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Rules of the Air and Rules of the Sea – A Study in Semantics

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Abstract

Rules of the air and rules of the sea occupy different legal and regulatory regimes but share commonalities focused on safety and security of navigation, the demarcation of territorial sovereignty and governance by international treaty. Rules of the Air have their genesis in the Convention on International Civil Aviation (Chicago Convention) and are administered by the International Civil Aviation Organization (ICAO). Safety, efficiency, and standardization are the core principles guiding the Rules of the Air. The framework emphasizes clear airspace designations, navigation protocols, and protocols for communication between aircraft and air traffic control. Rules of the Sea comprise a complex set of regulations governing maritime navigation, trade, environmental protection, and territorial claims administered by the International Maritime Organization (IMO). The United Nations Convention on the Law of the Sea (UNCLOS) serves as the fundamental legal framework for maritime activities, establishing guidelines for territorial waters, contiguous and exclusive economic zones, and the exploitation of marine resources.

Technological developments have driven the evolution of rules in distinct ways, adapting to the different environments and resources of the air and the sea. Having no exploitable resources in the air, airspace management relies heavily on communication and navigation technology, while maritime operations, which, while involving navigation on the seas, must also address the use of maritime resources and regulate territoriality and jurisdiction.

This article compares the rules governing airspace, and the regulations governing maritime activities, addressing the distinct characteristics, historical development, regulatory bodies, and key principles that underpin these two sets of rules.

Keywords: Annex 2 to the Chicago Convention; Chicago Convention; innocent passage; MARPOL; operation of aircraft; rules of the air; rules of the sea; UNCLOS

1. Introduction

Whether it be air transport or maritime transport, aspects of conduct in the domains of the air and sea involve entrenched rules at international law. These rules address such aspects as jurisdiction, order in the air and the sea, safety of navigation, accident prevention and the overall safety of the users of air carriage and sea carriage. While rules of the air govern the activities of aircraft in airspace involving the flight of aircraft, navigation, communication, and interactions between the aircraft crew and air navigation services, rules of the sea cover various aspects of navigation, safety, and conduct at sea, including vessel movements, collision avoidance, and environmental protection.

Collision avoidance is an integral consideration in the promulgation of rules of the air and sea. The avoidance of aircraft collision is primarily achieved through adherence to designated flight paths, altitudes, and communication procedures. Modern technologies like radar and transponders enhance situational awareness and help prevent collisions. There are specific regulations for collision avoidance with regard to maritime vessels called COLREGs (International Regulations for Preventing Collisions at Sea), which establish rules for the behavior of vessels in various situations to prevent collisions. Vessels are required to maintain a safe speed, course, and lookout.

Rules of the air and rules of the sea are both founded upon the international law principle of State sovereignty. This principle is essentially territorial. As Justice Huber noted in the 1928 *Island of Palmas* case: "sovereignty in relation to a portion of the surface of the globe is the legal condition necessary for the inclusion of such portion in the territory of any particular State"[1]. Sovereignty of the air applies to the airspace over the land area of a State and the airspace above over the territorial waters of that State. Territorial waters are defined by established treaty provisions at maritime law by the United Nations Convention on the Law of the Sea (UNCLOS) which in Article 2 specifies jurisdiction of States in the Sea.

According to this provision the sovereignty of a coastal State extends, beyond its land territory and internal waters and, in the case of an archipelagic State, its

archipelagic waters, to an adjacent belt of sea, described as the territorial sea. A distinct link between the air and sea is established by Article 2 which goes on to say that the sovereignty of a coastal State extends to the air space over the territorial sea as well as to its bed and subsoil. The sovereignty over the territorial sea is exercised subject to UNCLOS and to other rules of international law.

The various rules of the air are contained in Annex 2 to the Convention on International Civil Aviation (Chicago Convention)[2] which prescribes mandatory Standards for adherence by States and airlines alike. Annex 2 is the only Annex to the Convention (out of 19 Annexes) which is considered mandatory where other Annexes are discretionary. In comparison, maritime rules are governed by the Convention on the Safety of Life at Sea (SOLAS) of 1914, which came into being consequent upon the first maritime safety conference in London, at the initiative of the British government. This conference gave rise to SOLAS which has evolved through the years into its latest iteration as SOLAS 74/78. In between, the international maritime community saw the intervention of the League of Nations, which brought about initiatives in 1930 and 1936 to address such issues as the standardization of maritime signaling, maritime radio communications, lighthouses, light vessels, and the buoyage system.

SOLAS mandates that regulations under the Convention must be followed and adhered to. Of direct focus are Regulations 1-6 of SOLAS on safety of operation of ships and in particular Regulation 3.

Both the Rules of the Air and the Rules of the Sea share the common, overarching goal of ensuring safety and preventing accidents, and the regulatory frameworks in each case stand alone and are tailored to the unique challenges and dynamics of their respective domains: airspace and the maritime environment. As discussed above, rules of the air and rules governing maritime transport are multifarious and cannot be discussed in detail within the limited scope of this article.

What is discussed below are the semantics of the philosophy of the two modes of transport within the realm of their legal and regulatory frameworks.

