to him in connection with the execution of the contract, is particularly important.

The adoption of the Model Contract for a space flight would be an important step in ensuring the rights of astronauts as citizens of any launching state, whose professional activity is particularly important to protect the interests of both all mankind and the state — inside the country and abroad, to ensure the country's prestige.

In addition to the Model Contract for the implementation of manned space flight, a Model Contract for the preparation for space flight may be required. An indication that the procedure for training cosmonauts is determined by the contract in accordance with laws and other regulatory legal acts is contained in paragraph 2 of Art. 20 of the Law "On Space Activities." This Model Contract could provide guarantees to the astronaut from replacing him at any stage of preparation for reasons beyond his control (selling a crew seat to another space agency or to space tourist or unreasonably replacing him with another astronaut). The Model Contract for the preparation of a space flight could give the authorized organization for space activity certain guarantees that the astronaut will not refuse to prepare for the space light at the moment when it is no longer possible to replace him (the similar situations happened in the Russian Cosmonaut Team). In general, the Model Contract could regulate the behavior of the astronaut in preparation for the flight.

However, astronaut training practitioners have some noteworthy arguments against a Model Contract for flight preparation. Without going into discussion, we only note that this issue requires careful analysis.

The Model Contract for the implementation of a manned space flight and the Model Contract for flight preparation, along with the national legislation, will be additional grounds for the astronaut's legal status.

Insurance

A serious problem field is the life and health insurance of the astronaut from the day he was appointed to the full-time position of the astronaut until the end of his professional activity. The insurer of the astronaut will be the authorized body for space activities or an organization authorized by him. The policyholder is obliged to provide timely insurance for the astronaut. The insurer of the astronaut becomes the insurance organization selected by the authorized body for space activities on the basis of the competition, having an appropriate license, and concluding an insurance contract with the insured. Beneficiaries for cosmonaut insurance are persons defined by national law or an international legal agreement.

Insured events in the insurance of the astronaut, upon the occurrence of which the right arises to receive the amount (insurance amount) stipulated by the contract, are:

- a) death of the insured person during the insurance period;
- b) damage to the health of the insured person as a result of injury (shell shock) or illness received while he was in the full-time position of an astronaut.

The insurance contract should provide for the payment of the sum insured in the event that the insured person has a disability, is deemed unfit (temporarily unfit) for health reasons to perform professional activities, and is removed from the crew as a result of injury (contusion) or illness. It is necessary to establish the right to receive the insurance amount for a certain

period of time, for example, five years after the expiration of the term of filling the full-time position of an astronaut, if the death or illness was the result of professional activities during the period of being in the full-time position of an astronaut. It is advisable to determine the insurance amount based on the average monthly wage of the insured person for the entire period of professional activity, and to establish it in a significant, not less than 200-fold amount. The amount payable must be determined on the basis of the insurance amount, depending on the degree of damage to the health of the insured person and established in the insurance contract. The degree of damage to the health of the insured person as a result of injury (contusion) or disease should be determined by the results of examinations conducted by medical expert commissions and, if necessary, with the participation of representatives of medical and social examination institutions and other specialists.

Non-professional spaceflight participants

With the advent of commercial spaceflight opportunities, the question has arisen as to whether private or commercial spaceflight participants should also be considered “astronauts,” thereby accruing the same rights and obligations as trained professional astronauts. Therefore, there is a clear inclination towards distinguishing between professional and private participants to spaceflight.

Fairly recently, a category of “spaceflight participant” was officially introduced in Russia firstly to define the so-called space tourists (Dennis Tito and others) and then to separate the more classical astronauts, trained for years to actually operate a manned spacecraft from the scientists who concentrated on the conduct of experiment and real tourists who were there basically for leisure. Scientists, who are usually employees of space agencies, may also be spaceflight participants. (An example is Anousheh Ansari, the Republic of Korea). There is a substantial difference and diverse contexts between spaceflight participants performing a public function, and tourist participants traveling to space for personal reasons and paying for this opportunity (for example, the case of Dennis Tito, the first space tourist who preferred to call himself a space, and the case Anousheh Ansari contain important semantic differences). The term “spaceflight participants” refers to people who have traveled aboard space missions but are not part of the crew (Hobe et al., 2017). Therefore, the notion of the “envoy of mankind” (see below) provided in Article V can hardly be applied to space tourists.

