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The Legal Status and Use of National Airspace

ABSTRACT

“Every State has complete and exclusive sovereignty over the airspace above its territory.” Therefore, as a main rule the national airspace is closed, that is, the aircraft of another state may enter there only in possession of adequate permissions and by adherence to air navigation procedures. The national airspace is a real treasure. A treasure, which needs constant utilization, care and protection, just like croplands. If the foreign aircraft does not follow the rules, it may expect military intervention (interception). If the foreign aircraft follows the rules, it shall be authorised to use the national airspace and is obligated to pay due charge for the air navigation service. The airspace is most intensively used by international scheduled and non-scheduled air carriers, which are governed by the same rules, however, the operation of scheduled commercial flights requires the existence of further licences and traffic rights.

When we behold the skies, we do not think or see that in fact we are looking at the secluded world of intersected, thematically delimited airspaces allocated into provinces. Which implies that the national airspace can be divided into controlled and uncontrolled airspaces with different sectors; they can also be restricted, temporarily restricted, dangerous and prohibited airspaces; furthermore, the airspace can be extended by the Air Defence Identification Zone (ADIZ). The airspace above high seas is international, where, just as in outer space, state sovereignty is not applicable, thus, the national airspace needs to be separated from international airspace horizontally and from outer space vertically.

The above issues will be discussed in detail from a legal point of view. Essentially, the following paper introduces the concept of the national airspace as well as the rights and obligations of the users of the airspace.

KEYWORDS: sovereign airspace, boundaries of airspace, controlled and uncontrolled airspace, restriction of airspace, ADIZ zone in airspace, interception in airspace

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I. THE AIRSPACE OF THE SOVEREIGN STATE

The territory of a State has extraordinary significance since, in the airspace above the territory, the supreme power of the sovereign state prevails. Sovereignty has a central role in international law and also in international civil aviation. Pursuant to the provision of the Chicago Convention on International Civil Aviation (1944),¹ the territory of a State shall be deemed to be the land areas and territorial waters adjacent thereto under the sovereignty, suzerainty, protection or mandate of such State (Article 2). Thus, the territory of the State encompasses: the mainland and territorial waters,² while the national airspace consists of the territory above the mainland and territorial waters. The quasi territory of the State, from the viewpoint of jurisdiction, also includes embassy or consulate buildings, offices, diplomatic cars, the board of a ship, an aircraft or spacecraft and space stations.

Seventy-one per cent of the surface of the Earth is covered by oceans and seas, chiefly by the high seas. From the viewpoint of air law, we need to differentiate territorial waters from the high seas, because the airspace above the coastal sea qualifies as *national*, thus, the coastal state is due complete and exclusive sovereignty in the airspace above its territorial waters, whereas the airspace above the high seas qualifies as *international*, therefore, above such territories, no sovereign rights prevail. Almost the whole of the mainland, constituting 29 per cent of the surface of the Earth is subject to state sovereignty. The sovereign state has complete and exclusive power in the national airspace above its territory up to the boundary of outer space.

Sovereignty is a political, legal and historic category. Sovereignty proceeds from the concept of the State; it is an exclusive attribute of the State. In other words, the State and solely the State is sovereign, thus, all States are sovereign, and their sovereignties are equal. The State is an entity which encompasses the community of people led by a government exercising actual power on a specific territory in international relations. Sovereignty consists of two inextricable notions forming a unity:

– internal side: *territorial supreme power* implies the actual supreme power exercised in its own territory by the State, the exercise of exclusive control, the opportunity to create a constitution and other statutes, as well as their enforcement by the executive power. Only States may avail of supreme power, i.e., the monopoly of legitimate violence; and

¹ The Convention on International Civil Aviation is one of the masterpieces of international law-making, consisting of 4 major parts [Air Navigation, The International Civil Aviation Organization (ICAO), International Air Transport and Final Provisions], and within these it contains 22 Chapters and 96 Articles. The Convention and its 19 Annexes exceed a total of 4,000 pages. The contracting States adopted and signed the Chicago Convention on 7 December 1944, thereby, the International Civil Aviation Organization (ICAO) was established. ICAO Doc. 7300 the Chicago Convention.

² Including the national rivers and lakes, the international rivers, in the case of seas: the coastal sea, furthermore, the archipelago and certain straits.

– external side: *international independence*, which prevails among the given sovereign state and the international community. In this system of equal international relations, the independent State intervenes autonomously.³

Independence in international relations entails the exercise of actual territorial and personal jurisdiction in the internal life of the sovereign State. The two concepts supplement each other to form an entirety, since the State, in the absence of independence in international relations, in its internal life may neither exercise actual territorial or personal jurisdiction, nor can it proceed autonomously in international relations.⁴ Sovereign States are equal and, according to the tenet of canon law, equals do not have authority over one another (*par in parem non habet imperium*). A State may only be obligated due to its consent, which may be granted in treaty-law or customary international law.⁵

1. The national airspace of the sovereign State

The first and simultaneously the most important article of the Chicago Convention (hereinafter: Convention) provides that the contracting States recognise that every State has *complete and exclusive sovereignty* over the airspace above its territory (Article 1). Since the airspace always shares the legal destiny of the territory beneath, we need to distinguish between:

- *national airspace* above the territory of the State subject to the complete and exclusive sovereignty of the State; and
- *international airspace* not located above the territory of a State, thus it is beyond the boundaries of State sovereignty.

Completeness and exclusivity imply that the airspace of the sovereign State is, in legal terms (*de jure*), regarded as a detached territory, where the aircraft of other countries may not enter arbitrarily. The sovereign State may neither be constrained from outside, nor may its territory be occupied. According to the tenet pronounced in the case *Island of Palmas case* (1928): “Sovereignty in the relations among States denotes

³ Valki L., Az állam szuverenitása, (The Sovereignty of the State), in Kende T., Nagy B., Sonnevend P. and Valki L. (eds), *Nemzetközi jog, (International Law)*, (Wolters Kluwer, Budapest, 2018) 94–98.

⁴ International law takes only one circumstance into consideration, namely, whether a State proceeds autonomously in its international relations or it does not. No forum exists in the world which could examine whether a State is or is not actually sovereign. The United Nations may not play such a role either. Each State makes a decision by virtue of itself whether it intends to enter into relations with a formation declaring itself a sovereign State. Valki L., Az Európai Unióhoz csatlakozó Magyarország szuverenitása, (The Sovereignty of Hungary Acceding to the European Union), (1999) 44 (8) *Magyar Tudomány*, 1000–1007.

⁵ Nagy B., *Az abszolútum vágyáról és a tünékeny szuverenitásról, (On the Desire for the Absolute and the Transitoriness of Sovereignty)*, (Budapest, 1996) 18.

independence. Independence with respect to a part of the Globe is the right to exercise therein, with the exclusion of any other State, the functions of a State.⁶ However, the sovereignty of the sovereign State proceeding as an autonomous and independent legal entity in international relations may not be considered absolute, since the States, by entering into international obligations, may be restricted in their authorisation. Thus, in the event of fulfilling the conditions and obligations assumed under international treaties, it is practicable for the States to open their national airspace above their territories and to permit the entrance of the aircraft of other States with the application of the basic principles of mutuality and reciprocity.

In the most important provision of the Convention, the lawmaker recognises the complete and exclusive sovereignty in their airspace for all States, not only for the contracting States. The difference between “State” and “contracting State” has faded by our days, since almost all – specifically 192 – States are members of the ICAO.⁷ In the beginning, however, the distinction had great significance. Namely, in 1947, the ICAO had merely 26 Member States; nowadays, when the lawmaker mentions the rights and obligations of the “States”, it has in mind every sovereign State all over the world (disregarding membership).

Nevertheless, it is possible to fly into or overflying the national airspace despite its closure and to land in the territory of the sovereign State. In that case, the aircraft of the other State needs to comply with the conditions assumed under the Convention for *non-scheduled flights* while, in the case of (commercial) *scheduled flights*, besides compliance with the conditions under the Convention, the permission or authorisation of the foreign State also needs to be obtained (Articles 4–5).

2. The horizontal boundary of national airspace

Since the legal status of the airspace above the territory of the State is determined by the legal status of the territory beneath, the airspace above the mainland of the State, or, in the case of countries with coasts, the airspace above “adjacent territorial waters” constitutes the territory of the State.⁸ Horizontally, state sovereignty extends to the boundary of the mainland, but if the country possesses seas, it extends to the boundary of territorial seas.

⁶ *Island of Palmas case. Reports of International Arbitral Awards RSA*, Vol. II., 4 April 1928. 838.

⁷ The 191st Member State acceding to the ICAO was South-Sudan on 11 October 2011, which had become independent on 9 July 2011. The fourth smallest State of the world, Tuvalu (Polynesia) situated on 26 sq.km joined the membership on 18 November 2017 as the 192nd Member State of the ICAO.

⁸ The logic of air law considerably resembles that of maritime regulations. From the outset, we may assert that similarly, to the principle of Roman law “the thing built on the land goes with the land” (*aedificium solo cedit*), the legal status of the airspace is therefore determined by the status of the territory beneath. Kovács P., *Nemzetközi közjog, (International Public Law)*, (Osiris, Budapest, 2016) Point 1378.