2. Rules of the Air

A good starting point for a discussion on Annex 2 to the Chicago Convention is Standard 2.1 on the territorial application of the rules of the air. Standard 2.1.1 provides that the rules of the air must apply to aircraft bearing the nationality and registration marks of a Contracting State, wherever they may be, to the extent that they do not conflict with the rules published by the State having jurisdiction over the territory overflown. The Council of the International Civil Aviation Organization (ICAO) resolved, in adopting Annex 2 in April 1948 and Amendment 1 to the said Annex in November 1951, that the

Annex constitutes Rules relating to the flight and maneuver of aircraft within the meaning of Article 12 of the Convention[3].

This Standard in essence expresses the principles of State sovereignty and that a State has the right to prescribe rules of the air over its territory as legitimized by Article 1 of the Chicago Convention which states that contracting States to the Convention recognize that every State has complete and exclusive sovereignty over the airspace above its territory. The enforcement of international law is strictly the purview of States and each State claims sovereignty to the extent that it is its own source of authority and power. In this sense, international law has no overall application on a common basis where each State can be held responsible for the adherence to a unified set of mandatory rules that can be set and enforced by one supreme legislative body. On a juridical basis however, this primitive antithesis does not leave the world totally destitute of hope. It is now very apparent that with all its inadequacies, international law is at least an entity whose presence is felt.

An interesting phrase in Standard 2 is that States can provide rules over territories that they have "jurisdiction" over, meaning that arguably, it is not only territorial sovereignty that is alluded to but control over a territory that States would have jurisdiction over. For instance, would an occupied area give the occupant State the authority to set rules of the air? Would custom be a tool for a State to prescribe rules of the air?

It must also be mentioned that some argue that Annex 2's applicability should be discussed in two circumstances – within contracting States' respective territories and over the high seas. They argue that only over the high seas is the Annex mandatory per Article 12, which is quite clear as the 'Applicability' section of Annex 2 clearly refers to its applicability 'over the high seas', and the 'Action by Contracting States' section provides that notification of differences is allowed if the Standards of Annex 2 do not comport with regulations relating to national airspace.

Article 38 1.b. of the Statute of the International Court of Justice (ICJ) refers to international custom as an evidential element that can be used as accepted law. There is a palpable difference between custom and usage in this context, where the former is a practice, the sustained use of which gives rise to obligations at law, and the latter remains a practice that is usually only of ceremonial significance. This point was brought out succinctly in the case of *Nicaragua* v. *United States*[4] *w*here the ICJ referred to the *North Sea Continental Shelf Cases* and held:

> …the Court has to emphasise that, as was observed in the *North Sea Continental Shelf Cases*, for a new customary rule to be formed, not only must the acts concerned "amount to a settled practice", but they must be accompanied by the *opinio juris sive necessitatis*. Either the States taking

> such action or other States in a position to react to it, must have behaved so that their conduct is "evidence of a belief that this practice is rendered obligatory by the existence of a rule of law requiring it. The need for such a belief, i.e. the existence of a subjective element, is implicit in the very notion of the *opinio juris sive necessitatis*.[5]

Customary international law consists of legal norms that have established themselves as fundamental principles of air law through sustained usage. Sovereignty of States over the air space above their territories is one such concept.

Sovereignty *inter alia* involves the supreme power of a State to make and administer laws and has two attributes:

a) internal sovereignty, whereby a State exercises its exclusive right and competence to determine the character of its own institutions and to provide for their function. Internal sovereignty also includes the exclusive power of a State to enact its own internal laws and to ensure their respect;
b) External sovereignty, whereby a State freely determines its relations with other States or entities without the restraint or control of another State.

Territorially, State sovereignty, is exercised over all persons and things found on a State's territory, including its airspace. Sovereignty in airspace is therefore an ineluctable characteristic of State sovereignty.

Air Law is based entirely on the concept of State sovereignty in air space and is essentially related to land. The concept dates back to early Roman times where :

> States claimed, held, and in fact exercised sovereignty in the air space above their national territories... and that the recognition of an existing territorial airspace of States by the Paris Convention of 1919 was well founded in law and history.[6]

In a strictly modern sense one could ask the question whether States have an unquestionable and absolute right to set rules over their territories and whether in this regard, States have certain responsibilities. While Article 9 of the Chicago Convention prescribes that States have the right to direct or divert aircraft away from certain areas for military exigency and security, The Convention also States that it requires States to keep their airports open to all airlines operating into and out of their territories and provide meteorological, radio and other information as well as facilities such as ground services. An exception is seen in Article 89 which enables Contracting States to have freedom of action irrespective of the provisions of the Convention in case of war, whether belligerents or neutrals. It also allows a State which has declared a state of national emergency (and notifies the ICAO Council of such) to have the same freedom of action notwithstanding the provisions of the Convention. Therefore, unless a State

is at war (which the Convention does not define)[7] or has declared a state of national emergency, it would be bound by the provisions of the Convention.

The first duty of a Contracting State not falling within the purview of Article 89 of the Chicago Convention is to keep its airport open to all incoming aircraft. Article 15 of the Convention requires *inter alia* that, uniform conditions shall apply to the use, by aircraft of every contracting State, of all air navigation facilities, including radio and meteorological services, which may be provided for public use for the safety and expedition of air navigation. This condition is subject to Article 9 (already referred to) which stipulates that 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. The provision goes on to say that Each contracting State reserves also the right, in exceptional circumstances or during a period of emergency, or in the interest of public safety, and with immediate effect, temporarily to restrict or prohibit flying over the whole or any part of its territory, on condition that such restriction or prohibition should be applicable without distinction of nationality to aircraft of all other States.

