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KNOW YOUR ENEMY: SPACE ACTIVITIES OF NON-GOVERNMENTAL ENTITIES IN INTERNATIONAL ARMED CONFLICTS

INTRODUCTION

In recent years, space activities have increasingly been carried out by non-governmental entities, and these activities have also arisen in connection with armed conflicts. In 2024, non-governmental entities, rather than states, accounted for more than three-quarters of the \$613 billion annual space economy.¹ At the time of the adoption of the major international treaties of space law, it had not been foreseen that the participation of non-governmental entities would be on such a scale, or that their participation in armed conflict would be a real problem. The 1990–1991 Gulf War raised the issue of space warfare, but the Russian–Ukrainian armed conflict that began in 2022 has proven that the involvement of non-state actors is now a reality, and the attribution of non-state actors’ activities to states must be examined. The aim of the study is to define when the activities of a non-governmental entity can be regarded as state activities. In other words, under what circumstances can we consider that a state is behind a non-state actor, and that its activities can be attributed to a state? Attribution should be used to analyse the international actions of states in armed conflict, including the assessment of the use of force, aggression, self-defence, influence or intervention in war, or neutrality. Therefore, the study focuses on the state which is internationally responsible for the space activities of non-governmental entities, paying special attention to situations involving armed conflicts. Attribution should be examined in the context

¹ See Space Foundation 2025.

of both space law and general international law, as its determination and assessment will differ in each context.

ATTRIBUTION OF SPACE ACTIVITIES OF NON- GOVERNMENTAL ENTITIES IN SPACE LAW

The examination of attribution in relation to the space activities of non-state actors may involve several states. It is necessary to analyse which states the non-governmental entities' actions can be attributed to, and under what conditions. The analysis must be carried out in relation to the following states: state of nationality of a non-governmental entity, state of registry of a non-governmental entity's space object, appropriate state of the non-governmental entity, and launching state of the space object of the non-governmental entity. It should be noted that there are occasions when the results of the assessment overlap and result in the same state. However, on other occasions, the results are different states.

State of nationality of a non-governmental entity

Non-governmental entities can be divided into two main categories: natural and juridical persons. The possibility of space activities being carried out by private individuals is unlikely to happen (it should be noted that this was once thought to be the case for non-governmental entities as a whole, and the space activities of juridical persons have superseded this idea). The nationality of natural persons is determined by the domestic legal rules on nationality of the state concerned, usually on the basis of the principles of *ius soli* or *ius sanguinis*, which are limited or restricted by the rules of international law on nationality in so far as the state concerned has undertaken international obligations.²

² GANCZER 2013: 58–63.

Juridical persons also have nationality due to their belonging to a state. In the Barcelona Traction case, the International Court of Justice stressed in 1970 that the nationality of a company is based on a 'close and permanent connection' with the State, and "the traditional rule attributes the right of diplomatic protection of a corporate entity to the State under the laws of which it is incorporated and in whose territory it has its registered office", and that these "two criteria have been confirmed by long practice and by numerous international instruments".³ The principle of registration/incorporation reflects customary international law, and as such, it was also included in the 2006 Draft Articles on Diplomatic Protection. Moreover, in this draft, nationality, for the purposes of diplomatic protection, means belonging to the state of incorporation. However, if the juridical person is controlled by nationals of another State or has no substantial business activity in the state of incorporation, and the seat of management and financial control is in another state, it will be regarded as a national of the latter state.⁴ In space law, however, the transnational nature of the activity requires the consideration of other nationality principles.⁵ UN General Assembly Resolution No. 68/74 includes, in the context of the nationality of juridical persons, the place of establishment, the place of registration and the seat on the territory as optional elements.⁶

In regulating the space activities of non-governmental entities, it is necessary to bear in mind that the nationality of a natural or a juridical person may be multiple or difficult to define. Dual or multiple nationality of natural persons may be more common nowadays, implying several states of nationality. In case of juridical persons, the State of registration and the State of incorporation may not be the same, or the State of incorporation may change over time, or the majority of investors may be nationals of

³ Case Concerning the Barcelona Traction. Light and Power Company, Limited (Belgium v. Spain), Second Phase, Judgment of 5 February 1970, I.C.J. Reports 1970, 42.

⁴ International Law Commission, Draft Articles on Diplomatic Protection, 2006, Article 9. HERCZEG 1968: 100–101.