Territorial seas and *internal waters* (national waters) constitute parts of the territory of the State. The water, the depth (seabed) and the airspace of these territories are subject to the sovereignty of the State, i.e., they qualify as state territories. Pursuant to the UN Convention on the Law of the Sea (UNCLOS),⁹ territorial seas reach out to at most 12 nautical miles¹⁰ from the coast. In the national airspace above territorial seas, aircraft are not authorised to pass peacefully, that is, they may not fly freely in that airspace without special permission. Innocent (peaceful) passage is an institution of maritime law, which is due to commercial and warships on territorial seas.¹¹

The boundaries of jurisdictional waters and the airspace above can be demarcated by the precise determination of the baseline of the territorial sea. Due to the unique location of islands, the precise demarcation of 12 nautical miles is sometimes problematic in practice.¹² Aircraft pilots need to take the 12 nautical miles seriously since the right of States to defend their territory prevails entirely in this respect. With regard to the fact that this part is the closest to the mainland, in the event of minor carelessness or a wilful act, a controversial incident or conflict related to the defence of the territory may develop.¹³

High seas (international waters) do not constitute part of the territory of the State. High seas constitute areas to be freely used by all for peaceful purposes (*res communis omnium usus*); they may not be appropriated or occupied, therefore no State may extend its territorial jurisdiction thereto. The legal status of the high seas in this context is identical to that of, outer space. The high seas are open to all States, whether coastal or landlocked. This entails, inter alia, both for coastal States and landlocked States:

- a) freedom of navigation;
- b) freedom of fishing;
- c) freedom to lay submarine cables and pipelines;

⁹ The codification of the entirety of maritime law ensued in Geneva between 1958 and 1982 under the auspices of the UN. The codification of maritime law encompassed its entirety and so, the destiny of the high seas was settled. In 1982 at the Conference of the UN on the Law of the Sea held in Montego Bay (Jamaica), the States adopted the Convention on the Law of the Sea, which contained the comprehensive regulation of maritime law and took effect on 16 November 1994.

¹⁰ One nautical mile is 1,852.2 metres long, that is, 12 nautical miles equal 22.2 kilometres.

¹¹ The passage of ships is considered peaceful as long as the security and the order of the coastal State is not disturbed, and it is in accordance with the basic principles of international law. On the contrary, the passage is not peaceful if, during the passage, fighter planes take off from and land on an aircraft carrier.

¹² Geneva Convention of 29 April 1958 on the Territorial Sea and the Contiguous Zone (1958) – Limits of Territorial Sea. Articles 3–4, Section II.

¹³ For example, a Soviet MIG–19 fighter plane unlawfully shot down an American reconnaissance aircraft, a Boeing RB–47H Stratojet completing a routine flight over international waters in international airspace flying at a distance of 50 miles from the Soviet coast on 1 July 1960, since they believed the scouting plane “was staying close”. *National Museum of US Air Force: RB–47H Stratojet Shot Down* (posted 2006), <https://www.nationalmuseum.af.mil/Visit/Museum-Exhibits/Fact-Sheets/Display/Article/197621/rb-47h-shot-down/> (Last accessed: 31 December 2018).

d) freedom to construct artificial islands and other installations permitted under international law;

e) freedom of scientific research;

f) freedom of overflight above the high seas.¹⁴

Pursuant to the Convention on the Law of the Sea, the high seas include neither the adjacent waters measured from the end of territorial waters with a width of 12 nautical miles, nor the exclusive economic zone of a range of 176 nautical miles.¹⁵ These zones are not considered national territories, but the coastal States may exercise enforcement rights and pursue economic activities in these zones within a regulated framework. Consequently, the high seas stretch beyond 200 nautical miles measured from the coast. From the viewpoint of air law, however, the territory beyond the territorial sea regarded as state territory qualifies as high seas since it is entirely free to fly over, and manoeuvre in the adjacent area and the exclusive economic zone.

It is the elementary interest of each country that international connections are secured above the high seas in the international airspace. During their flight, the civil or state aircraft operating above the high seas may not breach the territorial sovereignty of other States by any chance. Namely, the countries with territorial seas are not deprived of their defence weapons; they are entitled to use them.

On 1 April 2001, a Lockheed EP-3E (Aries II) electronic scouting plane from the American Navy collided with a Shenyang J-8II interceptor made in China, as a consequence of which the Chinese aircraft fell into the sea and the pilot lost his life. The grave accident could ensue because the Chinese pilot of the fighter plane approached the scouting plane dangerously with a peculiarly construed interception, by “chasing away” in a so-called “Top Gun style” (within 3 metres, even showing his e-mail address on a piece of paper). The unarmed scouting plane, which was hard to manoeuvre, became caught with the fighter plane of the Chinese pilot, which crashed, whereas the four-engined American military airplane made a forced emergency landing at a military airfield on Chinese Hainan Island. The case occurred to the south of Hainan Island, at 65 nautical miles measured from the coastline, in international airspace.¹⁶

The Chinese government in its diplomatic memorandum made immediate reference to an intrusion into the Chinese airspace without permission. It found two legal grounds for the allegation that the territorial sovereignty of China had been violated by the American military plane.

¹⁴ *The Law of the Sea Convention* (1982), Chapter VII. High Seas. Part I. Article 87.

¹⁵ *Ibid.* “the coastal State shall make payments or contributions in kind in respect of the exploitation of the non-living resources of the continental shelf beyond 200 nautical miles from the baselines, from which the breadth of the territorial sea is measured.” Article 82.

¹⁶ *CRS Report for Congress, China–US Aircraft Collision Incident of April 2001: Assessments and Policy Implications*, Order Code RL30946, 10 October 2001. 1–21.

– In its justification the Chinese government stated that it recognises Spratly and Paracel Islands in the South China Sea as its own territory; therefore, the boundary 12 nautical miles away needs to be measured from these islands, and so the American military plane had breached Chinese national airspace.

However, the legal fate of the above-mentioned islands is dubious, since the right of control over the mostly uninhabited islands with exploitable mineral resources and an abundant stock of fish had been disputed for a long time by several states in the region (Taiwan, Vietnam, the Philippines and Malaysia). Therefore, China could not enforce its territorial sovereignty officially.¹⁷

– Furthermore, in its justification, the Chinese government also highlighted that its right of control over its national airspace extends to the boundary of the exclusive economic zone ranging 200 nautical miles measured from the mainland, which is recognised as the maritime territory of the State under the UN Convention of the Law of the Sea (1982).

However, the Chinese government had not declared the unilateral establishment of its air defence identification zone before the incident; this was absent until 2013. Thus, in the absence of the Chinese ADIZ zone, the Convention on the Law of the Sea had to be interpreted, according to which, in the exclusive economic zone, the coastal State is authorised for the exploitation of the natural wealth of the seabed and for the right to fish there, but not for the domination of the airspace. This zone, with a width of 200 nautical miles, consists of the territorial sea of 12 nautical miles qualifying as State territory and 188 miles of sea not qualifying as State territory, over which, since its airspace is international, all parties can freely pass. It is notable that the US, although it is one of the greatest maritime powers, is not a party to the Convention on the Law of the Sea. It merely undertook the obligation to observe its prescriptions while adapting to international customary law.¹⁸

¹⁷ On 26 May 2015, the Chinese government issued its strategic White Book, in which it stated that it prioritised defence on the high seas instead of territorial seas. In this material, China emphasised that “from the viewpoint of sovereignty Chinese developments and constructions on its islands do not differ from the constructions in the internal areas of the country”; furthermore, it pointed out that “interference with affairs related to the southern seas by external parties qualifies as being provocative”. The fate of the islands is a source of grave tension in the region; in addition, China commenced large-scale construction and the establishment of a new airfield on the disputed Spratly Islands. In May 2015, the patrol flight of the American navy with a CNN crew on board flew over the construction, while the Chinese party several times demanded the airplane “injuring” the airspace to leave. Zord G. L., A nyílt tengeren is tényező lett Kína, (China Has Become a Factor Also on the High Seas), (2015) (122) *Magyar Nemzet*, 16.; China’s Military Strategy. Xinhua, 26 May 2015, www.china.org.cn/china/2015-05/26/content_35661433 (Last accessed: 31 December 2018).

¹⁸ J. L. Malone, The United States and the Law of the Sea after UNCLOS III, (1983) 46 (2) *Law and Contemporary Problems*, 29–36. <https://doi.org/10.2307/1191507>

After landing, the American airplane was “tampered with”, to use the words of President George W. Bush.¹⁹ The Chinese did so despite the rule that they were not authorised to enter the American military aircraft, because during peacetime its interior is regarded as flying State territory, hence it is subject to American jurisdiction. However, the basic rules of international law do not always have adherents. Therefore, despite no training on what to do in such an eventuality, the 23 crew members attempted to destroy or disable everything of military value during the forced landing, so that they did not fall into unauthorised hands. The airplane was inspected with meticulous care by the Chinese, who later returned the military plane with some parts missing, thereby breaching international law. The detained crew, in compliance with the prescriptions of international law, was released.

3. The vertical boundary of national airspace

The “theoretical” demarcation of the geographical boundary between the national airspace and outer space has significance. In legal terms this boundary demarcates the vertical range of the sovereign power of the State. Thus, the national airspace is not infinite; the point where it ends is the beginning of outer space. However, the legal fate of the two spaces differs. While national airspace is under the jurisdiction of the State, outer space can freely be utilised by all; here state sovereignty does not prevail. Consequently, each member of the international community may equally use outer space for peaceful purposes, whereas no State may demand the occupation or possession of such a territory or region. Therefore, from a legal point of view, it is essential where the jurisdictional boundary between the national airspace and outer space is established.

The demarcation has special literature as large as a library. Gyula Gál (1926–2012) space lawyer, makes 49 recommendations for demarcation in his book published in 1969,²⁰ some of which are noteworthy in this respect. According to the *theory of gravity*, the upper limit of the sovereign power of the State can be delineated at the altitude from where objects launched from the Earth still drop back. According to the *atmosphere theory*, the outer space begins where the mass of air surrounding the Earth ends, whereas *the aerodynamic concept* claims the outer space begins where the machine’s lift is not sufficient to hold the aircraft in the air. The *biological theory* holds that the airspace ranges to the point where man is capable of sojourning in the air without the help of technical devices, whereas the *rotational theory* maintains that the airspace ranges to the point where gravitation and centrifugal forces counter-balance each other. According to the *theory of the security of the state*, the boundary needs to be

¹⁹ M. Kukis and K. Arms, Bush to China: Return Plane, Crew, (2 April 2001) *United Press International*.