The question arises as to whether a State in which there is acute civil unrest is bound to follow the abovementioned principles of the Chicago Convention. States or international organizations which are parties to such treaties must apply the treaties they have signed and therefore have to interpret them. Although the conclusion of a treaty is generally governed by international customary law to accord with accepted rules and practices of national constitutional law of the signatory States, the application of treaties are governed by principles of international law. If however, the application or performance of a requirement in an international treaty poses problems to a State, the constitutional law of that State would be applied by courts of that State to settle the problem. Although Article 27 of the *Vienna Convention*[8] requires States not to invoke provisions of their internal laws as justification for failure to comply with the provisions of a treaty, States are free to choose the means of implementation they see fit according to their traditions and political organization. The overriding rule is that treaties are juristic acts and must be performed.

Standard 2.1.2 goes on to say that if, and so long as a Contracting State has not notified ICAO to the contrary, it must be deemed, as regards aircraft of its registration, to have agreed that, for purposes of flight over those parts of the high seas where a Contracting State has accepted, pursuant to a regional air navigation agreement,[9] the responsibility of providing air traffic services, the "appropriate ATS authority" referred

to in Annex 2 is the relevant authority designated by the State responsible for providing those services.

One characteristic of aviation is that aircraft fly over the high seas or over seas having no territorial sovereign. While national laws of some States confer jurisdiction on their courts to try offenses committed on aircraft during such flights, this is not the case in others, and there was no internationally agreed system which would co-ordinate the exercise of national jurisdiction in such cases. Further, with (the) high speed of modern aircraft and having regard to the great altitudes at which they fly as well as other factors, such as meteorological conditions, and, in certain parts of the world, the fact that several States may be overflown by aircraft within a small space of time, there could be occasions when it would be impossible to establish the territory in which the aircraft was at the time a crime was committed on board. There was, therefore, the possibility that in such a case, and in the absence of an internationally recognized system with regard to exercise of national jurisdiction, the offender may go unpunished.

A. Operation of Aircraft in Compliance with Rules of the Air

Standard 2.2 specifies that the operation of an aircraft either in flight or on the movement area of an aerodrome must follow the general rules and, in addition, when in flight, either with: the visual flight rules; or the instrument flight rules.[10]

Rules of the air are driven by two key words: standardization and harmonization. Standardization means compliance with rules and harmonization is global applicability. Surgeons, pilots, air traffic controllers and even bus drivers and taxi drivers (to a lesser extent) who are given the responsibility of being in charge of the safety and health of others are expected to comply with the rules and standards of their activities. One example is the Canadian Regulations which stipulate: “the detection of a possible violation of the air regulations may result from a citizen’s complaint, an infraction report forwarded by Air Traffic Services, a routine inspection conducted by Transport Canada (TC) personnel or observations by TC inspectors engaged in field operations. Should a TC inspector observe an individual committing a violation of the regulations, the inspector has the authority to take immediate action. If the violation is minor in nature and inadvertent, or is a safety related violation where there is no direct flight safety hazard, the inspector may simply counsel the individual orally. This action provides the document holder with immediate feedback on the safety aspect of the incident and the necessity for compliance with the regulations”.[11]

The Australian Civil Aviation Safety Agency prescribes that everyone must follow the rules so that safety is ensured and non-compliance could come under the heading of strict liability[12] where no fault is not always necessarily ascribed to the pilot for liability

to be imposed and a reasonable mistake of fact can be considered exculpation of liability.[13]

The Code of Federal Regulations of the Federal Aviation Administration of the United States has, in Part 91, numerous aeronautical rules for pilots.[14] Originally, the European Union required inter alia that pilots involved in the operation of certain aircraft, as well as flight simulation training devices, persons and organizations involved in training, testing or checking of those pilots, have to comply with the relevant essential requirements set out in Annex III to Regulation (EC) No 216/2008. According to this Regulation, pilots as well as persons and organizations involved in their training should be certified once they have been found to comply with essential requirements".[15] Standardization or compliance by pilots of EU aeronautical regulations was embodied in Article 4 of regulation (EC) No 216/2008.[16]

Regulation 216/2008 was repealed and replaced by Regulation 2018/1139. Article 21 of this Regulation stipulates that pilots are required to hold a pilot license and a pilot medical certificate appropriate to the operation to be performed, except for certain situations in which, as a result of the adoption of implementing acts referred to in point (c)(i) of Article 23(1),[17] taking into account the objectives and principles set out in Articles 1 and 4,[18] and in particular the nature and risk of the activity concerned, such licenses or medical certificates are not required. The pilot license must be issued upon application, when the applicant has demonstrated that he or she complies with the implementing acts referred to in Article 23 adopted to ensure compliance with the essential requirements referred to in Article 20.[19] The pilot medical certificate referred to in paragraph 1 of this Article shall be issued upon application, when the applicant has demonstrated that he or she complies with the implementing acts referred to in Article 23 adopted to ensure compliance with the essential requirements referred to in Article 20.