⁶ Recommendations on national legislation relevant to the peaceful exploration and use of outer space, G.A. Res. 68/74, 11 December 2013, para. 2, 68 UN GAOR Suppl. No. 49 A/68/49 (Vol. I), 260, UN Doc. A/Res/68/74 (2013).

another State, or the company may be a transnational company, which may make it difficult to define its nationality. It is also possible that a given space activity is carried out jointly by natural and/or juridical persons of different nationalities.

State of registry of the space object of a non-governmental entity

The term ‘nationality’ refers not only to natural and juridical persons but also to ships, aircraft and space objects, which also means that they belong to a state. The practice of both air law and maritime law had already been established by the time space was first regulated, and served as a model for regulating the nationality of space objects. The nationality of space objects is that of their state of registry, i.e. the state which performs the registration.⁷ The purpose of registration is to ensure retention of ‘jurisdiction and control’ over the space object and its crew by the state of registry.⁸ Registration also designates the space object as a quasi-state territory of the state of registry, which may have particular relevance during armed conflicts.

The term ‘space object’ itself is defined in the treaties as “component parts of a space object as well as its launch vehicle and the parts thereof”,⁹ and the jurisprudential definition clarifies that this includes objects launched and intended to be launched into outer space.¹⁰ Several international documents stipulate that registration must be carried out by a launching

⁷ LOPEZ-GUTIERREZ 1966: 132–142. Registration Convention, Article II (2).

⁸ Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space, G.A. Res. 1962, 13 December 1963, para. 7, 18 UN GAOR Suppl. No. 15 (A/5515), 15, UN Doc. A/Res/18/1962 (1963); Outer Space Treaty, Article VIII; Registration Convention, Article II (2); SCHMIDT-TEDD – SOUCEK 2020. The term “jurisdiction and control” is also used in the Moon Agreement, Article 12 (1).

⁹ Liability Convention, Article I (2) (d); Registration Convention, Article I (b).

¹⁰ HOBE et al. 2013: 504.

state,¹¹ a rule which has become part of customary international law.¹² Hence, a non-governmental entity cannot register its space object; the state of registry should be a launching state. The launching state itself means “(i) [a] [s]tate which launches or procures the launching of a space object; (ii) [a] [s]tate from whose territory or facility a space object is launched”.¹³ The state of registry is not necessarily the same as the owner of the space object, and it is therefore not identical to the owner, the owner state, or the non-governmental entity that is the owner and/or carries out the related space activities,¹⁴ and thus to any changes to these.¹⁵ The latter changes are only reported to the UN Secretary-General when ‘additional information’ is provided.¹⁶ In case of a single launching state, it is obvious that the registration will be carried out by that state, so the space object will be a national and parallelly a quasi-territory of that state. If the space object has more than one launching State, they must jointly determine which of them will register it, i.e. only one of them can register the space object. Thus, double registration – and double nationality, quasi-territory – is

¹¹ International Co-Operation in the Peaceful Uses of Outer Space, G.A. Res. 1721 B (XVI), 20 December 1961, para. B 1, 16 UN GAOR Suppl. No. 17 (A/5100), 6, UN Doc. A/AC.105/1154 (1961); Outer Space Treaty, Article VIII; Registration Convention, Article II (1).

¹² For more information see SCHMIDT-TEDD – SOUCEK 2020: 16.

¹³ Outer Space Treaty, Article VII; Liability Convention, Article I (c); Registration Convention, Article I (a). The definitions in the regulations are preceded by the Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space, G.A. Res. 1962, 13 December 1963, para. 8, 18 UN GAOR Suppl. No. 15 (A/5515), 15, UN Doc. A/Res/18/1962 (1963); Outer Space Treaty, Article VII.

¹⁴ Outer Space Treaty, Article VI. Recommendations on Enhancing the Practice of States and International Intergovernmental Organizations in Registering Space Objects, G.A. Res. 62/101, 17 December 2007, Recommendation 4, 62 UN GAOR Suppl. No. 49 A/62/49 (Vol. I), 161, UN Doc. A/Res/62/101 (2007).

¹⁵ AOKI 2020: 392–398.