²⁰ G. Gál, *Space Law*, (Oceana Publication, Leiden and Budapest, 1969) 59–116.

established where the defence and security of the nation can still be guaranteed in the airspace by the State. It is likely that the *functionalist theory* is the most welcomed, and practice is increasingly following this. The adherents of the functionalist demarcation do not accept that the State has the power to determine the upper limit of its airspace unilaterally,²¹ because they believe that the boundary cannot be calculated in altitude, but the demarcation derives from the character of the activity; that is, outer space begins at the point where orbiting movement takes place. Accordingly, aviation in the airspace becomes outer space activity when the objective is to place a given object (device) in orbit or its orbit injection beyond, the movement of the object there or its deorbiting, furthermore, the landing, staying of the object on alien planets or its return from there.

Andrew G. Haley (1904–1966), an American lawyer and outer space specialist, deserves credit for the most widespread theory on the vertical demarcation of the boundary between national airspace and the outer space. It was he who delineated the boundary of jurisdiction at an altitude of 83 km (275,000 feet), which he designated as “the Kármán primary jurisdictional line”. Namely, Theodore von Kármán,²² a Hungarian scientist, had calculated the altitude at which the aircraft needs to fly more speedily than the cosmic speed to be held at the given altitude by aerodynamic lift.²³ According to von Kármán, the jurisdictional boundary between aerodynamics and astronautics stretches at an altitude between 80 and 100 km depending on the varying natural and atmospheric conditions; nevertheless, he wisely added: “I am convinced that this tough legal issue will not be solved during my lifetime”. The problem of demarcation, still open today, needs to be resolved unambiguously sooner or later by mankind, while increasingly higher degrees of technical development are being achieved.

Today, some outer space powers generally demarcate the boundary between 100 and 110 km unilaterally. On 14 April 1983, the Soviets recommended, in a memorandum addressed to the UN, establishing the boundary between national

²¹ N. Q. Dinh, *Droit International Public*, (Pellet, Paris, 1999) 359.

²² Theodore von Kármán (1881–1963) was a mechanical engineer, physicist and a scientist of applied mathematics. He was called the “patron saint” of the US Air Force (USAF). He is the father of supersonic aviation and a pioneer of missile technology and hypersonic astronautics. Via the construction of wind-tunnels he discovered the significance of streamlining and revealed the regularities of special forces, eddies and currents (see, the Kármán’s vortex), which affect airplanes and other aerial moving objects. E. Lee, *The Wind and Beyond: Theodore von Karman, Pioneer in Aviation and Pathfinder in Space*, (Little, Brown and Company, Boston and Toronto, 1967).

²³ The spatial range of the Kármán-line is determined via the connection between altitude and speed. The higher the aircraft flies (feet $\times 10^3$), the higher its speed needs to be to stay aloft (feet $\times 10^3$ /sec.), since the lift decreases due to the increasingly thinner air. At a certain physical point, that is, at an altitude of about 92 km, but essentially anywhere in the range between 80 and 100 km, lift suddenly ceases to exist and the aircraft is unable to stay in the air any longer. Obviously, this is merely a theoretical approach, since modern airplanes flying at a cruising altitude of an average of 11 km are incapable of reaching this boundary or the necessary speed. Sipos A., *A Nemzetközi Polgári Repülés Joga, (The Law of International Civil Aviation)*, (ELTE Eötvös Kiadó, Budapest, 2018) 59.

airspace and outer space at an altitude not exceeding 110 km above sea level under an agreement among the States.²⁴ The Australian government established this boundary at an altitude of 100 km above sea level under national law regulating space activity.²⁵ Although several developed States successfully pursuing space activity have national law pertaining to space research, it was only the Australians that declared how high their national airspace ranges vertically. At the same time, we need to note and emphasise that international treaties adopted by the international community do not contain universal rules or provisions to separate national airspace from outer space vertically.²⁶

II. INTERNATIONAL AIRSPACE

In the international airspace, state sovereignty does not prevail, this airspace is not subject to the chain of state sovereignties. Above the high seas and the South Pole (the Antarctica)²⁷ international airspace stretches. Its legal status is identical to that of outer space, since above both territories the airspace can be used by all, therefore, by staying in the international airspace above the high seas and the South Pole, “we are in outer space,” emphatically and solely with respect to their legal status and free use.

In consideration of the fact that the high seas are not subject to the territorial sovereignty of the States, and as a consequence, the airspace above them is international, the question arises as to who supervises order in the largest freely utilisable airspace in the world. In the international airspace above the high seas, the aviation rules formulated by the ICAO have to be complied with according to the Annexes to the Convention,²⁸ since, over the high seas, the rules in force shall be those established from time to time under the Convention (Article 12). During operation the old basic Roman principle should prevail: use your property in such a way that you do not injure other people’s property (*sic utere tuo ut alienum non laedas*).

²⁴ *UN Chronicle*, 21 (4), 1984. 37.

²⁵ *Australian Space Activities Act of 1998*, Section 8.

²⁶ We need to mention the official standpoint of the International Aeronautic Federation (FAI) as an example. The more than 100 Member States of the Federation have adopted the boundary of 100 km in the area of sports flights, but this in itself does not imply an internationally acknowledged prescription or obligation. *FAI Sporting Code. General Section. Classes and Definitions*. January 2017. 2–3.

²⁷ The South Pole (Antarctica) is an extraordinarily important area from strategic, economic and scientific points of view. The international legal relations of the sole perpetually uninhabited continent of the Earth covered by ice are regulated under the Antarctica Treaty (1959). Under the Treaty, which is essentially an international agreement establishing the status of the continent under public law, only 7 States of the parties to the Treaty renounced demands for national ownership provisionally. Sipos A., Az emberiség hódítása a világűrben, (The Conquest of Outer Space by Mankind), in Frey S. (ed.), *Űrtan Évkönyv 68, (Space Studies Almanac 68)*, (Magyar Asztronautikai Társaság, Budapest, 2017) 78–79.

²⁸ Annex 2 on Rules of the Air; Annex 6 on Operations of Aircraft; Annex 11 on Air Traffic Services and Annex 12 on Search and Rescue contain standards and rules for flight above the high seas.

At the same time, the ICAO does not have authorisation for enforcement; therefore, the observance of aviation rules prescribed by the ICAO with respect to aircraft flying over the high seas shall be required by the country where the aircraft was registered. Air navigation control and information services, as well as search and rescue operations, have to be discharged by the States with coast on the basis of the mandate granted by the ICAO Council. However, this does not mean that, in the air traffic zones above the high seas, the sovereignty of these States predominates. Over the high seas the rules of air traffic, safety, security, search and rescue are stipulated by international treaties concluded by the States.

III. CONTROLLED AND UNCONTROLLED NATIONAL AIRSPACES

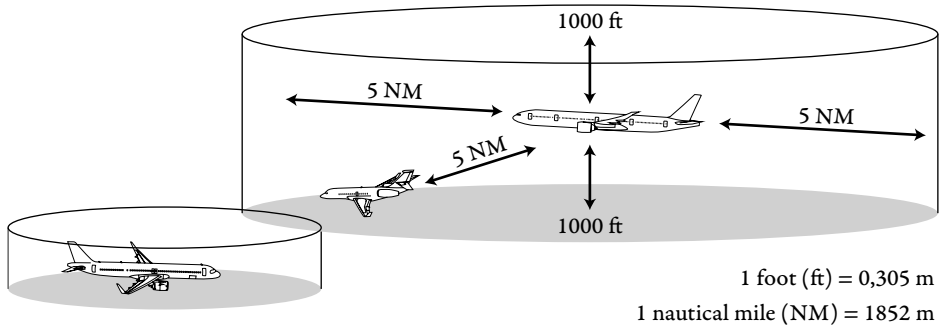
The airspace used in air transport can be uniformly divided into *controlled* and *uncontrolled* airspaces. Uncontrolled airspace means the whole airspace of air traffic which is beyond controlled airspace. If possible, exclusively wide-bodied aircraft engaged in international commerce travel in controlled airspace, whereas narrow-bodied aircraft and private airplanes, (we may think mainly of balloons, gliders and one- or two-engined aircraft) fly in uncontrolled airspace. The two different types of airspace are entirely dissimilar in their operation. In controlled airspace, an air navigation service operates, which, by giving guidance to traffic participating in the airspace, guarantees safe separation and operation. For that purpose, it is obligatory to use bilateral radio communication and the on-board signalling device. In uncontrolled airspace, however, no air navigation service operates, merely an aviation information service. Proceeding from this, the aviation information service is not responsible for separation in uncontrolled airspace but, by utilising its assistance and information, all pilots flying an aircraft travel while relying on their own responsibility and secure separation from the relevant traffic. In this airspace, bilateral radio connection and the use of signalling devices is not obligatory. Without the use of these, aviation can be standard, but their use in the interest of the maintenance of flight safety is of high importance.

Controlled airspaces are demarcated along busier airports and air routes. In these airspaces various air navigation services discharge their tasks 24 hours a day, that is, in controlled airspaces traffic is under the supervision of air navigation service. The basis of safe air traffic accomplished in controlled airspaces consists in the separation rules applied by the air navigation services. The objective of separation is the prevention of collision between airborne or taxiing aircraft and obstacles on the surface. In other words, what guarantees the achievement of this objective is the production or maintenance of clearance (separation based on time or distance) between two or more air vehicles. The most important main rule of the task of navigation control is that

by the time one (any) of the applied forms of separation is harmed, another form of separation needs to be “produced”.

Separation may be on the one hand, geographical (two aircraft travel far from each other geographically, one for example in the airspace of Moscow, the other one above Budapest), on the other hand, vertical or horizontal.