The above notwithstanding, pilots follow the incontrovertible rule "aviate, navigate, communicate" in case of emergencies. This was the case with US Airways flight 1549 where on January 15, 2009, US Airways Flight 1549, an Airbus A320 on a flight from New York City's LaGuardia Airport to Charlotte struck a flock of birds shortly after take-off, losing all engine power. Unable to reach any airport for an emergency landing due to their low altitude, pilots Chesley "Sully" Sullenberger and Jeffrey Skiles glided the plane to a ditching in the Hudson River off Midtown Manhattan. The report of the Transportation Safety Board said *inter alia:* "Every aviator from the onset of his or her aviation training is taught these priorities in order: "aviate, navigate, communicate" – to fly the airplane, first and foremost; to navigate to a suitable emergency landing area; and to communicate with air traffic control the nature of the emergency so rescue can

occur. Captain Sullenberger and his crew responded admirably to their training and their instincts and aviated, navigated, and communicated to a successful conclusion".[20]

B. Safety Management

Safety management is addressed in Annex 19 to the Chicago Convention. The provisions in this Annex have been developed in response to recommendations provided by the Directors General of Civil Aviation Conference on a Global Strategy for Aviation Safety (Montréal, 20 to 22 March 2006) (DGCA/06) and the High-level Safety Conference (Montréal, 29 March to 1 April 2010) (HLSC/2010) regarding the need for an Annex dedicated to safety management. The Air Navigation Commission (186-8), having determined these issues to be of sufficient scope and importance, agreed to establish the Safety Management Panel (SMP) to provide recommendations for the development of this Annex.

The Standards and Recommended Practices (SARPs) in this Annex are intended to assist States in managing aviation safety risks. Given the increasing complexity of the global air transportation system and its interrelated aviation activities required to assure the safe operation of aircraft, this Annex supports the continued evolution of a proactive strategy to improve safety performance. The foundation of this proactive safety strategy is based on the implementation of a State Safety Programme (SSP) that systematically addresses safety risks.

Effective SSP implementation is a gradual process, requiring time to mature fully. Factors that affect the time required to establish an SSP include the complexity of the air transportation system as well as the maturity of the aviation safety oversight capabilities of the State.

Annex 19 consolidates material from existing Annexes regarding SSP and safety management systems (SMSs), as well as related elements including the collection and use of safety data and State safety oversight activities. The benefit of drawing together this material into a single Annex is to focus States' attention on the importance of integrating their safety management activities. It also facilitates the evolution of safety management provisions.

Certain State safety management functions required in Annex 19 may be delegated to a regional safety oversight organization or a regional accident and incident investigation organization on behalf of the State.

The Annex that contains SARPs related to responsibilities and processes underlying the safety management by States was first adopted by the Council on 25 February 2013 pursuant to the provisions of Article 37 of the Chicago Convention and designated as Annex 19 to the Convention. As already mentioned, a noteworthy feature of Annex 19

is contained in Standard 3.1.1. which calls for the establishment and implementation of a State Safety Programme (SSP) wherein each State must establish an SSP for the management of safety in the State, in order to achieve an acceptable level of safety performance in civil aviation. The SSP must include the following components: State safety policy and objectives; State safety risk management; State safety assurance; and State safety promotion.

The State Safety Programme is the cornerstone of safety management. The genesis of the SSP is the air transport policy adopted by a State. The policy in turn has its corollary in its aviation legislation. The legislation should reflect in some detail the air transport policy of the State. For instance, there could be two main instruments of primary legislation: one could incorporate provisions that apply to the regulation, control and matters related to civil aviation and to give effect to the Chicago Convention and for matters connected therewith and incidental thereto. This legislation could be called The Civil Aviation Act: the other could contain provisions relating to the aeronautical authorities of the State and could be named Civil Aviation Authority Act.

3. Rules of the Sea

A. General Principles

The term "Rules of the Sea" could be considered as referring to a set of internationally recognized and agreed-upon regulations and conventions that govern activities and behavior in the world's oceans, seas, and other navigable waterways. These rules are essential for maintaining order, safety, and cooperation on the high seas and coastal waters. The primary framework for these rules is the The United Nations Convention on the Law of the Sea (UNCLOS)[21] which was adopted in 1982 and entered into force in 1994. UNCLOS is often referred to as the "constitution for the oceans."

Key components and principles of the rules of the sea include: territorial waters where each coastal state has sovereignty over its territorial waters, which extend up to 12 nautical miles from the baseline. Within these waters, the coastal state has the authority to enforce its laws, including customs and immigration; Exclusive Economic Zones (EEZs) where, beyond the territorial waters, coastal states have rights over the resources in their EEZ, which can extend up to 200 nautical miles from the baseline. This includes control over fisheries and seabed resources; freedom of navigation, where UNCLOS upholds the principle of innocent passage, allowing foreign ships to pass through territorial waters without interference, as long as they do not threaten the coastal state's security; High Seas: areas of the ocean beyond national jurisdiction are considered the high seas. Here, the freedom of the high seas applies, allowing all states

to exercise certain rights, including freedom of navigation, overflight, fishing, and scientific research; International Seabed Authority (ISA) where UNCLOS established the ISA to manage and regulate activities related to mineral resources on the seabed beyond the limits of national jurisdiction, known as the Area; protection of the marine Environment containing provisions of UNCLOS for the protection and preservation of the marine environment. States are required to prevent and control pollution of the marine environment; maritime boundaries relating to which UNCLOS provides guidelines for the delimitation of maritime boundaries between neighboring coastal states, helping to avoid conflicts over these boundaries.