¹⁶ Registration Convention, Article IV (2).

impossible.¹⁷ The registration can be transferred to another state, but the new registrant can only be another launching state.¹⁸ It is worth noting that for an international space station made up of several modules, the launching state of the given module is the state of registry. Under the terms of the relevant international treaty, the jurisdiction and control of the module is exercised by the state of registry, although the jurisdiction and control of the personnel is exercised by the state of nationality of each of the individual crewmembers.¹⁹

The importance and the method of registration were mentioned as early as in the UN General Assembly Resolution No. 1721 of 1961.²⁰ The 1974 Convention on Registration of Objects Launched into Outer Space required the launching State to establish an appropriate registry and to provide the Secretary-General of the United Nations with information specified in the Convention and inform them of any changes to that information.²¹ Accordingly, the United Nations Office for Outer Space Affairs maintain registrations under both the General Assembly resolution

¹⁷ Registration Convention, Article II (2). See also Recommendations on Enhancing the Practice of States and International Intergovernmental Organizations in Registering Space Objects, G.A. Res. 62/101, 17 December 2007, Recommendation 3.(b)–(c), 62 UN GAOR Suppl. No. 49 A/62/49 (Vol. I), 161, UN Doc. A/Res/62/101 (2007). Application of the concept of the “launching State”, G.A. Res. 59/115, 10 December 2004, para. 2, 59 UN GAOR Suppl. No. 49 A/59/49 (Vol. I), 163, UN Doc. A/Res/59/115 (2004).

¹⁸ HOBE et al. 2013: 256.

¹⁹ Agreement among the Government of Canada, Governments of Member States of the European Space Agency, the Government of Japan, the Government of the Russian Federation and the Government of the United States of America Concerning Cooperation on the Civil International Space Station, Washington, 29 January 1998, Article 5.

²⁰ International Co-Operation in the Peaceful Uses of Outer Space, G.A. Res. 1721 B (XVI), 20 December 1961, para. B 1–2, 16 UN GAOR Suppl. No. 17 (A/5100), 6, UN Doc. A/AC.105/1154 (1961).

²¹ Registration Convention, Articles II–IV.

and the Registration Convention, in parallel.²² In addition, UN General Assembly Resolution No. 62/101, adopted in 2007, sets out detailed recommendations²³ and the resulting registration form, which has been in use since 2010,²⁴ has also been an important step forward in the process of data harmonisation.

The registration of space objects is becoming increasingly important because, in times of mass launches, space object registration is not always fully implemented. Only 87%²⁵ of the man-made objects in space are registered, which has several consequences, including issues of responsibility and liability, space traffic management, and space debris identification and mitigation. Space objects that are not registered possess no nationality and cannot be regarded as a quasi-territory of a state. Even the launching state cannot act as a state of nationality if it has not registered the space object. However, there is always a launching state of the space object, but it is more difficult to prove if registration is not completed. Even with proper registration, there may be disputes about the launching state if more than one state could be considered as a launching state. Furthermore, the appropriate state according to Article VI of the Outer Space Treaty is always responsible for the space activities of non-governmental entities, even if the space object is not registered. A clear and coherent registry would contribute to the identification of space objects and eliminate the situation of 'stateless' space objects.

²² Sulyok 2022: 97.

²³ Recommendations on Enhancing the Practice of States and International Intergovernmental Organizations in Registering Space Objects, G.A. Res. 62/101, 17 December 2007, 62 UN GAOR Suppl. No. 49 A/62/49 (Vol. I), 161, UN Doc. A/Res/62/101 (2007).

²⁴ See UNOOSA, Registration Information Submission Form (as at 1 January 2010). The current form is applicable from 2020.

²⁵ United Nations Office for Outer Space Affairs, United Nations Register of Objects Launched into Outer Space.

*National activities carried on by non-governmental entities
and the appropriate state of a non-governmental entity*

The first of the relevant documents to regulate space activities of non-governmental entities was UN General Assembly Resolution 1962 (XVIII),²⁶ the text of which was incorporated almost identically into the 1967 Outer Space Treaty. For the interpretation of 'national activities' in Article VI of the Outer Space Treaty, several possibilities should be considered. If we read Article VI as a whole, national activities can be used merely to distinguish it from *all activities . . . carried out by an international organisation*, listed in the third sentence.²⁷ A narrower meaning of national activity may be that of *activities carried out under the jurisdiction of a state*, which may include activities carried out within its territory under territorial jurisdiction, as well as activities carried out under personal jurisdiction by its nationals, regardless of them being within or outside its territory.²⁸ National activity, in an even narrower sense, may mean *activities carried out by nationals*, which may be linked to the fact that Article IX refers to space activities carried out by a state or its nationals, while mentioning potentially harmful interference with the activities of other states.²⁹ The broadest interpretation, that national activity means any activity not carried out by an international organisation, is problematic because it does not provide any guidance as to which state should be considered conducting a 'national activity' and would thus render the obligation meaningless. In today's space law, given the large number of non-governmental entities and their varying state identities,