Figure 1. The separation of aircraft in controlled airspace



The basis of *vertical separation* is the determination of the required vertical distance between two aircraft so that they carry out safe flights. This is rendered by the vertical separation minimum (VSM), which compared to a definite reference basis (according to the measurement of the pressure altitude) is a nominal 1,000 feet (304.8 metres) under an 8.8 km level of flight and 2,000 feet (609.6 metres) at and above an 8.8 km level of flight. As a result of the development of technical conditions (the intense improvement of the precision of altitude measurement devices and their on-board application), as well as the rapid growth of the volume of air transport, the reduced vertical separation minimum (RVSM) was introduced, according to which, by the determination of 6 new altitudes, a further increase in airspace capacity of 20 per cent was attainable. Aircraft with suitable autopilot systems and altitude measurement devices, as well as appropriate authority certificates, may travel in higher airspaces between flight levels of 29,000 feet (8.8 km) and 41,000 feet (12.5 km) with a vertical separation of 1,000 feet (304.8 metres), which enhances the intensity of the flow of air traffic. The determined, obligatorily supervised flight altitudes permitted for aircraft are mandatory altitude levels, reference values provided to pilots, which have a certain degree of tolerance (e.g., in the case of VSM 300 feet (± 91 metres), while in the case of RVSM 200 feet (± 61 metres) diversion is permitted for aircraft as altitude tolerance limits.).

In the case of *horizontal separation*, we distinguish lateral, longitudinal and radar-based separations, for the implementation of which navigation services take distance, time and vector coordinates into consideration. Turbulence separation implies

a peculiar category of separation, which determines certain separation minimums on the basis of the turbulence created by aircraft.

1. Restriction of national airspace

Each contracting State may, for reasons of military necessity or public safety, *restrict* or *prohibit* uniformly the aircraft of other States from flying over certain areas of its territory provided that no distinction in this respect is made between the aircraft of the State whose territory is involved, engaged in international scheduled airline services and the aircraft of the other contracting States likewise engaged [Article 9. *a*)]. It is an assignment of the State to designate the airspace for the purpose of air transport. National airspace means the airspace designated for air transport over the territory demarcated by the state border. This is divided into airspace for air transport with determined range and into special airspace, which can be restricted or temporarily restricted, dangerous and prohibited airspaces.

– Flight in the *restricted airspace* may be carried out only with the permission of the aviation authority, with the exception of special aerial search and rescue flights, ambulance flights, and flights directed at policing or prosecution as well as real air defence flights. Such restricted airspaces may be determined with regard to environmental protection and nature conservation in the interest of protected and specially protected species of birds and of birds with significance for the community.

– Flight in the *temporarily restricted airspace* is very hazardous, because therein military (state) aircraft are engaged in activities which may pose a threat to aircraft not engaged in the activity. Therefore, during the announced operation hours, flight into such airspace is admissible solely with the permission of the concerned services.

– Flight in *dangerous airspace* (above artillery and infantry shooting ranges) implies great risk, because activities posing a concrete threat to aircraft take place. During the announced operating hours, flights by aircraft engaged in the activity carried out in the dangerous airspace are admissible according to the rules stipulated under statute with the permission of the service concerned. During that time, other flights may not be carried out in or through the dangerous airspace.

– In *prohibited airspace* the activity of air transport is prohibited. These are generally designated above nuclear power plants, special objects, industrial facilities and research centres. Descriptions of such prohibited areas in the territory of a contracting State, as well as any subsequent alterations to them, shall be communicated as soon as possible to other contracting States and to the ICAO [Article 9. *a*)].

The restriction or prohibition of aviation in the national airspace pertains to the aircraft of all States. The restriction of aviation may not target or discriminate against the aircraft of another State, thus, the parties may not distinguish between their own

aircraft engaged in international services and the aircraft of other contracting States likewise engaged. For example, they may not close down part of the airspace for the mere purpose of coercing an aircraft to spend a longer time in the airspace of the given State and thereby pay a higher charge for route use.²⁹ It is not admissible either that, in the actually lawfully closed down airspace, the aircraft of the cordial state receives privileges, thus, in an unauthorised manner, although in possession of a permit, it flies in a closed airspace, thereby, as opposed to the aircraft of other States, it travels on a shorter route more rapidly and economically.

Each contracting State also reserves the right, in exceptional circumstances or during a period of emergency, or in the interest of public safety, and with immediate effect, to *restrict* or *prohibit* temporarily flying over the whole or any part of its territory (territorial waters) on condition that such a restriction or prohibition shall be applicable without distinction of nationality to aircraft of all other States [Article 9. *b*]).

A relevant example was the activity of Eyjafjallajökull, an Icelandic volcano, which created an exceptional circumstance in civil aviation in April 2010. As a consequence of the eruption, due to the volcanic ash reaching a large part of Europe, the majority of European countries prohibited traffic in their national airspace with immediate effect with a view to the maintenance of safety. The cause of the prohibition was that the smooth volcanic ash contains tiny glass granules, which rapidly erode and block the driving mechanism and other important devices of the aircraft. During the embargo of six days the flights of at least 10 million people were frustrated and more than 100,000 flights were cancelled.³⁰

In a temporarily restricted airspace, for example, for the purpose of securing military drilling flights, the airspace is closed down only up to a definite altitude, but over this airspace civil aircraft may travel freely. However, some airlines, according to their internal operation rules, do not fly above such airspaces; they opt for longer routes instead, because they do not wish to expose their passengers to higher risk.

The airplane with flight number 17 and registration number 9M-RMD of Malaysian Airlines (MH) on its route from Amsterdam (AMS) to Kuala Lumpur (KUL) crashed due to a missile hit above Ukraine, 50 km from the Russian border on 17 July 2014. All 298 persons on board the airplane lost their lives. The perpetrators, who used an anti-aircraft missile against a civil flight, broke the most important basic

²⁹ Air navigation charges have to be paid by all the operators of the aircraft who utilise the services of the air navigation organisation operating in the given airspace. The three groups of charges generated by air navigation services are route use, terminal navigation and communication charges. The charge of route use equals the multiplication of the mass factor of the airplane, the distance factor and the unit charge. Essentially, the further the aircraft travels in the national airspace, the more the body of the aircraft maximally weighs multiplied by the unit charge, the more is paid for the service. EUROCONTROL Central Route Charges Office (CRCO).

³⁰ G. Bisignani, The Eruption of Eyjafjallajökull Was a Wake-up Call for Change, (1 June 2010) *Airlines International, LATA Magazine*.

norms of international law. The aircraft was flying over restricted airspace at an altitude of 10 km. In the spring of 2014, the ICAO, in a letter sent to Member States and the United States Federal Aviation Administration (FAA), had drawn attention to the fact that a specific Eastern part of Ukrainian airspace, due to the evolving conflict, was not safe.³¹ As a consequence, the airlines of several countries avoided that airspace for reasons of safety. However, not all airlines followed through, because they wished to take advantage of the shorter route and the airspace at that altitude was still open. The representatives of Malaysia, Australia and the European countries at the 39th Assembly of the ICAO (2016) jointly initiated the formation of a system supporting the avoidance of conflict-burdened zones, in which the operators and the air navigation service providers can share their experiences of implemented flights in due time with pilots and other participants travelling in the given region.³²

2. The interception of a civil aircraft in the national airspace

Each contracting State, under such regulations as it may prescribe, may require any aircraft entering the areas to effect a landing as soon as practicable thereafter at some designated airport within its territory [Article 9. c)]. In the national airspace above the country in the interest of public order, public safety and the defence of the security of the nation, any aircraft may be held up and in certain cases may be summoned to land for the purpose of identification. If the pilot of the aircraft fails to identify themselves, they may be intercepted for that purpose. After identification, the pilot may continue their journey or may be requested to leave the airspace or to land at a specified airport for further examination. The pilot may be forced to land only in an exceptional case, because it is a main rule that civil aircraft may be intercepted only at the very worst. The aircraft concerned has to follow the warning or signal for landing without delay. The pilot of the aircraft breaching the rules has international liability, and in a severe case may expect sanctions under criminal law. Nevertheless, the use of weapons must be avoided against the civil aircraft in-flight not obeying the warning. Likewise, the application of tracer bullets shots for the purpose of calling attention should also be avoided, since it may jeopardise the safety of the persons on board or of the aircraft. The commander of the intercepted civil aircraft is obliged to implement the instructions of the proceeding military organisation and the pilot of the state aircraft related to identification, hold-up or landing. The necessary instructions and measures for the civil aircraft need to be issued primarily via the air navigation units concerned. Beyond this, the commander of the intercepted civil aircraft is obliged to attempt to engage in wireless connection with

³¹ FAA NOTAM – *Airspace Special Notice Ukraine*, FDC 4/7667 (A0012/14), 23 April 2014.

³² ICAO Assembly, 39th Session Working Paper, A39-WP/108TE/32, 19/8/2016.

the intercepting state aircraft or with the concerned unit directing the interception via a general call on the emergency frequency at 121.500 MHz.³³

If the air navigation service discovers that the aircraft is flying in the serviced airspace by breaching the rules, the civil and military air traffic controllers in cooperation intervene and enforce coercive measures. The air navigation service establishes a connection at the available frequencies. The pilot of the intercepting military airplane communicates the measures to be enforced to the pilot of the intercepted aircraft. The other fighter plane performing covering flies behind the intercepted aircraft, since the pilot needs to react immediately to the contingent activity of attack or escape by the intercepted plane. In this way, it covers the safe implementation of the interception and the leading airplane performing the identification. The distance between the leading airplane and the intercepted aircraft is 300 metres. In this first phase, the leading fighter plane approaches the intercepted plane so that its pilot may clearly see the closing up fighter plane, generally on the left, somewhat above at a distance of 300 metres sideways.

Each contracting State is obliged, in compliance with international law and ICAO standards to elaborate the detailed measures and procedures for the implementation of interception in its national airspace. These rules have to be unified at an international level so that interception may take place anywhere in the world (and it occurs quite frequently); it also has to be controlled by civil and military parties in a harmonised and foreseeably safe manner.