Astronaut's International Status

Until now, we have considered the legal status of an astronaut as labor and professional status. If an international agreement on the status of an astronaut will be adopted, then it will automatically become international legal status. Taking into account that today almost all space crews are international, it is advisable for each launching state to give its astronauts the status of the representative: “An astronaut of State *N*, who is outside his state in preparation for a manned space flight, when performing a manned space flight on a foreign manned spaceship, as well as in the implementation of other professional activities abroad, is a representative of its state, which delegated to astronaut the appropriate rights assigned to it responsibilities defined representational status astronaut abroad, and provides the necessary medical support, insurance, financing, and other elements of the status of representative of State *N*.”

In the Outer Space Treaty of 1967, astronauts are regarded as the envoys of mankind. This formula appeared to ensure legal protection for the astronauts who, as a result of off-nominal

landing, found themselves in another state's territory. Precise formulas, however, always hide the new meanings too.

Envoy is one sent on a special mission

After the space mission is accomplished and the astronauts return to the Earth, their mission as envoys of mankind continues. What is this mission?

When an astronaut returns to Earth, he or she is different from what they were before the flight. Their experience makes them a better fit for living on Earth. This is what people sense (but do not realize) when communicating with those who worked in space. This is what makes the astronauts interesting to other people. They unconsciously sense in the astronauts something that they need here, on Earth. The astronauts are the people who have lived in a "simple" universe whose interrelationships and rules are fully cognizable, and therefore they know something about the basic rules of life that will make it safe and interesting. This is what the astronauts' mission on Earth is about.

Actually, what can astronauts flying into space teach humanity?

The world is holistic: man, environment, and machines created by man are all interrelated. The value of life is unconditional.

In the holistic world, one should seek harmony.

Accept the world as it is — don't nurture illusions, and do not deceive yourself.

Work conscientiously on every task. If you do your work well, you will survive.

Do not be egocentric.

Respect your partner.

Restrain yourself.

Seek a compromise.

Look after yourself.

See the beauty of the world.

These are the simple truths. But only an astronaut who has traveled a very narrow path full of dangers begins to truly understand that everything in the world depends on everything, and treat the life of any living thing with respect. And then the envoy of mankind is ready to continue his or her earthly mission.

Conclusions

The first cosmonauts and astronauts felt their mission, have pursued, and still pursue it. Later on, the complexity of technical preparation for the spaceflights relegated the Mission to the background. In addition, not every astronaut ponders on it today. A good example was set by the astronauts from the European Space Agency who adopted a Charta in which they formulated their mission as follows: "We Share Space with the people of Europe by communicating our vision, goals, experiences, and the results of our missions" (European, 1998).

There are many situations, e.g., natural disasters involving mass casualties, when the UN sends the famous football players or actors to the affected countries as the UN goodwill envoys to attract attention to the victim's needs, collect funds, etc. It would also be quite helpful to enlist astronauts to perform such functions. The total number of the astronauts and cosmonauts who have flown to Space from the 12th of April 1961 to this day is a little over 500. Sadly, many of them are gone. Several hundred people in the entire mankind is too few. Not all of them are willing to perform particular international functions — but all of them saw our

Earth from outside and agree that Earth ought to be protected both from the wars and the environmental disasters. All of them, due to their unique experience, have planetary thinking and are respected worldwide.

Many international organizations use the services of various agents. The definition of such agent was first suggested by the International Court in its Advisory Opinion of 11 April 1949, titled “Reparation for injuries suffered in the service of the United Nations”: “The Court understands the word “agent” in the most literal sense, that is to say, any person who, whether a paid official *or not* [*emphasis added*], and whether permanently employed or not, has been charged by an organ of the Organization with carrying out, or helping to carry out, one of its functions — in short, any person through whom it acts” (Reparation, 1949). This wide definition includes not only the international functionaries, but also the diplomatic intermediaries, consultants, experts, including those involved in performing temporary tasks. The cosmonauts and astronauts from across the world can act as such consultants, experts, and intermediaries. It would be expedient to assign them the respective privileges and immunities and issue the respective UN documents enabling visa-free travel across borders. The astronauts have freely flown over the states’ borders, and it would only be fair to grant them such rights in the interests of peace and humanity.

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