²⁶ Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space, G.A. Res. 1962, 13 December 1963, para. 5, 18 UN GAOR Suppl. No. 15 (A/5515), 15, UN Doc. A/Res/18/1962 (1963).

²⁷ HOBE et al. 2013: 390–391.

²⁸ BROWNLIE 1983: 165. Not jurisdiction, but a specific link to the state, or the direction or influence of the state is mentioned by CHENG 1998: 26; SILVESTROV 1991: 327–330; LEE 2005: 217.

²⁹ This interpretation is mentioned but disagreed with by BÖCKSTIEGEL 1991: 13; BÖCKSTIEGEL 1994: 77–78.

the best interpretation of national activity in the spirit of the drafters of the treaty and the principle of effectiveness³⁰ is to consider it an activity conducted under the jurisdiction of the state. This, however, needs to be further examined in the light of the analysis of the term ‘appropriate State’ in the second sentence.

In relation to the term ‘appropriate State’, it should be noted that UN General Assembly Resolution 1962 (XVIII) still used the term ‘State concerned’,³¹ which refers to the given state. The meaning of ‘appropriate State’ is more nuanced and may be interpreted as implying a particular quality of the state, carrying the connotation of the most adequate state for the given situation. There are many interpretations of the term ‘appropriate state’, and these sometimes overlap. These include 1. the elaboration of the state in the first sentence; 2. the registering state; 3. the launching state; 4. the owner of the space object; 5. the state of territorial jurisdiction; 6. the state of personal jurisdiction (state of nationality of a natural and juridical person); 7. a particular combination of these.³² All in all, the term ‘appropriate state’ should be interpreted as involving activities under the jurisdiction of the state, which includes its territorial, quasi-territorial and personal jurisdiction, including, where appropriate, the jurisdiction of the registering state after launch. This interpretation allows for the activities of a non-governmental entity to be backed in all cases by a state, which was the intention of the lawmaker.

³⁰ Vienna Convention, Articles 31(1), 31(4).

³¹ Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space, G.A. Res. 1962, 13 December 1963, para. 5, 18 UN GAOR Suppl. No. 15 (A/5515), 15, UN Doc. A/Res/18/1962 (1963).

³² See SILVESTROV 1991: 327–330; BÖCKSTIEGEL 1991: 77–79; BÖCKSTIEGEL 1994: 13–15; ABHIJEET 2020: 363–365; HOBE et al. 2013: 396–403; CHENG 1998: 26–29; TATSUZAWA 1988: 344; LEE 2005: 218–219; VERESHCHETIN 1983: 263.

*Launching state of the space object of
a non-governmental entity*

The definition of the launching state has already been mentioned in the section on the state of registry of the space object of a non-governmental entity. The launching state itself means “(i) [a] [s]tate which launches or procures the launching of a space object; (ii) [a] [s]tate from whose territory or facility a space object is launched”.³³ Article VII of the Outer Space Treaty provides for the liability of launching states for damage caused by a space object. The whole Liability Convention also makes the launching state liable for all damage caused by the space object, i.e. the liability for the damage is always borne by the launching state.

In case of other high-risk activities outside space law, the operator is liable for damage, whereas in space law, the liability of the launching state has become general,³⁴ even if the space activity on the space object is conducted by a non-governmental entity. It should be noted that the liability of the launching state does not mean that the activities of a non-governmental entity on a space object constitute an act of the launching state in a legal sense. This issue is only about liability for damages caused by space objects.

Assessment: Attribution in space law

When it comes to assessing attribution, Article VI of the Outer Space Treaty serves as the fundamental point of reference. Under this Article, “international responsibility is the equivalent of attribution to the State of all its national activities in outer space”.³⁵

³³ Outer Space Treaty, Article VII; Liability Convention, Article I (c); Registration Convention, Article I (a). The definitions in the regulations are preceded by the Declaration of Legal Principles Governing the Activities of States in the Exploration and Use of Outer Space, G.A. Res. 1962, 13 December 1963, para. 8, 18 UN GAOR Suppl. No. 15 (A/5515), 15, UN Doc. A/Res/18/1962 (1963); Outer Space Treaty, Article VII.