3. Communication in the airspaces

In international aviation, during air navigation control verbal communication takes place “in the world-language of aviation”, in English all over the world. When, at the dawn of aviation, a choice needed to be made, the English language was predominant, since English-speakers were the most common in the civil aviation industry (obviously it was impossible on a flight from Amsterdam (AMS) to Jakarta (CGK) to speak to every air navigation controller in their own language). In the 1950s, English became entirely accepted internationally in spite of the fact that this practice has not been regulated officially under an international treaty until this day. Moreover, the official languages of the United Nations and the ICAO itself, as a specialised agency of the UN, are English, French, Spanish, Russian, Arabic and Chinese.³⁴ This means that all of them are the official languages of civil aviation, but they were not adopted at

³³ The Commission Implementing Regulations (EU) No 923/2012 – laying down the common rules of the air and operational provisions regarding services and procedures in air navigation. L 281/1, 13.10.2012.

³⁴ The original Chicago Convention was drawn up in English. At the same time, the equally authentic versions in English, French and Spanish were opened for signature in Washington D.C. Chicago Convention, Chapter XXII, Signature of Convention.

the same time,³⁵ and, as safety is the most important priority, the requirement of the communication of information in one language has predominated, so the English language has become prevalent. As of today, owing to local dialects, multiplicities of versions of English are differentiated, which entails further risks.³⁶ Therefore, all pilots and air traffic controllers need to have basic English communicational skills and they need to be familiar with the professional vocabulary of aviation, both in their own language and in English.

The pilots of aircraft, and the ground staff use a peculiar language of aviation, the English “phony”, that is, the uniform English aviation language for communication during the implementation of the flight. The phony is vital in aviation. The introduction of phony was necessary because the standard expressions are short, which is required with respect to increasing traffic, in addition, the well-formulated messages present the information more precisely with the aim of excluding misunderstandings. Standard expressions reduce the risk of mixing up words with a similar pronunciation. The English phony is a descriptive language containing special expressions and formulation rules. The requirements are strict, because a considerable proportion of flying accidents proceed from the errors of the crew on board. Numerous incidents may be traced back unambiguously to their insufficient command of English. Therefore, while speaking on the wireless, if proper names, abbreviations or acronyms (registration sign, the ICAO-code of an airport, route points, the code for radio stations) with dubious spelling need to be spelt, communication has to take place according to the ICAO “alphabet.” It is very important to use the phony correctly, since the communicated information and instructions greatly contribute to the safe operation and efficient control of the aircraft.³⁷

³⁵ ICAO Doc 8876 International Conference on the Authentic Trilingual Text of the Convention on International Civil Aviation (1944); Protocol on the Authentic Trilingual text of the Convention on International Civil Aviation. Buenos Aires, September 1968; ICAO Doc 9208 Protocol Relating to an Amendment to the Convention on International Civil Aviation (Final Clause Russian Text); ICAO Doc 9664 Protocol Relating to an Amendment to the Convention on International Civil Aviation (Final Clause Arabic Text); ICAO Doc 9722 Protocol Relating to an Amendment to the Convention on International Civil Aviation (Final Clause Chinese Text).

³⁶ A. C. Boschen and R. K. Jones, Aviation Language Problem: Improving Pilot-Controller Communication. *Proceedings of 2004 international professional communication conference*, 29 September–October 2004, Minneapolis, USA. Piscataway: IEEE Press, (2004) 291–299., www.ieeexplore.ieee.org/abstract/document/1375313 (Last accessed: 31 December 2018).

³⁷ It is a matter of curiosity that originally for the communication of the letter F, the word Fox was used, while for the letter Q, the word Queen was used. However, at the initiation of the British government this rule was changed, because the expressions were rightfully considered to be offensive for the British Queen. Barati E., *A rádió-távbeszélő kifejezések szerepe a repülésbiztonságban, (The Role of Radio-Telecommunication Expressions in Flight Safety)*, Thesis. (The University of Nyíregyháza, Nyíregyháza, 2016) 16–21.

Table 1. The ICAO Phonetic Alphabet table

| | |
|--------------------|---------------------|
| A – Alfa | N – November |
| B – Bravo | O – Oscar |
| C – Charlie | P – Papa |
| D – Delta | Q – Quebec |
| E – Echo | R – Romeo |
| F – Foxtrot | S – Sierra |
| G – Golf | T – Tango |
| H – Hotel | U – Uniform |
| I – India | V – Victor |
| J – Juliett | W – Whiskey |
| K – Kilo | X – X-ray |
| L – Lima | Y – Yankee |
| M – Mike | Z – Zulu |

If the intercepted civil aircraft must land, the appointed airport needs to be suitable for the safe landing of the given type of aircraft. In the interest of the elimination or reduction of the dangers of interception, coordinated action between the pilots and the ground controlling units is necessary, furthermore, during the proceedings *vis-à-vis* the aircraft using the airspace illegally, the cooperation of civil air navigation and military services needs to be secured by all means.³⁸

In 1961 the Algerian war fought, for its independence from France, was approaching its end. The French established an identification and defence zone of 60 km measured from the Algerian coast and unilaterally declared that flying in the determined airspace was prohibited. On 9 February 1961, an IL-18 with the President (head of state) of the Soviet Union on board, on his way to Morocco, flew into the airspace unilaterally prohibited by the French. Immediately three Vautour fighter planes made in France flew onto the intercepted flight and established radio connection by signalling twice on the emergency frequency. In the meantime, one of the fighter planes shot tracer bullets in front of the civil airplane, thereby coercing it to leave the prohibited zone without delay.

In connection with the case, we may set forth as a fact that the Soviet airplane was flying above the high seas. All States are authorised to fly freely over the high seas, and this right may not be restricted by the States. The Convention stipulates that such prohibited areas shall be of reasonable extent and location so as not to interfere unnecessarily with air navigation [Article 9. a)]. The French made a mistake, not by

³⁸ In compliance with the international standard determined under Annex 2 to the Chicago Convention on Rules of the Air, the Member States need to elaborate in detail and implement the proceedings in their national law.

driving the airplane out from the prohibited zone designated by them unilaterally over the high seas, because thereby they protected the airplane, but they breached the law by interpreting the rules of interception peculiarly. As the Soviet leadership formulated to the French government in their letter of protest: “How long has it been customary law that the identification of the aircraft is paralleled by opening a broadside?”³⁹

IV. EXTENSION OF THE BOUNDARY OF THE NATIONAL AIRSPACE FOR THE PURPOSE OF IDENTIFICATION

It is reasonable to raise the issue of how coastal States can defend themselves *vis-à-vis* attacks approaching from the high seas. The latest versions of passenger or cargo airplanes with an average speed of 900 km/hour fly over the territorial waters with a width of 12 nautical miles in just 90 seconds. Obviously, in such cases there is insufficient time for actual and effective defence. Therefore, in the interest of the greatest defence of national airspaces, coastal States apply peculiar policing rights to flights in the international airspace.

Being the first as such in the world, the United States near the coasts of Alaska established its Air Defence Identification Zone (hereinafter: ADIZ zone) (with an extension of 380 nautical miles) after World War Two for reasons of national security with reference to the natural right of individual or collective self-defence.⁴⁰ The ADIZ is essentially a transitional zone, an extension of the boundary of the national airspace unilaterally by the State⁴¹ to 200 nautical miles measured from the coast, which is an intermediary institution on the boundary of the international and national airspace not prohibited by international law. The ADIZ zone is demarcated primarily on territories, where the extended water surface stretches close to the coast of the sovereign State. At the same time, it is necessary to emphasise that the State does not intervene in the airspace above the high seas concerned with a claim for sovereignty; it merely demands the right of observation and identification.⁴² The exercise of the particular right of control in ADIZ zones, beyond the aspects of national defence, increases the transparency of the airspace, thereby decreasing the possibility of collision in the air. Furthermore, it may support search and rescue, while it renders air traffic in the airspace

³⁹ Plane Attack Shocks Moscow, (10 February 1961) *Miami News*, 1.; French Try to Shoot the Red Angel, (11 February 1961) *Miami News*, 1.

⁴⁰ United Nations Charter, Article 51.

⁴¹ In its general character the unilateral legal act by the State is a declaration of intent, which aims to give rise to legal effect on an international basis. The legal binding force of the unilateral act is based on the principle of good faith and the according purpose of the State prescribing it, as long as it is issued clearly and intelligibly.

⁴² R. J. Butler, *Sovereignty and Protective Zones in Space and Appropriate Command and Control of Assets*, Research Report, AU/ACSC/034/2001-04, 2001. 15. <https://doi.org/10.21236/ADA407102>

of the high seas strategically more predictable and foreseeable. No international convention has been drafted for the air defence identification zones. Thus, the pertinent rules are unilaterally established by the States with adherence to the relevant domestic and international norms.