UNCLOS also provides mechanisms for the peaceful settlement of disputes between states concerning the interpretation and application of the Convention.

The earliest known view of the law of the sea is found in *Mare Liberum* (The Free Sea - 1609) of *Hugo Grotius* – who is known as the father of international law – who said that the oceans are a common property shared by all nations and that no nation can claim exclusive rights to any part of the sea. The main thesis of Grotius was that there should be free navigation for trade, commerce, and the movement of people across the seas and that obstruction of free navigation would be detrimental to the well-being of nations. His views were founded upon the principles of natural law and reason which posited that certain principles were universally applicable and should guide interactions among nations. *Grotius* discussed the concept of territorial waters, suggesting that a nation's sovereignty should extend only to a limited distance from its coastlines, beyond which the high seas should be open to all.

In this context the fundamental difference between sovereignty in the air and in the sea is that although in both cases sovereignty is determined territorially, sovereignty in the air is about air navigation and jurisdiction, whereas sovereignty in the sea is also about rights to the use of marine resources. *Vattel* said in 1758 in *Droit des gen* (The Law of Nations): " [T]he use of open sea consists in navigation, and in fishing: along its coast it is moreover of use for the procuring of several things found near the shore, such as shell-fish, amber pearls, &c, for the making of salt, and, finally, for the establishment of places of retreat and security of vessels".[22] The key words are "open sea" where Vattel goes on to say "the right of navigating and fishing in the open sea being then a right common to all men, the nation that attempts to exclude another from that advantage does her an injury, and furnishes her with sufficient grounds for commencing hostilities, since nature authorizes a nation to repel an injury – that is, to make use of force against whoever would deprive her of her rights".[23]

The "Open Sea" is analogous to "High Seas" alluded to in Article 12 of the Chicago Convention which obviates territorial State sovereignty and jurisdiction.[24]

UNCLOS is a comprehensive legal framework that prescribes principles of governance for the use and management of the world's oceans. Like the Chicago Convention, the overarching theme of UNCLOS is territorial sovereignty. Whereas the Chicago Convention confines itself in Article 1 to sovereignty of airspace over the land and territorial waters of a State, maritime sovereignty encompasses a nation's rights, jurisdiction, and control over its land territory, internal waters, territorial sea, contiguous zone, and exclusive economic zone (EEZ).

The key principle of territorial sovereignty is established in Article 2 which states that the sovereignty of a coastal State extends, beyond its land territory and internal waters and, in the case of an archipelagic State, its archipelagic waters, to an adjacent belt of sea, described as the territorial sea. This sovereignty extends to the air space over the territorial sea as well as to its bed and subsoil. Sovereignty over the territorial sea is exercised subject to the Convention and to other rules of international law. Article 3 of UNCLOS recognizes that every State has the right to establish the breadth of its territorial sea up to a limit not exceeding 12 nautical miles, measured from baselines determined in accordance with the Convention, thus giving every coastal state sovereignty over its territorial sea The baseline is a core concept that provides the starting point for measuring the breadth of the territorial sea and other maritime zones. Coastal States have the sovereign prerogative to establish and define their own baselines. Thus, Article 3 ensures that States have the authority to determine the geographic extent of their territorial sea, which is critical for maintaining national security and protecting marine resources.

UNCLOS also recognizes the unique *status quo* of archipelagic states, which are comprised of groups of islands which can enjoy sovereignty over the waters enclosed by the archipelagic baselines, known as archipelagic waters. In the Convention baselines for archipelagic states are defined and elaborated on the basis of delimitation of their maritime zones. This definition and delimitation enable archipelagic States to safeguard their territorial and entitle them to exercise control over their waters while respecting the rights of passage and innocent passage for foreign vessels.

Beyond the territorial sea, UNCLOS defines the Contiguous Zone,[25] which extends up to 24 nautical miles from the baseline. In the contiguous zone, states can enforce specific customs, fiscal, immigration, and sanitary laws. Furthermore, UNCLOS establishes the EEZ,[26] extending up to 200 nautical miles from the baseline,[27] within which coastal states possess sovereign rights to explore, exploit, conserve, and manage natural resources. This provision enhances the economic potential of coastal states while contributing to sustainable development and resource conservation.

Article 15 of UNCLOS pertains to delimitation of and provides that where the coasts of two States are opposite or adjacent to each other, neither of the two States is entitled, failing agreement between them to the contrary, to extend its territorial sea beyond the median line every point of which is equidistant from the nearest points on the baselines from which the breadth of the territorial seas of each of the two States is measured. The above provision does not apply, however, where it is necessary by reason of historic title or other special circumstances to delimit the territorial seas of the two States in a way which is at variance therewith.

Dispute resolution is treated extensively in Section 5 where Article 187 establishes the Seabed Disputes Chamber which – analogous to the Council of ICAO on disputes pertaining to the interpretation of the Chicago Convention[28] - can hear disputes with respect to various activities in the seas. Additionally, UNCLOS allows states to submit disputes to the International Court of Justice (ICJ) or an arbitral tribunal. This provision promotes the rule of law and prevents the escalation of conflicts by providing a legal framework for resolving disputes.