³⁴ HERCZEG 1966: 90–91; KECSKÉS 2022: 130–133.

³⁵ MARCHISIO 2010: 3.

According to Article VI of the Outer Space Treaty:

States Parties to the Treaty shall bear international responsibility for national activities in outer space, including the Moon and other celestial bodies, whether such activities are carried on by governmental agencies or by non-governmental entities, and for assuring that national activities are carried out in conformity with the provisions set forth in the present Treaty. The activities of non-governmental entities in outer space, including the Moon and other celestial bodies, shall require authorization and continuing supervision by the appropriate State Party to the Treaty. When activities are carried on in outer space, including the Moon and other celestial bodies, by an international organization, responsibility for compliance with this Treaty shall be borne both by the international organization and by the States Parties to the Treaty participating in such organization.³⁶

Indeed, an important element of the first sentence is that the state is not only responsible for these activities, but must also ensure that they “are carried out in conformity with the provisions set forth in the present Treaty”.³⁷ It certainly includes Article III, stating that states “shall carry on activities in the exploration and use of outer space, [...] *in the interest of maintaining international peace and security* and promoting international co-operation and understanding”. Therefore, state parties are both internationally responsible and responsible for ensuring compliance with the obligations set forth in the Outer Space Treaty.

Article VI establishes the responsibility of states not only for their own activities but also for activities carried out by non-governmental entities in outer space. It should be noted that non-governmental entities include natural persons, juridical persons, universities and research institutes.³⁸ It is necessary to analyse whether their nationality or another characteristic constitutes the main criterion to define the responsible state for their activities. The *travaux préparatoires* indicate that the aim of the provision was to ensure

³⁶ Outer Space Treaty, Article VI.

³⁷ For more on this obligation see ABHIJEET 2020: 359–362.

³⁸ HOBE et al. 2013: 394.

that all non-state space activities remained under state responsibility.³⁹ To make certain that this is done effectively and that states do not evade their obligations, it is necessary to define the state of national activity of each specific space activity more precisely. Responsibility for a space activity and the implementation of the provisions of the treaty can only be ensured if the state concerned is involved in some way and is able to have an impact on the activity in question. This interpretation can therefore be accepted if the term 'the appropriate State Party' in the following sentence is taken to clarify the meaning of the national activity of non-governmental entities. Employing the narrowest interpretation of national activities of non-governmental entities and considering only the activities of nationals as national activities, the distribution of responsibility between states is relatively clear, except for the possible disputes over the determination of the nationality of juridical persons, as mentioned above. However, it may be the case that the responsible state is not the state which is best placed to supervise the activity in question, for example, in the case of multinational companies, foreign activities on the territory of the state, transfer of property, or joint activities by nationals of different states. As previously stated, the most accurate interpretation of national activity is to consider it an activity that is carried out under the jurisdiction of the state. Therefore, the nationality of the non-governmental entity is relevant in determining the state under which the entity is subject to personal jurisdiction. However, territorial jurisdiction remains of crucial importance when determining the appropriate state. This ensures that it is equally responsible for activities carried out on the territory and quasi-territory of the state, and for activities carried out by nationals (whether or not they are on the territory of the state). Other theories have also been proposed, namely the 'line segment theory' or 'proportionality theory',⁴⁰ but these have not yet been proven by international legal scholars or state practice. It is interesting to note that if a state has only a controlling interest in a company that is not a national of that state and does not operate within its territory, it will not be considered an appropriate state. In addition, the fact that a non-governmental entity is

³⁹ LACHS 1972: 122.

⁴⁰ WANG-HU 2025: 14–20.

controlled by a government does not automatically make it a state-owned entity. Nevertheless, the issue of controlling interest of a state may be relevant to general international law when determining the international responsibility of a state.

