

Space Law Principles in Action

Case Study of Human Exploration in Outer Space in Mass Effect, the Trilogy of Role-Playing Video Games

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Abstract

Taking into account the significant interest in space demonstrated by various styles of constantly growing group of subjects – ranging from the countries and ending at private entities – a question arises: whether existing regulations and institutions are appropriate and sufficient to ensure that an intensive exploration of space will run peacefully and within the framework of international cooperation and that it will provide benefits for all humanity? The answer to these questions is undoubtedly a difficult task. One of the tips can be found in a very unusual subject – a trilogy of video games called Mass Effect. In the games developed by BioWare there has been presented a vision of humanity which in the second half of the XXII begins their journey to other planetary systems in our galaxy. It explores the outer space, sets up new colonies and meets other intelligent civilizations. This vision has been developed not only of a grand scale, and caring for details but, as for this paper it is very important, also on the basis of the current situation on Earth. This article deals with the analysis of the way that humanity went on their journey to the stars in the trilogy. And more precisely, what role in the above-mentioned video game plays an international organisation named Systems Alliance which is responsible for humans' activities in space. Whether and how the space activities respect space law principles such as: the non-appropriation principle, the “peaceful purposes” principle and “province of all mankind” concept. At the end, an attempt is made to establish whether in the Mass Effect universe exists an element which could be the basis or impulse to implement new regulations or institutions relating to space activities.

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I. Mass Effect: The Historical Background¹

I.1. Before the Great Discovery

When talking about Mass Effect Universe, one should remember that we describe the humankind's future in 100 years from now. Nonetheless, after the tragic events of XXI century, at the turn of the new XXII century the humankind could once again raise their eyes to the stars. The solar system afresh became a subject of study led by advanced instruments launched into outer space by states, international organisations and private entities.

I.2. Mars

In spite of the difference of over a hundred years, the method of space exploration in Mass Effect was initially very similar to the one used at the present time. Outer space was full of many various actors and cooperation level among them was different.² Mars became one of the main research goals. After an intensive research, the European Space Agency decided to set up the first permanent human settlement on the Red Planet – Lowell City, which was located in the region named Eos Chasma in 2103. Since that time, new research missions were established at short intervals by other space actors, namely USA and China.

In 2048, one of those missions, coordinated by the European Space Agency, had made perhaps the most important discovery in the human history. In the southern part of the planet Mars were discovered the ruins of the ancient research stations and a few spacecraft in it. The level of technical advancement of those finds excelled all what the humankind achieved in those days. The humankind was faced with not only new technological advantages but also with an irrefutable evidence that the humankind is not the only intelligent species in the Milky Way Galaxy. In 2049, it was also discovered that Pluto's moon Charon was a frozen space transport station, so called Mass Relay, which made it possible to travel across the galaxy in a fast and easy way. The discoveries on Mars and Charon became an impulse to rethink the way of previous space exploration and relations between space actors.

I.3. Systems Alliance

For this reason, just one year later after Mars discovery in 2049, eighteen most influent space faring states decided to sign and ratified the Systems Alli-

1 This part of the paper Mass Effect: historical background was based on information obtained while playing all three parts of video games that make up the trilogy, i.e. Mass Effect, Mass Effect 2, Mass Effect 3, and numerous DLC for each part developed by game studio BioWare. In addition, there were used information contained in books created on the basis of games and the website: <http://masseffect.wikia.com/>.

2 The Case for Managed International Cooperation in Space Exploration, http://web.mit.edu/adamross/www/BRONIATOWSKI_ISU07.pdf [access: 17.09.2015].

ance Charter establishing in this way a new international organisation named Systems Alliance which henceforth is the only actor representing humankind in outer space.

The main body of the Alliance System is a three-cyclical Council elected for terms of office by the representatives of the member states. The increased Importance of System Alliance resulted in the need to ensure the representation of citizens of all member states and, for this reason, the Parliament of Systems Alliance was soon established.

System Alliance as the international organisation has been equipped with far-reaching competencies. It is able to undertake and control military missions in outer space, to set up and exercise jurisdiction over human colonies on celestial bodies, to organise mining missions in outer space and to represent humankind in diplomatic relations with other intelligent species. It should be noted, however, that national states on the Earth remained fully independent and sovereign.

II. Space Law Principles

Previous considerations have shown how it came about that space faring nations decided to establish an international organisation whose the main task was to act in outer space as representative of all humankind. In the following parts of this paper, an attempt is made to show the impact that ratification of the Systems Alliance Charter had on the basic space law principles which are fundamental for outer space activities at present.

