

Remarks by Kimitake Nakamura at the Ibero-American Institute of  
Aeronautics, Space and Commercial Aviation Law  
"Characteristics of norm-creation in space law".  
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Distinguished members of the Ibero-American Institute of Aeronautics, Space and  
Commercial Aviation Law,

Good afternoon,

I am Kimitake Nakamura, Minister of the Embassy of Japan in Spain. First, I would like to express my sincere thanks to Dr. Santiago Ripol Carulla, Head of the International Legal Department of the Ministry of Foreign Affairs, European Union and Cooperation of Spain, and President of the Ibero-American Institute of Aeronautic and Space Law and Commercial Aviation, for offering me this valuable opportunity to give a lecture before all of you.

Of the 30+ years of my diplomatic career at the Ministry of Foreign Affairs of Japan, a large part has been devoted to the fields of international law and national security. In the course of this time, I have come to think that international space law, which is a part of international law, is not a subject that can be dealt with on an ad hoc basis in government, but is worth dealing with and researching in the long term with more resources. And so, I have taken on this task myself within the Government of Japan. For the past few years, I have been researching it as an academic at George Washington University in the US, in addition to my official capacity in the government.

Although I maintain close contacts with my colleagues in the Government of Japan, the views I am about to present do not necessarily represent those of my government.

Today, I would like to share with all of you my reflections on the current trend in addressing the challenges of space activities, which is of particular interest to me.

First, I would like to invite all of you to think about the particularities of creating space law norms, because when we want to create new norms, it is necessary to understand the environment in which the negotiations take place. The environment includes, above

all, the structures of interest adjustments between countries. For this reason, I would like to recall the process of negotiations to adopt the four UN space-related treaties, as well as the principles adopted by the General Assembly that addressed the outstanding issues in the negotiations of these treaties. But before going into this topic, I would like to review the process of creation of the law of the sea and air law in order to compare them with that of space law. The process of creation of these rules is extremely interesting and very extensive, but let me simplify it due to time constraints.

The law of the sea has many different areas, but the first to be established were those referring to the territorial sea and the high seas. As symbolized in the comparison between Hugo Grotius' *Mare Liberum* and Selden's *Mare Clausum*, the boundary between the territorial sea and the high seas has been shaped by the conflict of interests between the coastal countries and the maritime powers.

You all know very well the history of Air Law. At the beginning of the 20th century, the dominant doctrine was that, in principle, airplanes could fly freely in the territorial spaces of other countries. However, after World War I where aircraft were used for military combat, exclusive sovereignty over airspace was established, as reflected in the Paris Convention of 1919. In the debates during that time, the conflict of interests between sovereign countries in the underlying territory of an airspace and the air powers was regulated.

Now, what was the process of negotiating the four outer space treaties like?

In the negotiations to establish the 1967 Outer Space Treaty, two overwhelming space powers, the U.S. and the Soviet Union, sought to maximize their interests in this area, and at the same time, tried to contain the escalation of tension in order to avoid their own attrition and not to be left behind in the struggle for hegemony.

On the other hand, other countries sought a different legal interest from that of the advanced countries in space activities such as the U.S. and the Soviet Union. One could classify these countries into two categories. On the one hand, we could call "potential or less advanced countries in space activities" those that have not yet started these activities but intend to do so in the future. These countries seek to protect their future interests in the creation of space law. On the other hand, we can call "underlying

countries" those that seek to minimize negative consequences caused by the space activities of other countries. There are provisions that were incorporated at the request of these underlying countries, such as Article 9 of the Outer Space Treaty related to environmental pollution, but in general, most of the regulation of interests was done among the advanced spacefaring countries, especially between the U.S. and the Soviet Union. Interests between advanced and less advanced countries were also addressed to a lesser extent, but the claims of the underlying countries were hardly picked up. In other words, the Outer Space Treaty negotiations were basically to create a framework for coexistence between the countries involved in space activities.

Later, four related principles were adopted in the form of resolutions at the United Nations General Assembly, which are Principles Governing the Use by States of Artificial Earth Satellites for International Direct Television Broadcasting in 1972, the Principles Relating to Remote Sensing of the Earth from Outer Space in 1986, the Principles Relevant to the Use of Nuclear Power Sources in Outer Space in 1992, and the Declaration on International Cooperation in the Exploration and Use of Outer Space for the Benefit and in the Interest of All States, Taking into Particular Account the Needs of Developing Countries in 1996. These principles address issues that arose during the negotiations of the four outer space treaties, and the regulation of space activities was claimed primarily from the point of view of the underlying countries. However, the four Treaties were not renegotiated, and these principles merely clarified some provisions of the Treaties.