The primary wording of 'appropriate State' may be interpreted as suggesting that there can be only one appropriate state, but the interpretation of the possibility of there being more than one appropriate state has gained acceptance.⁴¹ The reality of space law today also requires this interpretation because of the complexity of space activities and the frequent occurrence of multiple state ownership. Article VI of the Outer Space Treaty requires "authorisation and continuing supervision by the appropriate State Party", so the meaning of 'appropriate state' needs to be understood in this context. The fundamental question concerns which state is in a position to authorise and continuously supervise space activities carried out by non-governmental entities. The state of registry exercises jurisdiction and control over the space object and over any personnel thereof,⁴² and this state can therefore be the appropriate state after launch (indeed, some argue that only the state of registry can be considered the appropriate state after launch).⁴³ It is important to note that registration of a space object designates that object as quasi-territory of the state of registry, which is relevant for any acts relating to the territory of that state. For example, the act of aggression may be perpetrated against a space object as a state territory, and conversely, from a space object as a state territory. Furthermore, aggression can be conducted by a space object as a state territory allowed to be used by another state for perpetrating an act of aggression against a third state. If the space object has a deck, it is to be considered a territorial space that can be used by persons. In the event of armed conflict, this area should be regarded as state territory.

The state under whose jurisdiction the non-governmental entity operates a space object will be the appropriate state, even if the launching state intentionally or unintentionally fails to register the space object. If a state fails to register a space object, it cannot claim exemption from responsibility if it

⁴¹ CHENG 1997: 609–610; CHENG 1998: 326, 328.

⁴² Outer Space Treaty, Article VIII.

⁴³ SILVESTROV 1991: 328.

is the appropriate state at the same time. However, the non-governmental entity operating the space object may not be under the jurisdiction of the state of registry, especially since it is not necessarily under its jurisdiction at the pre-launch stage. Similarly, if only the launching state is considered to be the appropriate state, some activities may remain uncontrolled, for example, if the launching state is only the state from whose territory the space object was launched, but the activity prior to the launching was not under its jurisdiction. If only the state with territorial jurisdiction were the 'appropriate state', that state would not be responsible for and would have no influence over the activities of its nationals if their activities were carried out in whole or in part outside its territory. Finally, if only the state of nationality was the 'appropriate state', activities carried out on its territory by a foreign national would be outside the scope of its effective control.

This also ensures that the state of nationality, the state of registry and the launching state may overlap, all of which can be considered the appropriate state if the activity is within their jurisdiction. Authorisation and continuing supervision can only be ensured by a state if its legal system can cover the activity concerned, for which the jurisdiction of the state is essential. A similar provision in the Moon Agreement and the UN General Assembly Resolution 68/74 is also worth recalling in this regard. The Moon Agreement is more precise than Article VI of the Outer Space Treaty, as Article 14(1) requires states parties to ensure that non-governmental entities 'under their jurisdiction' carry out activities under the authority and continuing supervision of the appropriate state. Similarly, this concept of jurisdiction is reinforced by paragraph 2 of UN General Assembly Resolution 68/74. In relation to the obligations of launching states and of states responsible for national activities, the Resolution specifies that states "should ascertain national jurisdiction over space activities carried out from territory under its jurisdiction and/or control; likewise, it should issue authorisations for and ensure supervision over space activities carried out elsewhere by its citizens and/or legal persons".⁴⁴

⁴⁴ Recommendations on national legislation relevant to the peaceful exploration and use of outer space, G.A. Res. 68/74, 11 December 2013, para. 2, 68 UN GAOR Suppl. No. 49 A/68/49 (Vol. I), 260, UN Doc. A/Res/68/74 (2013).

Neither the Outer Space Treaty nor the Moon Agreement contains an explicit and detailed definition of what exactly the obligation of authorisation and continuing supervision by the appropriate state involves. A state can therefore implement it in any way it chooses,⁴⁵ as long as it ensures appropriate authorisation and continuing supervision. In practice, this can be implemented either by adopting a domestic legal rule, by contracting with a non-governmental entity, or by means of an administrative act.⁴⁶ The practice of states shows that they are increasingly seeking to regulate the licensing of non-governmental entities and the implementation of continuing supervision in their domestic law through national space laws.⁴⁷ In the domestic legislation on this area adopted by more than 40 states today, it can be observed that there is still a lack of uniformity in practice as regards jurisdiction. While some states base their space law legislation on territorial jurisdiction only and others on personal jurisdiction only, in general, states tend to regulate space activities under both their territorial and personal jurisdiction.⁴⁸ A detailed recommendation regarding domestic regulation is contained in UN General Assembly Resolution 68/74, the adoption of which as customary international law would encourage domestic regulation to ensure more effective application of international law.⁴⁹ Actually, for the analysis of attribution, authorisation by a state may be indicative and facilitate the determination of the appropriate state. However, the authorisation procedure does not prove that a particular state is the appropriate state. This would lead to misunderstandings and wrong conclusions. It should be mentioned that the problem of the flag of convenience is familiar from the law of the sea. There are various reasons why ships may sail under the flag of another state, such as to benefit from that state's regulations or protection.