At the same time the question arises: to what extent is the identification zone of national air defence established by the unilateral act of the nation compliant with international law and lawful as to free flight over the high seas? The international legal basis of the extension is that the State, on the grounds of aviation security and self-defence, is authorised to prescribe obligations unilaterally *vis-à-vis* the aircraft entering its national airspace. This requirement prescribes the obligation of identification for the pilot of the aircraft upon entering the ADIZ zone. At the same time, the extension does not have a legal basis if the pilot of the aircraft does not intend to fly into the national airspace, fly over the territory of the State or land on it. In this case, the pilot is not obliged to follow the rules, since only those, who intend to fly into the national airspace need to observe them.⁴³

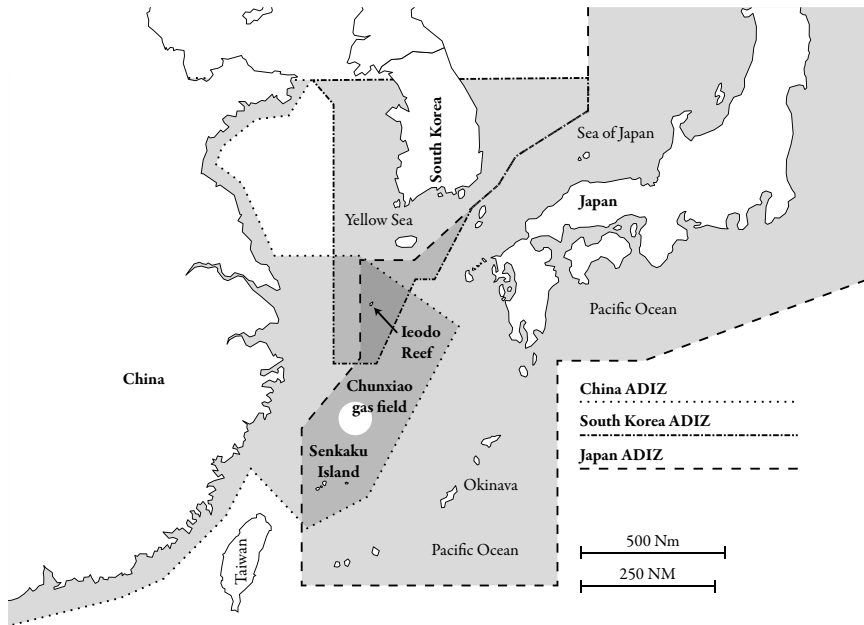
The legitimacy of ADIZ identification zones was particularly justified by the tragic terrorist attacks of 11 September 2001 carried out by civil airplanes against the United States. The flights operated in domestic traffic, in the national airspace and did not arrive from the high seas. Nevertheless, because of the method of commission, the tragic event had direct effect on the process of the world-scale formation of ADIZ zones. As a consequence of the terrorist attack committed in times of peace, causing the death of 2,977 and later of even more innocent people, the United States prescribe far stricter identification rules than the above for all aircraft entering and flying in its ADIZ zone. In the zone of 200 miles measured from the coastline of the United States (which ranges to 400 miles off the coast of California) only and exclusively those civil aircraft which have identified themselves according to the rule irrespective of whether their destination (the location of the agreed stopping place or the place of destination) is in the territory of the United States or in another country may fly.

According to different requirements, guided by national interests, an increasing number of countries have established their own air defence identification zones.⁴⁴ As the map illustrates, the Chinese and Japanese ADIZ zones above the Senkaku Islands and the Chunxiao Gas Field, supplemented by the ADIZ zone of South-Korea at the Jeodo bottom-rock overlap one another. This division can be traced back unequivocally to the territorial conflicts in the region between the countries.

⁴³ M. N. Schmitt, Air Law and Military Operations, in T. D. Gill and D. Fleck (eds), *The Handbook on the International Law of Military Operations*, (Oxford University Press, New York, 2010) 307.

⁴⁴ ADIZ (Air Defence Identification Zone) zones have been demarcated among others by China, Taiwan, Russia, Canada, India, Pakistan, Japan, Vietnam, South Korea, North Korea, Sweden, Norway and Great Britain.

Figure 2. The ADIZ zones of China, South-Korea and Japan



V. NON-SCHEDULED AND SCHEDULED FLIGHTS IN NATIONAL AIRSPACE

The international character of aviation proceeds from its nature of traversing borders. From the title of the Convention, that is, Convention on International Civil Aviation, we may basically infer *rubro ad nigrum*.⁴⁵ The title positively mediates to the applicator of the law, even if it is not explicitly highlighted in the text, that the rules of the Convention are to be applied with respect to international civil flights, not domestic civil flights. Pursuant to the Convention, the flight is international if the aircraft passes through the airspace of more than one sovereign State [Article 96. b)]. The separation of international and domestic flights does not have special significance from the viewpoint of performing the flights. Namely, the ICAO members' legal relations implies the obligation of the Member States to transplant the prescribed international Standards and Recommended Practices (so-called SARPs) into their national rules. In these terms,

⁴⁵ *Rubro ad nigrum*, that is, from the red to the black; which implies that the meaning of the text of the law is elucidated and explicated by the title of a statute. In the Middle Ages, glossators wrote the titles of the chapters of statutes in red, while the content was in black. Bánk J. (szerk.), *3500 latin bölcsesség, (3500 Latin Wisdoms)*, (Szent Gellért, Budapest, 1993) 10.

the major players of the industry (airlines, airports, air traffic service providers, ground handling companies etc.) must apply the international requirements upon carrying out domestic civil flights as well. The essence of the separation is that, in the event of incidents, disputes or inspections related to domestic civil flights, the Convention does not have legal force; any reference thereto is inadmissible. At the same time, if international and domestic flights occur in the same airspace, there may be an incident when a domestic and an international flight are implicated in conflict. The examination has to ensue within the purview of the Convention with respect to the fact that one of the parties was making an international flight.

As a main rule, the Convention does not apply to unbound (free) flights carried out unilaterally between countries. Air traffic is always delimited by the sovereign airspace of the other country; that is, if an aircraft leaves the airspace of its homeland (A) and flies into the airspace of country (B), the aircraft will be governed by the sovereign power of country (B). If an air carrier flies into the national airspace of another State during a *non-scheduled flight*, it needs a flight plan and authorisation from the air traffic management (ATM) in all cases. If the air carrier intends to operate an international *scheduled air service* continually with regular traffic to another country for commercial purposes,⁴⁶ further permissions, bilateral or multilateral air services agreements (ASA) between the concerned States are to be obtained mandatorily. Each aircraft, irrespective of the character of its operation (non-scheduled or scheduled flight), is obliged to observe consistently and implement the Rules of the Air in foreign airspaces.

1. Non-scheduled flights

Each contracting State agrees that all aircraft of other contracting States that are *not engaged in scheduled* international air services has the right, subject to the observance of the terms of the Convention,

- to make flights into; or
- to fly in transit non-stop above the territory of; or
- to make stops for non-traffic purposes in the contracting States.

The exercise of these rights *does not necessitate obtaining prior permission*, but it is subject to the right of the State flown over to require landing (Article 5).

Due to the fact of accession to the Convention, these rights of flying may be exercised by all aircraft not engaged in scheduled operation. The ICAO Council has not defined the concept of non-scheduled flight, thereby entrusting its definition

⁴⁶ Air service means any scheduled air service performed by aircraft for the public transport of passengers, mail or cargo [Article 96. a)]. The air carrier operates for commercial purposes, if the flight is carried out in return for remuneration or hire for the public transport of passengers, cargo or mail.

to national law. In practice, non-scheduled aircraft generally operate for private, business, commercial (tourist flights) or other purposes (e.g., aid shipment). The rule of the Convention, according to which “making stops for non-traffic purposes in the contracting States” is to be interpreted broadly, because these flights may also be engaged in such activity, although not regularly, according to a schedule. The most established form of non-scheduled flights are charter flights. The operator of the charter flight travels without a prior publicised schedule, not under the auspices of interstate agreements and it determines the charges for its services freely. Such aircraft, if engaged in the carriage of passengers, cargo, or mail for remuneration or hire on other than scheduled international air services, shall also, have the privilege of taking on or discharging passengers, cargo, or mail, subject to the right of any State where such embarkation or discharge takes place to impose such regulations, conditions or limitations as it may consider desirable. (Article 5).

While *non-scheduled* operation does not require carriers to obtain state permission in advance, *scheduled* operators are obliged to obtain special permits or authorisation granted under bilateral air services agreements concluded between the parties concerned for commercial activity between two Member States. It follows in an advantageous situation for non-scheduled operators managed flexibly to the detriment of scheduled operators; therefore, the lawmaker has restricted the sphere of action of non-scheduled flights. Any contracting State may request the cancellation of non-scheduled flights, if it deems that these detrimentally affect the interests of scheduled flights operated in the territories where the Convention is applicable. Each contracting State may demand full scope of information about the character and range of the implemented methods of transporting.

Undoubtedly, non-scheduled aircraft may operate more freely. However, this does not imply literally that they may fly in the sovereign airspace of a State in the absence of all permissions, without adherence to basic requirements in the sovereign airspace of a specific State:

1. Although non-scheduled flights are authorised to make flights into the territory of a contracting State; or to fly in transit non-stop over its territory; or to make stops for non-traffic purposes on route to their destination without prior permission, they may exercise these rights exclusively with respect to the Rules of the Air (Annex 2) and with the observance of the conditions of the Convention (Article 5). Pursuant to the Convention, the activity of the carrier upon “a stop for non-traffic purposes” implies a landing for any purpose other than taking on or discharging passengers, cargo or mail [Article 96. d)].

2. The conditions in accordance with the international rules of the ICAO are regulated by the State on a national level, which demands adherence to these rules and procedures by the user of its airspace. In practice, the pilot or operator of the non-scheduled flight announces the fact of flying in advance and submits a flight plan with

a view to its implementation, in which the pilot informs the States over the territory of which the aircraft will traverse at a pre-determined speed (keeping to the speed is one of the guarantees of safe separation from other aircraft on the same route and of the precise arrival of the crew at a busy destination according to the predetermined landing slot). As long as the aircraft does not possess a valid flight plan, it may not enter the airspace of the other country. Alternatively, if it does possess a flight plan, but the pilot of the airplane does not observe it in the airspace of the sovereign State, the State over the territory of which the aircraft passes may demand that it lands and take measures *vis-à-vis* the pilot of the non-scheduled flight.

3. The contracting States may not only coerce the airplane to land, but they may also reserve the right, for reasons of flight safety, to require the aircraft desiring to proceed over regions which are inaccessible or without adequate air navigation facilities to follow prescribed routes, or to obtain special permission for such flights (Article 5).

Each contracting State undertakes to adopt measures to ensure that every aircraft flying over or manoeuvring within its territory and that every aircraft carrying its nationality mark, wherever such registered aircraft may be, shall comply with the rules and regulations relating to the flight and manoeuvre of aircraft. Each contracting State undertakes to ensure the prosecution of all persons violating the applicable regulations (Article 12).

2. Flight without prior permission in the national airspace

Safeguarding, reconnaissance and active defence of their airspace are primary tasks for all States, since a strike of a contingent enemy may most of all be expected through the airspace. The long-range airspace-detecting devices and satellites monitoring all events to the most minute details work in a concentrated system and they provide data for the centre, on the basis of which the changes in the airspace can be tracked precisely and the necessary measures may be issued promptly for implementation. The States defend their national airspaces 24 hours a day. In the event of unauthorised access to the airspace, the air defence may detain (intercept) any aircraft for the purpose of identification and may demand that it lands. If the aircraft does not obey the demand, coercive measures may be applied.