Thus, even after the adoption of these principles in the General Assembly, in my opinion, it has not substantially changed the fact that the basic normative documents of space law were established primarily to regulate the interests of space-faring countries and potential space-faring countries, and that it is a framework of coexistence for them.

So why did the pursuit of interests by the underlying countries not substantially affect the Treaties? Its main reason, in my opinion, is because the underlying countries were not adversely affected by the space activities of other countries. There was a time when direct broadcasting from the artificial satellites of Western countries worried some countries, but this concern dissipated with the technology of jamming. In addition, there are numerous cases of air attack but there is still no known case of the use of force

from an artificial satellite.

In addition, there is a huge distance between the maximum altitude at which an aircraft can be maintained (about 50km) and the minimum altitude for the operation of an artificial satellite (about 90km), and the use of outer space and airspace are in quite different and distant situations. Therefore, there are few competence clashes between the underlying countries and those with activities in space, and there are not many claims by the underlying countries to extend their competences. Because of this material peculiarity that the activities in the two spaces are far apart, it has not been necessary to adjust the interests between the underlying countries and the space-faring countries.

The question of determining the boundary between airspace and outer space is still pending and there is no prospect that it will be resolved soon, despite the fact that the issue has been on the COPUOS table since the 1950s. In the case of the sea, as ships can physically sail freely between near seas and the high seas, the need arose to establish the territorial sea covering a certain maritime space from the coast to regulate interests between coastal countries and maritime powers. However, as the situations of the actual use of outer space and air space are very different, the reality is that, even though both spaces are not delimited, no drawbacks arise. It can also be said that the fact that there is no prospect of determining this boundary soon shows that there has been little conflict of interest to regulate between the underlying countries and the countries active in space.

On the other hand, the main problem facing space activity in geocentric orbit is orbital congestion, and the major infringement of the legal interest that can be caused by this congestion is the material collision of artificial satellites. Let's see what kind of norms the four outer space treaties establish in relation to the problem of space debris.

Article 7 of the Outer Space Treaty and the Convention on International Liability for Damage Caused by Space Objects establish fault liability for collisions in outer space. However, this system based on fault liability has a substantial problem because it is very difficult to demand this liability, due to the difficulty of determining the launching State of the object that has caused the damage, due to the inexistence of standard of care to avoid collisions, or due to the difficulty of monitoring the identification of space

objects.

Nowadays, entities or companies launching space objects manage the risks of damage against their objects with insurance purchased on the market. In other words, they manage them outside international treaties. According to surveys conducted by the Government of Japan for this sector years ago, some companies consider that the risk of assuming compensation liability under the Liability Convention is limited because it is complicated to prove their fault even if collisions occur in orbit. This perspective shows that perhaps the current liability system is not working as a deterrent to prevent damage. However, it is not foreseen that a new liability system that works better can be created. In any case, in order to face the current challenges regarding the space activities on Earth orbit, we must take into account these limitations of the current liability system.

As for the space debris problem, the underlying countries are not demanding its solution and basically the spacefaring countries are trying to regulate it of their own free will. Both the Inter-Agency Space Debris Coordination Committee (IADC) Guidelines and the Space Debris Mitigation Guidelines developed by the Committee on the Peaceful Uses of Outer Space (COPUOS) are non-binding and make no mention of the legal source from which they derived. It is because the debates on the advantage and disadvantage of establishing legal norms are not yet sufficiently developed. In addition, countries advanced in space activities show little interest in creating legal norms. In fact, the legal nature of space debris mitigation has not yet been discussed in the COPUOS Legal Subcommittee.

However, what is interesting is that many spacefaring countries are incorporating these guidelines into their domestic legislation as a condition for authorizing artificial satellite launches. In other words, compliance with these guidelines is becoming a legal obligation under the domestic laws of each country.

Moreover, these guidelines are to prevent damage beforehand and not to subsequently demand responsibility for the damage caused.

Currently, a new form of damage prevention is being studied, which is called Active Debris Removal (ADR). Continuous ADR requires an enormous cost, so if it is not a

legal obligation or political responsibility of countries, or if there is no increase in national interest in ADR, it would be difficult to convince national taxpayers about the necessity to fund the procurement of the ADR services.

There are several theories on the formula for countries to constantly carry out ADR. On the one hand, there are those who think that it is illegal to produce space debris, so it is necessary to perform ADR to free themselves from their responsibilities. However, it must be said that this legal liability rationale is unlikely to work considering the difficulties of enforcing liability in outer space.