⁴⁵ Similar views are expressed by GÁL 2001: 62; VERESHCHETIN 1983: 263; VON DER DUNK 2019: 228; MASSON-ZWAAN 2008: 537.

⁴⁶ ABHIJEET 2020: 371.

⁴⁷ BARTÓKI-GÖNCZY 2022: 255; VON DER DUNK 2019: 228; MASSON-ZWAAN 2008: 537.

⁴⁸ LEE 2005: 221–224; VON DER DUNK 2019: 231–236.

⁴⁹ Recommendations on national legislation relevant to the peaceful exploration and use of outer space, G.A. Res. 68/74, 11 December 2013, paras. 2–8, 68 UN GAOR Suppl. No. 49 A/68/49 (Vol. I), 260, UN Doc. A/Res/68/74 (2013).

This problem is also known in space law. In certain states, there is a lack of national space law, or the domestic regulation of space law is deficient. Consequently, non-governmental entities seeking authorisation are not subject to independent due diligence checks regarding their technical representations and guarantees of safety and sustainable space activities. Conversely, if a non-governmental entity lacks authorisation, it cannot be concluded that there is no appropriate state. Authorisation is an obligation of the appropriate state, and the state becomes the appropriate state upon its jurisdiction over the entity, not upon its authorisation. If a state fails to fulfil this obligation, it cannot claim exemption from responsibility.

ATTRIBUTION OF SPACE ACTIVITIES OF NON-GOVERNMENTAL ENTITIES IN GENERAL INTERNATIONAL LAW

The characteristics of international responsibility are much clearer in general international law than in space law. Draft Articles of the International Law Commission on Responsibility of States for Internationally Wrongful Acts of 2001 (ARSIWA) defines internationally wrongful act of a state as follows: “When conduct consisting of an action or omission: (a) is attributable to the State under international law; and (b) constitutes a breach of an international obligation of the State.”⁵⁰ According to the Commentaries of ARSIWA, “the term ‘attribution’ is used to denote the operation of attaching a given action or omission to a State”.⁵¹ It is evident that the conducts of state bodies are attributable to the State.⁵² The conduct of non-governmental entities is considered an act of a State if it “is empowered by the law of that State

⁵⁰ International Law Commission, Draft Articles on Responsibility of States for Internationally Wrongful Acts (hereinafter: ARSIWA), 2001, Article 2.

⁵¹ International Law Commission, Draft Articles on Responsibility of States for Internationally Wrongful Acts, with Commentaries (hereinafter: ARSIWA with Commentaries), UN Doc. A/56/10, at 36 (2001).

⁵² ARSIWA, Article 4.

to exercise elements of the governmental authority”⁵³ or “if the person or group of persons is acting on the instructions of, or under the direction or control of, that State”.⁵⁴ Therefore, the requirements for attribution in general international law need a more defined control by a state than in space law. The jurisdiction of a state over a non-governmental entity is not sufficient, but control by a state is a necessary element in general international law. The level of control, namely the effective control required for attribution,⁵⁵ has also been formed in international law based on the Judgment of the International Court of Justice in the Case of Military and Paramilitary Activities in and against Nicaragua⁵⁶ and in the Case of Application of the Convention on the Prevention and Punishment of the Crime of Genocide.⁵⁷ The existence of effective control over a non-governmental entity by a state should be analysed on a case-by-case basis, with each situation assessed individually.

The application of international law is recognised in outer space under UN General Assembly Resolution No. 1721⁵⁸ and No. 1962,⁵⁹ and Article III of the Outer Space Treaty. Therefore, space law is not a self-contained regime, guidance is also provided by general international law.⁶⁰ Article 55 of the ARSIWA states: “These articles do not apply where and to the extent that the conditions for the existence of an internationally wrongful act or the content or implementation of the international responsibility of a State

⁵³ ARSIWA, Article 5.