B. Innocent Passage

The right of innocent passage is essentially a maritime concept of customary international law which allows foreign merchant ships (and not military warships) to navigate untrammeled through the territorial waters of a coast notwithstanding the overarching concept of State sovereignty. This right has not been definitively identified in precise terms. In 1958 the Convention on the Territorial Sea in Article 14 required that coastal States must not hinder the right of innocent passage and must warn merchant ships of any dangers that might threaten the ships exercising that right. It was also required that a coastal State must not impose any charges with regard to the innocent passage of a ship.

In the aviation context this right is called the First Freedom of the Air – granted by the International Air Services Transit Agreement (IASTA)[29] - which provides for aircraft to fly over the territory of a State without having to formally obtain agreement or permission of that State.

Article 17 of the 1958 Convention provided that ships exercising the right of innocent passage must comply with the internal laws and regulations of the coastal State. Similarly, Article 12 of the Chicago Convention requires *inter alia* that each contracting State undertakes to adopt measures to ensure that every aircraft flying over or maneuvering within its territory and that every aircraft carrying its nationality mark, wherever such aircraft may be, must comply with the rules and regulations relating to the flight and maneuver of aircraft there in force. Each contracting State undertakes to

keep its own regulations in these respects uniform, to the greatest possible extent, with those established from time to time under the Chicago Convention. Where flying over the high seas is concerned the Standards prescribed in Annex 2 to the Chicago Convention, as already discussed, apply.

UNCLOS addresses the concept of "innocent passage" in Part II, Section 3, under the heading "Innocent Passage in Territorial Sea." Article 17 of UNCLOS specifically deals with the rights and conditions associated with innocent passage through the territorial sea of coastal states. Article 17 says that, subject to the Convention, ships of all States enjoy the right of innocent passage through territorial seas. Passage is considered continuous and expeditious but could include, but not be limited to stopping and anchoring, but only in so far as the same are incidental to ordinary navigation or are rendered necessary by force majeure or distress or for the purpose of rendering assistance to persons, ships, or aircraft in danger or distress. Article 17 says that passage is innocent so long as it is not prejudicial to the peace, good order, or security of the coastal State. Such passage shall take place in conformity with this Convention and with other rules of international law.

The coastal State may adopt laws and regulations, in conformity with the provisions of the Convention and other rules of international law, relating to innocent passage through the territorial sea, in respect of all or any of the following: the safety of navigation and the regulation of maritime traffic; the protection of navigational aids and facilities and other facilities or installations; the protection of cables and pipelines; the conservation of the living resources of the sea; the prevention of infringement of the fisheries laws and regulations of the coastal State; the prevention of any infringement of customs, fiscal, immigration, or sanitary laws and regulations of the coastal State.

Such laws and regulations must not apply to the design, construction, manning, or equipment of foreign ships unless they discriminate in form or in fact against the ships of any State. The coastal State is required to give due publicity to all such laws and regulations.

In essence, Article 17 of UNCLOS affirms the right of all ships, regardless of nationality, to engage in innocent passage through the territorial seas of coastal states. "Innocent passage" refers to the transit of ships through these waters in a manner that is continuous, expeditious, and not prejudicial to the peace, good order, or security of the coastal state. Coastal states may enact laws and regulations governing certain aspects of innocent passage, such as safety, environmental protection, and fisheries, but these laws should be in conformity with UNCLOS and should not discriminate against foreign ships.

An important provision in UNCLOS is article 21(1) which recognized the right of a coastal state to adopt internal laws and regulations that would govern the right of innocent passage if they are for the following reasons: to ensure the safety of navigation and regulation of maritime traffic; to protect navigational aids and facilities and other facilities or installations; to protect cables and pipelines; to conserve the living resources of the sea; to prevent the infringement of fisheries laws and regulations adopted by the coastal State; to preserve the environment of the coastal State; to promote research and hydrographic surveys; to prevent infringement of customs, fiscal, immigration or security laws.

In the 1906 case of *Mortensen v. Peters*[30] where a ship had operated within an area covered by domestic law *albeit* beyond the three-mile limit recognized by international law, the Danish captain of the ship was charged under the Scottish Herring Fisheries Act. The captain pleaded lack of jurisdiction of the Scottish Court of Chancery to charge a foreigner, claiming *inter alia*, his Danish nationality. Lord Dunedin held that the Act of Parliament in question had predominance over customary law and a British court was obligated to give effect to the domestic law, even if it meant the breach of a rule of international law. Similarly, Lord Atkin, in a 1939 case[31] held that international law would be valid and effectual only insofar as it was consistent with domestic law.

Analogous provisions in rules of the air can be seen in Articles 8 and 9 respectively of the Chicago Convention where the former prescribes that no aircraft capable of being flown without a pilot must be flown without a pilot over the territory of a contracting State without special authorization by that State and in accordance with the terms of such authorization. Each contracting State must undertake to ensure that the flight of such aircraft without a pilot in regions open to civil aircraft must be so controlled as to obviate danger to civil aircraft. Article 9 provides that 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. Such prohibited areas are required to be of reasonable extent and location so services do not interfere unnecessarily with air navigation. Descriptions of such prohibited areas in the territory of a contracting State, as well as any subsequent alterations therein, must be communicated as soon as possible to the other contracting States and to ICAO.

Article 11 of the Chicago Convention requires the laws and regulations of a contracting State relating to the admission or departure from its territory of aircraft engaged in international air navigation, or to the operation and navigation such aircraft

while within its territory, to be applied to the aircraft of all contracting States without distinction as to nationality, and aircraft must comply upon entering or departing from or while within the territory of that State.