II.1. The Non-Appropriation Principle

The first subject of examination is the non-appropriation principle which has been included in provision of Outer Space Treaty, namely in Article II of thereof.³ For the purpose of this paper, four aspects of this principle can be named:

- a. Prohibition of the national appropriation by claims of sovereignty, by means of use and occupation or by other means
- b. The need of system of rules specifying priority right to areas of celestial bodies
- c. Human colonies as representatives of all mankind
- d. System of rules resolving conflicts between member states

The first and most important aspect of this principle is the prohibition of the national appropriation by claims of sovereignty, by means of use and occupation

3 Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, Including the Moon and Other Celestial Bodies, entered into force Oct. 10, 1967, art. 6, 18 U.S.T. 2410, 610 U.N.T.S. 205 [hereinafter Outer Space Treaty].

or by other means.⁴ Practical relevance of this principle is evidenced by the fact that any state cannot extend its exclusive jurisdiction over any area on any celestial body in outer space.

To the time of establishment of Systems Alliance, many actors had been present in outer space. Only on Mars by 2048, there were set up many research stations controlled by 3 entities: USA, China and European Space Agency. Even if any of those actors (in this case USA and China) had decided not to claim of sovereignty, it was only the matter of time when it would have come to disputes relating to exploration of Mars (for example to priority right to different areas of this planet).

Although one could indicate provisions in treaties relating to outer space which could be the basis for resolving conflicts between states in this subject (as an example can be named Article 8 of Moon Agreement),⁵ it is doubtful whether the proceedings in this regard could be conducted, which would lead, on the basis of present legal order, to resolving of the conflict accepted by each of the parties.

Establishment of Systems Alliance has in this respect significant importance for two reasons. Firstly, it is a kind of inhibition which prevents states from claiming sovereignty (so the non-appropriation principle is still respected). Secondly, if System Alliance is the only human actor in outer space, there is no need to establish a system of rules solving priority right to areas of celestial bodies among other space actors. Therefore, there is little risk of carrying out activities in outer space which could be considered as wrongful. But, of course, every differences in states' interests can be solved by Systems Alliance Council and Parliament at the every stage of any project.

The second issue which will be considered in this part of the paper is the problem concerning human colonists on other planets. In this matter, the question arises if they should be seen as representatives of state which sent them to outer space or rather as emissaries of all humanity? To solve this problem, remarks on the status of astronauts may be helpful. Starting from the provisions of the Rescue Agreement,⁶ it should be noted that although the term "astronaut" has been included in the title, this treaty does not clearly define what precisely should be understood under this term. Therefore, in

4 Joanne Irene Gabrynowicz, Jacqueline Etil Serrano, An introduction to space law for decision makers, 30 *Journal of Space Law*, 230 (2004).

5 Agreement Governing the Activities of States on the Moon and Other Celestial Bodies, entered into force July 11, 1984, 1363 U.N.T.S. 3 [hereinafter Moon Agreement].

6 Agreement on the Rescue of Astronauts, the Return of Astronauts, and the Return of Objects Launched Into Outer Space, entered into force Dec. 3, 1968, 19 U.S.T. 7570, 672 U.N.T.S. 119 [hereinafter Return and Rescue Agreement].

accordance with the provisions of the Vienna Convention⁷ one should find the ordinary meaning of the term.

The outer space is an extremely inhospitable place.⁸ The temperature is about 2.7 Kelvin, all around circulate small particles reaching astronomical speed, the lack of gravity has negative effect on muscular system and beyond Van Allen radiation belt await the dangerous cosmic rays.

These are only a couple of reasons why being an astronaut is an especially difficult task. For this reason Article 2 of the Rescue Agreement requires from the parties of this treaty to rescue the astronauts and render them all necessary assistance. Astronauts are nowadays mainly qualified scientists. And what about human colonists? Of course, all remarks of the risks in outer space should relate to them as well.

In Mass Effect universe (and there are also reasons to believe that in our future), the colonists are (will be) ordinary people who want to colonize new areas, encouraged by new opportunities or maybe tax credits. In their case, the highest possible level of safety should be guaranteed not only during the journey but also during permanent residence at the destination. It seems that any state will be able to accomplish this task alone. Thus, putting them under the care of an international organisation, such as Systems Alliance, and recognising the colonists as representatives of all mankind seems to be reasonable.