⁵⁴ ARSIWA, Article 8.

⁵⁵ It should be noted that another, less accepted concept, overall control, can also be found in the case law of the International Criminal Court for the former Yugoslavia (ICTY). See *Prosecutor v. Duško Tadić*, 15 July 1995, ICTY Case No. IT-94-1-A, para. 405–406.

⁵⁶ *Military and Paramilitary Activities in and against Nicaragua* (Nicaragua v. United States of America), ICJ Reports 1986, 14, para. 115.

⁵⁷ *Application of the Convention on the Prevention and Punishment of the Crime of Genocide* (Bosnia and Herzegovina v. Serbia and Montenegro), ICJ Reports 2007, 43, para. 400.

⁵⁸ *International Co-operation in the Peaceful Uses of Outer Space*, G.A. Res. 1721, 16 UN GAOR Supp. No. 17 (A/5100), A, para. 1 (a).

⁵⁹ *Declaration of Legal Principles Governing the Activities of States in the Exploration and Uses of Outer Space*, G.A. Res. 1962, 18 UN GAOR Supp. No. 15 (A/5515), para. 4.

⁶⁰ HOBE 2007: 42.

are governed by special rules of international law.” It means that space law is *lex specialis*, as a special responsibility regime, and that the customary law of state responsibility is *lex generalis*. Therefore, the rules of general international law on international responsibility must be consulted if space law cannot be applied.⁶¹

CONCLUSION

The state behind the actions of a non-governmental entity, i.e. the state to which the actions of this entity can be attributed, will be the appropriate state in an armed conflict. International responsibility for the activities of non-governmental entities is governed by Article VI of the Outer Space Treaty, where it should be emphasised that this term applies to both natural and juridical persons. The correct interpretation of the national activity and the appropriate state may be sufficient to ensure state responsibility for non-governmental entities in space law today. According to the proposed interpretation, the appropriate state is responsible for the activities of non-governmental entities within its territorial, quasi-territorial and personal jurisdiction, and thus for the activities of national natural and juridical persons within its personal jurisdiction. Nationality of non-governmental entities alone does not therefore establish attribution, but it is relevant in determining the appropriate state. On the one hand, there is a need to ensure that non-governmental entities carry out their activities in conformity with the provisions of the Treaty and on the other hand, there is a need to authorise and continuously supervise the space activities of non-governmental entities. It is important to note that while this authorisation procedure is an obligation of the appropriate state, it cannot be used to prove automatically that the state which gave the licence to the non-governmental entity is the appropriate state. It is conceivable that the appropriate state might fail to fulfil the authorisation obligation, or another state might

⁶¹ ARSIWA, Article 55; ARSIWA with Commentaries, 98.

authorise the space activity instead of the appropriate state, due to the flag of convenience problem. In fact, it is the jurisdiction of the state over the non-governmental entity that constitutes its appropriate state, rather than its authorisation. In summary, the term 'appropriate state' should be interpreted as referring to activities that fall under the jurisdiction of the state. This includes its territorial, quasi-territorial and personal jurisdiction, as well as, where relevant, the jurisdiction of the registering state after launch. The state of registry is always a launching state, and it might also be the appropriate state. It is evident that the registered space object becomes the quasi-territory of the state of registry, a fact which may hold particular relevance during armed conflicts. The launching state might be at the same time the appropriate state, but attribution is only linked to the appropriate state. It is important to note that the liability of the launching state does not mean that these activities can be considered an act of the launching state. The primary objective of the liability of the launching state is to ensure compensation by a state for the damage caused by a space object.

According to the ARSIWA, space law is *lex specialis* as a special responsibility regime and *derogat legi generali*, i.e. the rules of general international law on the international responsibility of states. Consequently, the rules of general international law on international responsibility should only be consulted if the application of space law is not possible. The requirement of effective control is stricter in general international law than the requirement of jurisdiction in space law. However, this leads to stricter responsibility under space law, since a weaker connection between the entity and the state is sufficient to establish responsibility. The main challenge with this concept is that sometimes more than one state should be regarded as an appropriate state in the new space era. This could potentially result in a scenario whereby these states seek to pass the responsibility onto each other. In this case, it is necessary to prove which state is the enemy and who is behind the activities of the non-state actor. The findings of the present study can assist in addressing these issues.

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