An eloquent example for this was the strange incident that happened early in the morning of 28 May 1987. The 19-year-old Mathias Rust from West Germany managed to fly on private airplane into the depths of one of the most defended Soviet airspaces and, as the climax of the journey, he landed in Red Square in Moscow. Although the air defence had been alerted twice; what is more, intercepting fighter planes had also ascended to approach the conspicuous target, Soviet air defence failed to apply tactical instruments due to its inadmissible carelessness and irresoluteness, as the report of the investigating

committee established. Matthias Rust flew into the sovereign airspace of another State without permission, wilfully and systematically violating the international navigational and flight safety prescriptions. The charges against him were, violation of the frontier, unlawful inflight, the violation of international navigation rules and related to his acts in Red Square, malicious hooliganism, mala fide ruffianism and the grave violation of public order. Rust was sentenced to 4 years' imprisonment by the Soviet Supreme Court. At any rate, Mathias Rust would have had the right to fly into the territory of a contracting State if he had complied with the conditions of the Convention. However, he did not observe these conditions, because he did not have a flight plan for the controlled Soviet airspace; furthermore, he switched off his radio after take-off, while the Finnish air navigation controller was trying to warn him on all available frequencies that he had committed a navigational error and was flying in the wrong direction. He had designated the Bromma Stockholm Airport (BMA) as a place of landing, whereas he was not heading in that direction. He broke all the possible rules. What is more, when the Soviet fighter planes spotted his plane, he started flying in circles, maliciously pretending that he had become lost.

The Chicago Convention formulates lucidly: Each contracting State agrees not to use civil aviation for any purpose inconsistent with the aims of the Convention (Article 4). Besides the continual observance of State sovereignty, the parties are obligated to cooperate. The rules of aviation shall be applied to the aircraft of all contracting States without distinction as to nationality and shall be complied with by such aircraft engaged in international air navigation upon admission to or departure from the territory of, or to the operation and navigation of such aircraft while within the territory of a contracting State (Article 11).

Beyond the framework laws and under Annex 2 to the Convention on the Rules of the Air (similarly to the rules of the Highway Code related to traffic on roads), the ICAO defines the standard procedure of international civil aviation as a mandatory procedure. Annex 2 contains the Rules of General, that is, Visual Flight (VFR) and of Instrument Flight (IFR).⁴⁷ Each of these rules is a standard, so their observance by the Member States is mandatory. On that basis, the pilot needs to submit a flight plan before take-off to cross the State border and needs to request prior permission actually to ascend. During the whole time of flying, the pilot has to be in radio contact with the air navigation control service concerned and, as a main rule, he needs to take off from and land at the airports requested and designated in advance. The pilot also needs to be in possession of meteorological data and information in order to carry out the flight safely.

⁴⁷ In visual flight, it is the responsibility of the pilot to separate from other aircraft since orientation is dependent on the visual skills of the pilot. During instrument flight, the pilot follows the designated route on the basis of the navigation instruments of the aircraft: 99 per cent of commercial civil flights are carried out according to the latter.

The pilot in command has to fulfil the above-mentioned obligations before the commencement of the flight. Preceding the flight, he checks whether the aircraft is capable of the safe implementation of the task. Beyond this, he needs to familiarise himself with all the information at his disposal concerning the planned flight, he needs to study the available meteorological reports and forecasts. Furthermore, the pilot in command needs to determine the fuel demand and devise a suitable plan for if the flight cannot be implemented according to the original plan.

It is always the pilot in command who is responsible for operations, according to the Rules of the Air; furthermore, he is obliged to make decisions on issues concerning the operation of the aircraft under his command. For flying in the *controlled airspace* subject to the surveillance of the air navigation control, the fulfilment of two basic requirements is necessary:

1. Due to flight safety and crossing the State border, it is pre-eminently significant from the viewpoint of air traffic management that, at least 30 minutes before take-off, a *flight plan* (FLP) shall be submitted by the operator of the aircraft to the air navigation service provider. The utilisation of the airspace for air traffic is based on a valid flight plan submitted to and acknowledged by the air navigation service provider, without which no flight is admissible. The flight plan contains all the data prescribed for air navigation control; it also contains data for a case of emergency necessary for the search and rescue of the aircraft in trouble, such as the brake release time, the time of arrival of the airplane, the designated airport and the secondary (alternate) airport in the event of an unforeseen problem. The flight plan has to be placed at the disposal of the air navigation control before the take-off of the aircraft. The air traffic controller enters the data in the flight plan into the system of air navigation control so that, at the time of take-off, the necessary information should be available for, or it may be issued (e.g., in the form of permission) to, the crew of the aircraft. The movement of the aircraft is tracked on the secondary radar equipment.

2. The other basic requirement is that a *transponder* shall be available on board an aircraft, which sends automatic replies to the secondary radar on the ground that continuously relays questioning impulses. In this system, the radio signal relayed from the radar station on the ground initiates the radiation of the radio signal of the other station on board the aircraft, then it receives the arriving replies and forwards them to the processing unit. Due to its use, the data of the specific aircraft appear on the screen of the radar, so the air traffic controllers can see the line signal of the aircraft, its exact position, speed, altitude and the tendencies in movement. The air navigation control carries out its work on the basis of continuously updated databases and real-time positioning data. In addition, by the comparison of the routes and data of airplanes, it can carry out, for example, conflict research.

Basically, from these two significant data stores and on the basis of the information yielded by them, the air traffic controllers can safely control the flow of air traffic within their area of competence by giving permissions and concrete instructions.

VI. SCHEDULED FLIGHTS

Upon the conclusion of the Chicago Convention concerning the issues of aviation, the interests of the Great Powers differed according to their positions and their losses in World War Two. With respect to the fact that, in the territory of the United States of America, no battles were fought in the physical sense, the approximately 20,000 military airplanes (mainly Douglas Dakota C-47 and Skymaster C-54 designed to carry troops, cargo and casualties) manufactured for the allied powers under relatively “peaceful” circumstances could be technically converted by the United States to line up for civil aviation. As a consequence, the United States advocated the freedom of the air and its complete liberalisation. In contrast, Great Britain, having suffered huge losses and in possession of few usable airplanes, among them mainly bombers, urged the establishment of a system in which competition was heavily restricted. Accordingly, the Member States themselves, as well as an international organisation congregating airlines instead of the States, would have made decisions on commercial issues (tariffs, flight frequencies and capacity) and on the allocation of air routes.

As a result of negotiations, the British principle professing the freedom of the States to make decisions gained the upper hand. This has determined the system of permissions and authorisations necessary for the operation of scheduled flights set forth under bilateral or multilateral air services agreements up to this day. In this system, no scheduled international air service may be operated over or into the territory of a contracting State, except with the *special permission* or *other authorization* of that State, and in accordance with the terms of such permission or authorization (Article 6). In other words, in the national airspaces of the Member States, the scheduled airlines of other States may carry out air services with commercial purposes exclusively on the basis of bilateral and multilateral agreements concluded by the States.

The ICAO Council defined the scheduled international air service at the request of the Member States. According to the ICAO, a scheduled international air service is a series of flights described by all the following characteristics:

- it passes through the airspace over the territory of more than one State; and
- it is performed by aircraft for the transport of passengers, mail or cargo for remuneration in such a manner that
 - each flight is open to be used by the members of the public, and
 - it is operated so as to serve traffic between the same two or more points, either according to a publicised timetable or with flights so regular or frequent that they constitute a recognisably systematic series.⁴⁸

The rules of international law pertaining to aviation must be construed as a uniform system, which guarantees framework regulation. The Convention regulates

⁴⁸ ICAO Doc 7278 – C/841 *Definition of Scheduled International Air Service* (1952).

the international dimension of civil aviation and establishes minimum requirements concerning flight safety, aviation security and technology in the relations between Member States. Simultaneously, it entrusts States to regulate further, mainly commercial issues under air services agreements. The conclusion of interstate air services agreements became the prerequisite of the launch of air traffic carried out by commercial scheduled flights via registered and designated air carriers between two States. Under these circumstances, a scheduled flight is subject to the same conditions as a non-scheduled flight, so both need to avail of flight plans and transponders on board the aircraft, but the operation of scheduled flights, because of their commercial character, requires prior permission at governmental level. This permission is designated as an Air Services Agreement. The system of bilateral or multilateral air services agreements is the outcome of a historical situation and a compromise,⁴⁹ which has basically determined the activity of air transporting among countries, that is, international civil aviation up to this day.

1. Freedoms of the air

In air services agreements, the parties designate the operating airlines and determine the destinations, the capacity and the frequency of flights and they mutually guarantee the most important right of access to the market: traffic rights. Traffic rights are the privileges granted in scheduled international air transport, on the basis of which it is up to the decisions of Member States which airlines, with what *route rights*⁵⁰ and *freedoms of the air* they permit to fly into their national airspace and to land at their airports for the purpose of carrying out commercial activities (that is, the forwarding of passengers, baggage, mail or cargo for remuneration).

– The *route rights* consist of the right of access to markets, in possession of which the operators of the aircraft may fly to endorsed geographical points. This right is manifest in the determined geographical specification of the route(s) or in the combination of geographical specifications, according to which the operators carry out activities of air services and land at designated points of the routes determined in the flight plan.

– The *freedoms of the air (traffic rights)* consist of the right of access to markets, according to which the parties to air services agreements determine the traffic rights to be exercised by their airlines and registered aircraft during scheduled flight in and above their territories.

The two rights are to be construed as closely interwoven; one of them determines the routes, i.e., between which cities the traffic can be launched, while the other right determines the commercial content of the route (whether the flight may be continued,

⁴⁹ B. Cheng, *The Law of International Air Transport*, (Oceana Publications, London, 1962) 7–9.

