

THE STATUS OF ASTRONAUTS
TOWARD THE SECOND GENERATION SPACE LAW

Yasuaki Hashimoto
The National Institute for Defense Studies
2-1, Naka Meguro 2-chome
Meguro-ku, Tokyo 153
JAPAN

Abstract

The present international space law has been a system which generally concentrates on the exploration and use of outer space. In the near future, however, new outer space usage with different styles and purposes from the present situation will be imaginable. This usage includes the private sector's space activities with commercial purposes and the emerge of passengers (tourists) who will go to outer space for leisure. Those new styles of space utilization may bring the present legal system (the first generation space law), which mainly treat the exploration and use of outer space by public sector, its review and reconsideration. We now have to make a tentative plan about the future legal system applicable to the future outer space utilization (the second generation space law), paying attention to and understanding the possibility of space technologies, socio-economic factors and so on. This paper will propose the need for such consideration by focussing on the problems of the status of astronauts as one of the problems to be resolved.

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The First Generation Space Law

There is no doubt that the present outer space law system, including the Outer Space Treaty of 1967 and the related treaties and agreements¹, regulates the national activities of outer space in the exploration and exploitation. In fact, after the designation of 1957 as International Geographical Year (July 1, 1957 - December 31, 1958) and the first launching of satellite (Vostok-1), most of the satellites were launched by public authorities and had scientific or national security (military) purposes under the cold war era. Of course, in the application area, some kind of satellites have been launched and used by private enterprises. For example, there are remote sensing satellites, relay satellites, etc. for the weather forecast, mapping, telecommunication and broadcasting fields. However, these activities by private sectors have rather public character.

And under the east-west relationship, The USSR and the USA pursued the exploration of outer space for their national prestige. The typical example was the Apollo project² of the USA which aimed at sending the human-being to the Moon within the 60s. In this context, all the activities were done for the national prestige and goals. Profitability and commercial factors were ignored by the national governments. It was impossible for private sectors to take a direct initiative in such situations.

From the financial viewpoint, outer space exploration had to be conducted by nations. Because huge fund is needed to develop, design, manufacture, launch, operate, cover the damage and so on, private sectors were reluctant to participate in space development without public support.

But the activities of private sectors were not excluded from the present system. The Outer Space Treaty regulates the national responsibility in Art. 6 as follows: States Parties to the Treaty shall bear international responsibility for the national activities in outer space, including the Moon and other celestial bodies, whether such activities are carried on by governmental agencies or non-governmental entities, and for assuring that national activities are carried out in conformity with the provisions set forth in the present Treaty. Under this article, each nation promises to regulate appropriately the private sector's activities in space commercialization. In Japan, for example, two private companies launched some satellites³ and began to provide communication services by satellites. They acquired the licences from Ministry of Postal Services and under its supervision.

The international responsibility of nations includes the absolute and unlimited liability when the damage to the third party is caused by their space objects even if it was operated by private companies. This responsibility system might be kept under the recognition that the outer space activities are generally done by governmental agencies and the ratio of private sectors' commitment is rather small. In case of Japan, without any military satellite, she launched over forty satellites after the first satellite in 1970. Amongst those satellites, there are only four private satellites which are operated by above mentioned two telecommunication companies. The ratio of privatization is under ten percent. In other space powers, the ratio of private activities will decrease, because they have to maintain the huge military systems where the satellites (reconnaissance, early warning, communication, etc.) play important roles in their national security.

And until now, as no nation has faced the experience of covering severe damages occurred by private sectors, the present responsibility system under the Outer Space Treaty has not had any need to be amended⁴.

The Second Generation Space Law

(In Case of Status of Astronauts)

The first generation space law is the legal system which mainly regulates the national activities in outer space of the exploration and exploitation. And, at the same time, this system in fact covers the private sector activities.

However, this first generation space law may not adequately regulate all the activities in the future. Because the different situation of space usage will be present, some parts of the first generation cannot apply to such new situation. In this section, the status of astronauts will be picked up and analysed as one of the factors we have to consider for the future legal system.

For astronauts in space law, the following three conditions have to be fulfilled:

the person

1. who is in the space objects
2. who conducts for the benefit and in the interests of all countries
3. who is regarded as an envoys of mankind in outer space

These conditions are backed up by the fact that the most of space activities have been done mainly by nations for scientific or national security purposes with a sense of mission and pioneer spirit. Under the above conditions, astronauts are given a special status by the Outer Space Treaty and other international regulations. For example, the Rescue Agreement provides immediate notification, search and rescue by all countries even if the astronauts in accident, distress, emergency or unintended landing are on the high seas or in any other place not under the jurisdiction of any nation⁵.