II.2. The Peaceful Purposes Principle and the Province of All Mankind Concept

For the purpose of this paper, these principles, which can be founded in Article I (the province of all mankind concept) and in Article IV Outer Space Treaty (the peaceful purposes principle), should be read in conjunction. Thanks to this, the following aspects of these principles can be considered:

- a. All nations have right to use and explore space
- b. All nations have free access to all areas of space and to celestial bodies
- c. “Non-aggressive” use of outer space by states
- d. Prohibition of nuclear weapons and weapons of mass destruction in outer space
- e. Prohibition of military bases, installations, fortifications, weapons testing
- f. All states take part in distribution of goods from outer space

This two principles secure that use, scientific investigation and exploration should be carried out in a peaceful way and all for the benefits of all nations. The System Alliance was established only one year after the important and significant discovery on Mars. It has been an impulse motivating states to reach a rapid agreement which could protect the whole community against

7 Vienna Convention on the Law of Treaties, entered into force January 27, 1980, 1155 U.N.T.S. 331. [hereinafter Vienna Conention].

8 The Outer Space Environment.
<http://quest.nasa.gov/space/teachers/suited/3outer.html>.

negative implications of the discovery. As an example can be mentioned the fact that at this time social movements which putted a question mark over social order became very popular. So decisions have been made very quickly when taking into account the importance and complexity of the issue.

Ratifying of the Systems Alliance Charter has undermined heritage built on the basis of the four basic United Nations' treaties relating to outer space. Previously, there was no doubt that all nations had right to use and explore space and free access to all areas of space and to celestial bodies at the same time. Parties to the Systems Alliance Charter limited the free access to outer space on two levels. Firstly, by the exclusion of other countries from the group of subject which had influence on outer space activities. Secondly, by establishing an organisation with far-reaching powers, they, so to say, transferred its competencies to third entity.

If the first situation, one can notice not only an evident violation of space law principles such as the province of all mankind and principle of cooperation and mutual assistance, but also the acquis of international law, so the second one is not so clear at all. One has to answer the question if the freedom in outer space activities goes so far that states can limit itself in this matter almost completely in favor of other entities, for example an international organisation?

The fact that the outer space is protected by current legal order from ordinary military presence is perhaps one of the greatest achievements in space law. Nowadays, we, as the humankind, are able to undertake military missions in outer space in a limited way. Therefore, their effects can be more than disastrous for our civilization. Irrespective of the above, it should be considered whether in the near future more active military presence in outer space could be necessary, for example for defense purposes (planetary defense program against Near Earth Objects).⁹

The provisions of Outer Space Treaty are very clear in this regard stating as follows in Article IV thereof that:

“States Parties to the Treaty undertake not to place in orbit around the Earth any objects carrying nuclear weapons or any other kinds of weapons of mass destruction, install such weapons on celestial bodies, or station such weapons in outer space in any other manner.

The Moon and other celestial bodies shall be used by all States Parties to the Treaty exclusively for peaceful purposes. The establishment of military bases, installations and fortifications, the testing of any type of weapons and the conduct of military manoeuvres on celestial bodies shall be forbidden [...]”

In this light, establishment of System Alliance can be seen as an attempt to secure space against aggressive use by states in times when military actions in outer space can be necessary.

⁹ Military Perspectives on the Near-Earth Object (NEO) Threat, www.spaceref.com/news/viewpr.html?pid=8834 [access: 18.09.2015].

All above made reflections indicate that in Mass Effect universe states decided to replace The Outer Space Treaty and perhaps other treaties relating to outer space with Systems Alliance Charter. This makes even more clear the fact that only Systems Alliance is the only entity which can act in outer space on behalf of all humanity.

III. Conclusions

In this paper an attempt has been made to characterize the international organisation Systems Alliance which, in RPG trilogy games Mass Effect, is responsible for all human outer space activities: starting from a care of human colonies, diplomatic contact with the other species and ending on the mining missions on celestial bodies.

In literature relating to space law can be found analyses which indicate the need to establish an international organization which could take over some competencies in this matter. The question is what these competencies should be? This time, what has been analyzed is the most extreme scenario assuming taking over of all competencies from states to an established organisation.

To the pros belong:

- a. Low probability of military conflict between states in outer space due to the fact that any military action can be taken only by Systems Alliance which is governed jointly by member states.
- b. Human colonists are representatives of all humanity and they are still supported and protected by an entity possessing significant military and material resources.
- c. And finally the Systems Alliance itself is an appropriate forum to avoid conflicts between states in advance.

But there are also cons which are as follows:

- a. Construction of military bases and nuclear weapon in outer space even only for defense purposes means leaving achievements to date in this matter.
- b. Only 18 member states cannot ensure that space is used as province of all mankind.
- c. And finally no free access to outer space because all actions are carried out by one organisation – Systems Alliance in this case.

In fact, it should be considered if on the basis of the current legal order relating to outer space states can waive their right to act in outer space? In Mass Effect universe, the answer to this question was positive. However, the problem arises if the price which was paid for the peace and order in human space activities (the freedom of space activities) in case of Mass Effect and Systems Alliance was not slightly too high?