⁵⁰ ICAO Doc 9626 *Manual on the Regulation of International Air Transport*. Chapter 4.1, 2006.

whether the aircraft may forward between two other countries or within the given country). The airlines publicise the route rights they exercise in timetables, whereas traffic rights are contained under the annexes to the air services agreements.

The Chicago Convention does not provide for the traffic rights of scheduled flights; they are contained by two supplementary agreements (1944), which qualify as sources of law of the Chicago system:

- the “Two Freedoms” Agreement: the International Air Services Transit Agreement;
- the “Five Freedoms” Agreement: the International Air Transport Agreement.⁵¹

a) Transit rights (1–2)

Pursuant to the International Air Services Transit Agreement, the contracting States guarantee for other Member States the two transit rights, also referred to as technical rights, with respect to *scheduled international flights*:

1. Privilege for the airline of the home country [A] to fly into the airspace of another country [B] or [C], or fly over without landing;
2. Privilege for the airline of the home country [A] to land for non-traffic purposes, for technical or safety reasons (i.e. emergency, technical failure, bad weather conditions, fuel intake, unruly passenger, terrorist attack etc.), while flying in the airspace of another country.

No prior authorisation for carrying out such a landing manoeuvre is necessary, since the Member States are obliged to manifest flexibility in such strained situations, to provide assistance for the landing aircraft and to give permission to interrupt the flight. If the scheduled flight engaged in commercial activity (e.g., carrying tourists) during its journey is obliged to land for problems endangering flight safety, it may not carry out commercial activity (may not take on passengers or baggage for remuneration) on the spot (other than the destination).

b) Traffic rights (3–9)

Pursuant to the International Air Transport Agreement, the parties to the Convention guarantee traffic rights (3–4–5) beyond transit rights for other Member States with respect to *scheduled international flights*:

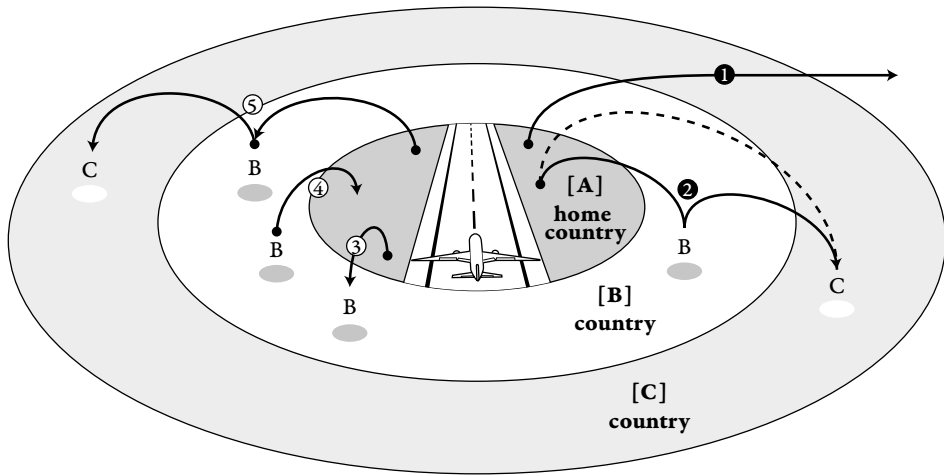
3. Privilege for the air carrier of the home country [A] to operate to the airport of the contracting partner State [B] for commercial purposes.

⁵¹ The ICAO shall also carry out the functions placed upon it by the International Air Services Transit Agreement and by the International Air Transport Agreement drawn up at Chicago on December 7, 1944, in accordance with the terms and conditions set forth therein [Article 66. a)]. The International Air Services Transit Agreement (IASTA) has been ratified by 133 countries (ICAO Doc 7500). The International Air Transport Agreement has been ratified by only 11 States, https://www.icao.int/secretariat/legal/List%20of%20Parties/Transport_EN.pdf (Last accessed: 31 December 2018).

4. Privilege for the air carrier of the home country [A] to operate from the contracting partner State [B] to the airport of the home country [A] for commercial purposes.

5. Privilege for the air carrier of the home country [A] to operate for commercial purposes on the route between country [B] and a third country [C] so that the departure or the destination of the operation are on the airport of the home country [A].

Figure 3. Transit rights (1–2) and Commercial traffic rights (3–5)



The fifth (just as the sixth and seventh) right may be exercised with the approval of the third country. In air services agreements, the contracting States made use of further combinations of the rights described above; thus, with respect to *scheduled international flights*, traffic rights 6 and 7 were established. These rights are not stipulated under the agreements, they are not legally regulated, but have evolved in commercial practice. Right 6 is in fact the combination of rights 3 and 4. The cabotage rights of 8 and 9 originate in maritime law and have evolved over several centuries of commercial practice.⁵²

6. Privilege for the airline of the home country [A] to operate for commercial purposes in two phases between two other countries [B] and [C] and use the airport of the home country [A] as a point of transfer.

⁵² Traffic rights 8th and 9th as cabotage are maritime legal institutions; the freedoms derive from maritime law. Cabotage in maritime law was permitted by a coastal State for another State to carry out commercial activity between its two internal points on the basis of mutuality.

7. Privilege for the airline of the home country [A] to operate for commercial purposes between two other countries [B] and [C] without using the airport of the home country [A].

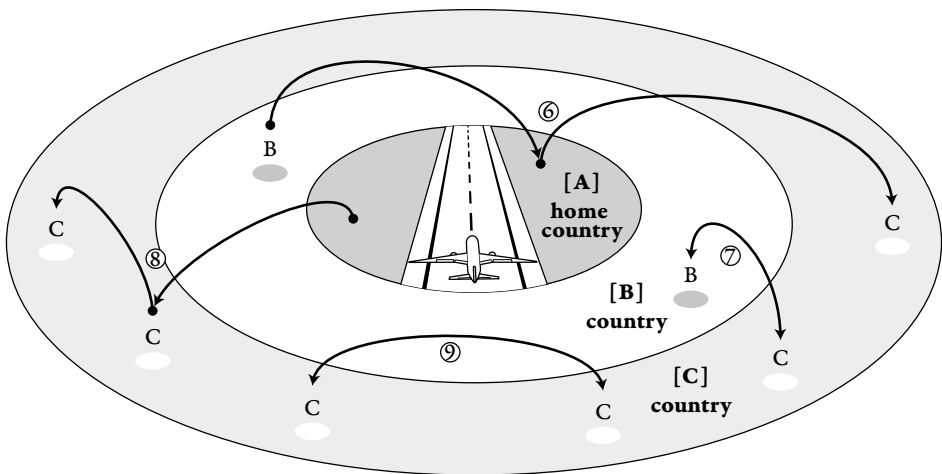
8. Privilege for the airline of the home country [A] to operate for commercial purposes between internal points of country [C] (or country [B]), so that the departure and the destination of the route is the airport of the home country [A] (consecutive *cabotage*).

For example, London [A] – Beijing [C] – Shanghai [C]; or London [A] – Moscow [B] – Vladivostok [B].

9. Privilege for the airline of the home country [A] to operate for commercial purposes among the internal points of country [C] (or country [B]) without the use of the airport of the home country [A] carrying out sheer domestic air traffic (stand-alone *cabotage*).

For example, Beijing [C] – Shanghai [C]; or Moscow [B] – Vladivostok [B].

Figure 4. Commercial traffic rights (6–9)



Under the bilateral air services agreements, in the beginning the governments agreed on the conditions of scheduled air traffic with a view to the enhanced protection of their domestic, primarily national airlines; later, they concluded agreements via which they somewhat cleared the way for market relations, and finally, the more widespread Open Skies Agreements have gained ground. In these bi- or multilateral agreements, the contracting parties have opened up their markets mutually, therefore, their airlines may exercise the majority of traffic rights freely without the limitation of capacity and frequency. The States apply multiple airline designations and the determination of the

tariff is free. The Open Skies Agreements presume the multiple or unlimited designation for air carriers as a basic condition, and the number of landing points connected to the network of flights is not restricted. Nevertheless, the Open Skies Agreements do not provide that the national airspace may be fully utilised for commercial activity by each State, because, under these agreements, although the air carrier of the contracting State can operate scheduled flights according to liberalised conditions, they are however in a limited manner, since the access to traffic rights deriving from freedoms of the air 7–9 is not guaranteed and bound to further permissions. The difference between scheduled and non-scheduled flights in the liberalised internal markets have lost its significance. One relevant example is the single market of the European Union, since the national airspaces of the Member States are open for all community carriers⁵³ without any limitations.

VII. SUMMARY

From the outset, the opening of national airspaces had for long been a cherished plan, analogically to the principle of the freedom of the high seas (*mare liberum*). Before World War One Paul Fauchille (1858–1926) applied the concept to the Aerial Ocean, and thence, he elaborated the legal principle of the freedom of the air (*l'air est libre*), according to which the airspace used to be open for all aircraft of all nations, with the limitation that the States could take restrictive steps in the interest of the security of their territories. This theory had had an extraordinarily large role in the initial elaboration of the system of air law but, after World War, it unambiguously failed. At that time, it became obvious for the States that the acquisition of the domination of the air (and later outer space) would be crucial for victory in international conflicts. For this reason, national airspace has been controlled in its entirety by the State and cannot be open for other States in the absence of relevant agreements. Beyond doubt, national airspace is an asset; it has the same value as land. States in this regard protect their airspaces and not only for the purpose of defence or their national security, but also for economic reasons. This kind of protectionist behaviour proceeds from the national defence policy and economic interests all over the world. The protection of the markets is guaranteed under air services agreements, which have entirely determined the development of international civil aviation until this day. For this reason, the overall control of national airspaces has been and will be paramount in all respects and terms.

⁵³ The community carrier is an airline with air traffic rights in the Member States of the European Union, which is in the substantial ownership (50%+1) of EU States and/or the citizens of the Member States and is under effective control.