But on the other hand, new kinds of astronauts other than the above mentioned will probably emerge. In the near future, we will have a new era of manufacturing in microgravity, construction of solar power satellites and space travel. For those space utilization, the HTOL (horizontal take off and landing) SSTO (single stage to orbit) type space planes and VTOL (vertical take off and landing) SSTO type reusable launching vehicles (which can cheaply take a large amount of people and goods to the orbit) may be

used⁶ Outer space, especially low Earth orbit, will be recognized as an expanded area of our daily life. Unspecified men and private companies with financial support want to take advantage of outer space using its unique characters like microgravity and take outer space as a new stage of commercialization.

We, in Japan, have a good case which can suggest the future possible style of outer space usage. Japan recently had two different kinds of astronauts. They were Mr. Toyohiro Akiyama who is the first astronaut of Japan that went to outer space using Soyuz and Mir of the USSR, and Dr. Mamoru Mori who used the Spaceshuttle. Mr. Akiyama is a journalist who works in the private TV broadcasting corporation; Tokyo Broadcasting Service (TBS), and this enterprise commemorates the 40th anniversary of TBS. He was selected from about 140 people only in TBS group. According to the newspaper⁷, for this launching, TBS and Gravgcosmos of the USSR concluded agreement and TBS bore the training and launching cost⁸. Mr. Akiyama was launched by Soyuz TM11 on December 2, 1990 and during the following eight days he orbited on board space station Mir, sending some reports to the ground as the first astronaut of Japan and as the first journalist in outer space⁹.

On the other hand, Dr. Mori is a section manager of NASDA (National Space Development Agency of Japan) and orbited on the USA Spaceshuttle Endeavor as a payload specialist of Japan-U.S. joint program in 1992. He was chosen in 1985 as one of the three candidates out of more than 500 applicants in Japan. After several years' training, he made some experiments in microgravity (First Materials Processing Test). He can be regarded as a type of traditional astronauts¹⁰.

In summary, while Mr. Akiyama was an internally selected journalist of a private company, Dr. Mori was a publicly authorized astronaut who was engaged in the scientific experiments according to the MOU between NASDA and NASA. This case shows us a new possibility of space utilization in which private entities and persons can go to outer space if they bear the necessary cost. Though Mr. Akiyama made

some scientific experiments, his original purpose was to report outer space as a journalist. This was the first activity that we never had and made us think of various kinds of usage in the near future.

Upon these backgrounds, the status of tourists who does not have any public purposes may be analysed as follows:

as the tourists for leisure purpose also use space objects, above mentioned condition 1 can be fulfilled. However, they never play a direct role for the benefit and in the interests of all countries (condition 2). In the article dealing with space business, Dr. B. Reijnen states that "According to the 'common interest' principle the exploration and use of outer space 'shall be carried out for the benefit and in the interest of all countries'. This stipulation is generally regarded to mean that the benefit and interest mentioned must be shared equally between all states"¹¹. Main object of the tourists is not the contribution to the public interest but their personal pleasure. Therefore, it is hard for this kind of people to be invested with the status of 'envoys of mankind in outer space' (condition 3)¹².

If we are not able to regard some kinds of people in outer space as astronauts, the application of the present (the first generation) space law to such tourists may bring troubles. Though Art. 5 of Outer Space Treaty provides that "States Parties to the Treaty shall regard astronauts as envoys of mankind in outer space and shall render to them all possible assistance in the event of accident, distress, or emergency landing on the territory of another States Party or the high seas. When astronauts make such landing, they shall be safely and promptly returned to the States of registry of their space vehicle" and the Rescue Agreement also sets a series of assistance additionally, we have to review these applicability. The late Judge of the International Court of Justice, Dr. M. Lachs mentioned regarding the astronauts in his book that "The mission they perform and the risks they incur justify the special standing and legal protection afforded them"¹³. For the same ground, there seems a reason that the first generation

space law cannot afford a special status and protection to the above tourists.

However, the fact that the Rescue Agreement was noting the great importance of Outer Space Treaty and was prompted by sentiments of humanity (preamble) may lead another treatment of such tourists as said¹⁴. If all assistance set in the Rescue Agreement is based only on the sentiments of humanity, all the people in distress have to be rescued irrespective of their motivation. But if we can understand that such sentiments are prompted by noting the importance of Outer Space Treaty, we may think that tourists (who are hardly recognized as traditional astronauts) do not have enough reason to be rescued. The interpretation of this point seems to be an uncertain area of the present legal system.