Volitional transgressions of territorial sovereignty in international air law or non-adherence to domestic laws by aircraft while overflying or landing and departing are few and far between. The only other provision, in addition to Article 12 already discussed, which implicitly refers to this possibility – particularly with regard to overflight- is found in Article 3c) of the Chicago Convention which states that no State aircraft of a contracting State must fly over the territory of another State or land thereon without authorization by special agreement or otherwise, and in accordance with the terms thereof.[32]

On 30 May 2023 the President of the ICAO Council addressed a letter to the National administration of the Democratic People's Republic of Korea (DPRK) alluding to an intention by DPRK to launch a military reconnaissance satellite using ballistic missile technology between 30 May and 11 June. That letter received no response. On 22nd June 2023 the ICAO Council, through a press release, condemned missile launches by DPRK, claiming that such activities "posed a serious risk to international civil aviation", and "a complete disregard of the relevant United Nations Security Council Resolutions".[33]

4. Conclusion

As the above discussion shows, there are both contrasts and similarities between rules of the air and rules of the sea. One of the main differences between the two is that, while there are no resources in the air, there are resources both in the EEZ and the Contiguous Zone in the sea that require the adoption of treaty provisions calculated to govern the conduct of sea going vessels. Another difference is that, whereas maritime transport is governed purely by international treaty (subject to local laws as relevant, as discussed above), air transport has the genesis in a treaty but breaks off into Standards in Annexes to the treaty. Fundamentally, however, both sets of regulations share a common purpose: to ensure the safety, security, and order of global air and maritime transport.

Two specialized agencies of the United Nations - The International Civil Aviation Organization (ICAO) and the International Maritime Organization (IMO) act as the foundation of governance for air and sea respectively, harmonizing global standards within their respective domains.

Both systems of transport have sophisticated tools to ensure safety: sophisticated radar systems; communication protocols; and navigational aids for aviation; satellite navigation systems. Automatic Identification Systems (AIS), and collision avoidance technologies have enhanced both systems, as well as governance on personnel licensing, navigation control and environmental standards.

In the context of environmental controls on pollution both air transport and maritime transport have approached the subject with vigor, with the adoption of environmental control tools to combat aircraft engines' carbon emissions and maritime shipping's contribution to pollution. Noteworthy among these measures are Carbon Offsetting and Reduction Scheme for Aviation (CORSIA) for aviation and international Convention for the Prevention of Pollution from Ships (MARPOL)[34] for maritime operations, which reflect a shared commitment to addressing environmental impact through regulations and technological innovation. Transitioning toward cleaner fuels, enhancing energy efficiency, and adopting sustainable practices emerge as common aspirations for both industries.

Both air transport and maritime transport contribute to global connectivity and interconnectedness with the global networks of air and sea transportation. As societies become more reliant on networks for trade, tourism, and cultural exchange, regulations evolve to maintain fluidity while upholding safety and security. Harmonizing these rules across borders is essential to facilitating seamless movement across continents. Bilateral and multilateral agreements work to achieve this end, bridging gaps in understanding and forging alliances to ensure smooth transitions between airspace and waterways.

ICAO and IMO are supported by the collaborative work with such organizations as The International Telecommunication Union (ITU), International Criminal Police Organization (INTERPOL), and World Customs Organization (WCO) which help in combatting common threats such as piracy and cyber-security, forging a robust cross-domain collaboration. Both air transport and maritime transport encapsulate the core mission of the two systems, resonated in the Preambles of both treaties. The Chicago Convention conveys the message that the future development of international civil aviation can greatly help to create and preserve friendship and understanding among the nations and peoples of the world, yet its abuse can become a threat to the general security; and therefore it is desirable to avoid friction and to promote cooperation between nations and peoples upon which the entre peace of the world depends. To this end the Preamble calls for international civil aviation to be developed in a safe and orderly manner so that international air transport services may be established on the basis of equality of opportunity and operated soundly and economically.

As for maritime transport UNCLOS strives to achieve, *inter alia* the establishment, with due regard for the sovereignty of all States, a legal order for the seas and oceans which will facilitate international communication, and will promote the peaceful uses of the seas and oceans, the equitable and efficient utilization of their resources, the conservation of their living resources, and the study, protection and preservation of the marine environment that will contribute to the realization of a just and equitable international economic order which takes into account the interests and needs of mankind as a whole and, in particular, the special interests and needs of developing countries, whether coastal or land-locked.

These two treaties have stood the test of time in establishing a cohesive set of principles that govern the rules of the air and the rules of the sea.