Others are of the opinion that legal obligations to reduce the creation of space debris or even carry out ADR can be extracted from Article 9 of the Outer Space Treaty, especially the term "a harmful contamination" or the principle of prevention under customary international law.

However, according to the Convention on International Liability for Damage Caused by Space Objects, if it causes damage to space objects, it will be held liable. Space debris causes orbit congestion, but this is not damage along general lines. That is, if we were to decide that the generation of space debris is a wrongful act, we would have to create an illegality in the situation where no damage has yet been caused.

In the case of the environment, if pollution progresses, it gradually undermines the health of people and animals. It also spoils the landscape. However, in the case of outer space, if more congestion is generated in orbit, more money will have to be spent to prepare for possible damage to artificial satellites, but whether or not this qualifies as damage is a complicated issue.

Defining as illegal the situation that causes extra expense and repairing that situation by enforcing liability is not easy, taking into account that there are operational limitations in the system of enforcing liability for fault in outer space. In other words, if we were to decide that the generation of space debris is an illicit act, it would be necessary to take into consideration the difficulty of demanding responsibilities when establishing a system.

On the other hand, if it is really indispensable to establish a legal framework in the field of space debris, perhaps the "precautionary principles" embodied in such treaties as the

United Nations Framework Convention on Climate Change could be better applied. These principles are still to be conceptually determined, but basically, the preservation of the environment would be the legal interest, and in the event that this legal interest is violated, legal liability would not be demanded, but measures would be required to be taken to remedy it.

Applying this concept to the problem of space debris, for example, one could consider the safety of the orbit or the maintenance of access to space as a legal interest, and under the precautionary principles, each country would take the necessary measures to preserve this legal interest. Even if no measures were taken by the States, it would perhaps be more practical to require them to take measures to recover the initial state in which the legal good was found, instead of requiring the State's responsibility.

With all these elements in mind, I would like to make three points about the characteristics of the norm-creating process in space law that I have drawn from my research by way of conclusion.

First, the scheme of interest regulation related to the creation of rules on current problems has not changed substantially since the establishment of the four Space Treaties. As I have explained above with the case of space debris, or as seen in space traffic management, although the latter we have not had time to analyze today, rules are basically created after coordinating interests among space-faring countries, the same as happened in the negotiations of the four Space Treaties. In other words, for the creation of interstate space-related norms, in principle, initiatives have to come from the spacefaring countries themselves, without strong claims from other countries, such as those of coastal countries in the case of the law of the sea and those of sovereign countries in the territory underlying the airspace in the case of air law.

In this regard, I am watching with interest the "dark skies and silences for science and society" movement, which held its international conference in the Canary Islands last fall. It is one of the few movements that attempts to regulate space activities from the point of view of the underlying countries. When creating norms, it is necessary to have a good understanding of which actors are involved and what kind of interests each of these actors are seeking. That is why, in my lecture today, I wanted to focus on how regulation tries to reconcile interests from different countries.

Secondly, I want to point out the changing trend from the previous liability-based approach to the new prevention-based approach. Space law is moving from the liability-based system to ideas focused on taking preventive measures. I believe this is a necessary and inevitable change and this trend is due to the material peculiarities of outer space.

Finally, I would like to mention my remarks about the use of non-binding instruments. As we all know, in space law, basically non-binding rules have been used to establish norms of general application. However, as I explained to you with the issue of space debris mitigation, in reality, each country incorporates the COPUOS guidelines into their domestic legislation and uses them as a legal basis to legally regulate their space activities. This trend is observed too both in the field of remote sensing of the earth from space and in the use of nuclear power sources in outer space. COPUOS collects and publishes information on how countries implement the resolutions adopted in the General Assembly related to this matter. If there are any legal obligations established in domestic legislation, entities conducting space activities must comply with them. For them, it is not relevant if these rules come from guidelines that are not binding. We could say that space law has created an innovative method of facilitating a relatively rapid creation of international norms with the elaboration of non-binding documents that are becoming mandatory through the domestic legislation of each country. The conditions that facilitate such incorporation are of great interest to me.

It may sound a bit arrogant, but I think there has been a tendency to investigate space law as a separate field away from the mainstream of international law. However, I dissociate myself from this tendency and think that it is worthwhile to place space law within the mainstream of international law. And for this, it would be necessary to establish a "general framework" of space law. I would be very pleased if I could have provided you with something to this end in my lecture today.

Next week I am leaving Spain and returning to Japan. I do not yet know what field I will be in charge of at the Ministry of Foreign Affairs, but wherever I am on this planet, I will continue my research in the quest for the establishment of a general framework of space law.

Thank you very much for your attention.