Nevertheless, when considering the appropriate rescue system in the second generation space law, it will be rather difficult to treat the astronauts and tourists in different ways. We will not be able to identify promptly these two kinds of people in distress. And it is rather hard to change the treatment suddenly at the time when the rescue team knows they are not astronauts but tourists. Apart from the legal status problem, all the people in accident may receive adequate assistance. Because the rescue action will be in fact taken not for law but for humanity. In this situation, the special status of astronauts as 'envoys of mankind' may change to the nominal prestige.

We will have to review the definitions of important factors of space utilization and pursue their harmonization in the second generation space law.

Conclusion

I considered the need of the second generation space law analysing the status of astronauts. The key word for the future space law is probably 'commercialization'. In the near future, outer space will be recognised as a hopeful market or area for tourism, manufacturing, etc. by private sectors.

The present situation on which the first generation space law depends can be summarized as follows:

Selected and well trained persons act for the scientific or national security purposes on behalf of nations or public enterprises.

The second generation space law will be added a new situation as follows:

Ordinary citizens act for the private or commercial purposes on behalf of themselves or the private sectors.

Therefore, we have to set the new legal system that can manage the foreseeable styles of commercial usage in outer space.

Of course, to continue the present legal system with adequate change of interpretation will be one of the alternatives we can choose. And when we create a new system, a trend of commercialization and review of major definitions have to be examined. The concrete examples to be studied are the status of astronauts, the relationship of nations and private sectors, responsibility and liability in the commercialised space activities, etc.. Above all, the most important thing to do will be to describe the preferable space utilization for our world¹⁵.

Note

1. Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies (Outer Space Treaty)(1967), Agreement on the Rescue of Astronauts, the Return of Astronauts and the Return of Objects Launched into Outer Space(Rescue Agreement)(1968), Convention on International Liability for Damage Caused by Space Objects(1972), Convention on Registration of Objects Launched into Outer Space(1976), Agreement Governing the Activities of States on the Moon and Other Celestial Bodies(1984)
2. The Apollo project was announced by President J. F. Kennedy and begun in 1961. In 1969, Apollo-11 successfully sent the astronauts to the Moon.
3. Superbird and JCSAT.
4. In the U.S.A., the private sectors who use the launching service have to take out insurance (in case of launching rockets, the maximum insurance money is US\$300M., in case of Space Shuttle, US\$500M. for one payload, US\$1B. for more than

- two. In case of Arean, Areanspace offers the insurance which covers F. Fr.400M.
- Ilias I. Kukuvelis, "The space risk and commercial space insurance", Space Policy, Vol.9 No.2, May 1993, pp.109-120.
5. Rescue Agreement, 1968, Art.1-4.
 6. HTOL-SSTO type is well known as a space plane. One example of VTOL-SSTO is Delta Clipper developed by McDonnell Douglas, U.S.A.
Outer Space Treaty, 1967, Art.5.
 7. Nihon Keizai Shinbun, March 27, 1989.
 8. For trends in commercialization, V.S. Vereshchetin and G.V. Silvestrov, "Space Commercialization in the Soviet Union: Facts, Policy and Legal Issues", Legal Aspects of Space Commercialization, CSP Japan, 1992, pp.32-40.
 9. Ironically, the Challenger accident made the launching schedule of Dr. Mori later than Mr. Akiyama. However, the national day of outer space in Japan is not the day when Mr. Akiyama went to the outer space as the first astronaut of Japan but the day when Dr. Mori reached the outer space, September 12.
 10. 14 Code of Federal Regulations(CFR) V, § 1214. 303. (U.S.A.)
 11. B. Reijnen, "International Law and Business in Space - In Europe", Proceedings of the Thirty-Third Colloquium on the Law of Outer Space, IAF/IISL, Dresden, October 1990, Published by AIAA, Washington, D.C., 1991, pp.68-73, at p.71.
 12. E. Kamenetskaya, "COSMONAUT" ("ASTRONAUT"): AS ATTEMPT OF INTERNATIONAL LEGAL DEFINITION", Proceedings of the Thirty-First Colloquium on the Law of Outer Space, IAF/IISL, Bangalore, October 1988, Published by AIAA, Washington, D.C., 1989, pp.177-178.
 13. M.Lachs, The Law of Outer Space, Sijthoff Leiden, 1972, p.72
 14. Preamble, the Rescue Agreement
 15. For the future framework of space law, "The New Age of Discovery and the Changing Structure of Space Law", Proceedings of the Thirty-Fifth Colloquium on the Law of Outer Space, IAF/IISL, Washington, D. C., August-September 1992, Published by AIAA, Washington, D.C., 1993, pp.44-48.