Endnotes

[1] 2 *RIAA* (1928) 829 at 838.
[2] ICAO Doc 7300/9 Ninth Edition, 2006.
[3] Article 12 provides that each contracting State undertakes to adopt measures to ensure that every aircraft flying over or maneuvering within its territory and that every aircraft carrying its nationality mark, wherever such aircraft may be, must comply with the rules and regulations relating to the flight and maneuver of aircraft there in force. Each contracting State undertakes to keep its own regulations in these respects uniform, to the greatest possible extent, with those established from time to time under the Convention. Over the high seas, the rules in force are those established under the Convention. Each contracting State undertakes to ensure the prosecution of all persons violating the regulations applicable.
[4] ICJ Reports (1986), 14. 7
[5] ICJ Reports (1969), 44, at para 77.
[6] See John C. Cooper, *Exploration in Aerospace Law*, I.A. Vlasic ed., McGill University Press: Montreal, 1968, 104-202.
[7] Article 31.1 of the Vienna Convention on the Law of Treaties provides that "a treaty shall be interpreted in good faith in accordance with the ordinary meaning to be given to the terms of the treaty in their context and in the light of its object and purpose". See Vienna Convention on the Law of Treaties 1969, done at Vienna on 23 May 1969. The Convention entered into force on 27 January 1980. United Nations, Treaty Series, vol. 1155, p. 331. The ordinary meaning of war can be considered as a behavior pattern of organized violent conflict typified by extreme aggression, societal disruption, and high mortality. This behavior pattern involves two or more organized groups. http://en.wikipedia.org/wiki/War.
[8] *Ibid.*
[9] The phrase "regional air navigation agreement" refers to an agreement approved by the Council of ICAO normally on the advice of a Regional Air Navigation Meeting.
[10] Information relevant to the services provided to aircraft operating in accordance with both visual flight rules and instrument flight rules in the seven ATS airspace classes is contained in 2.6.1 and 2.6.3 of Annex 11. A pilot may elect to fly in accordance with instrument flight rules in visual meteorological conditions or may be required to do so by the appropriate air traffic services authority.
[11] Transport Canada, Aviation offences and enforcement. See *https://tc.canada.ca/en/aviation/aviation-accidents-investigations/aviation-offences-enforcement.*

[12] Liability incurred for causing damage or harm to life, limb, or property without the necessity of proving intent or negligence.
[13] Compliance and enforcement Under the Civil Aviation Act 1988 CASA has a duty to develop and implement effective strategies to ensure compliance with the aviation regulatory framework. *See https://www.casa.gov.au/rules/compliance-and-enforcement.*
[14] *https://www.ecfr.gov/current/title-14/part-91.*
[15] COMMISSION REGULATION (EU) No 1178/2011 of 3 November 2011 laying down technical requirements and administrative procedures related to civil aviation aircrew pursuant to Regulation (EC) No 216/2008 of the European Parliament and of the Council (Text with EEA relevance. See https://skybrary.aero/sites/default/files/bookshelf/3242.pdf.
[16] Regulation 216/2008 of 20 February 2008 on common rules in the field of civil aviation and establishing a European Aviation Safety Agency, and repealing Council Directive 91/670/EEC, Regulation (EC) No 1592/2002 and Directive 2004/36/EC. See *https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1474978980580&uri=CELEX%3A32008R0216.*
[17] Where the European Commission adopts regulations implementing acts laying down detailed provisions concerning: the rules and procedures for issuing, maintaining, amending, limiting, suspending or revoking pilot licenses, ratings and pilot medical certificates, including: the rules and procedures for situations in which such licenses, ratings and medical certificates are not to be required.
[18] Articles 1 and 4 refer to subject matter of the Regulation and principles for measures to be taken.
[19] Article 20 pertains to essential requirements where pilots and cabin crew involved in the operation of aircraft other than unmanned aircraft, as well as flight simulation training devices, persons and organizations involved in the training, testing, checking or medical assessment of those pilots and cabin crew, shall comply with the essential requirements set out in Annex IV.
[20] US Airways Flight 1549 - STATEMENT OF MARGARET GILLIGAN, ASSOCIATE ADMINISTRATOR FOR AVIATION SAFETY, FEDERAL AVIATION ADMINISTRATION, BEFORE THE HOUSE OF REPRESENTATIVES COMMITTEE ON TRANSPORTATION AND INFRASTRUCTURE, SUBCOMMITTEE ON AVIATION, ON US AIRWAYS FLIGHT 1549. FEBRUARY 24, 2009**.** *See https://www.transportation.gov/testimony/.*
[21] https://www.un.org/depts/los/convention_agreements/texts/unclos/unclos_e.pdf.
[22] Emer de Vattel, *The Law of Nations*, Hatkonssen, Knut ed., Liberty Fund: 2008 at 249.
[23] *Id*. 251.
[24] The text of Article 12 appears in *supra*. note 3.
[25] The Contiguous Zone is defined in article 33 which says that in a zone contiguous to its territorial sea, described as the contiguous zone, the coastal State may exercise the control necessary to: (a) prevent infringement of its customs, fiscal, immigration or sanitary laws and regulations within its territory or territorial sea; (b) punish infringement of the above laws and regulations committed within its territory or territorial sea. The contiguous zone may not extend beyond 24 nautical miles from the baselines from which the breadth of the territorial sea is measured.
[26] Article 55 states that the exclusive economic zone is an area beyond and adjacent to the territorial sea, subject to the specific legal regime established in this Part, under which the rights and jurisdiction of the coastal State and the rights and freedoms of other States are governed by the relevant provisions of this Convention.
[27] Article 57 prescribes that the exclusive economic zone must not extend beyond 200 nautical miles from the baselines from which the breadth of the territorial sea is measured.
[28] Article 84 of the Chicago Convention states that If any disagreement between two or more contracting States relating to the interpretation or application of this Convention and its Annexes cannot be settled by negotiation, it must, on the application of any State concerned in the disagreement, be decided by the Council. No member of the Council shall vote in the

consideration by the Council of any dispute to which it is a party. Any contracting State may, subject to Article 85, appeal from the decision of the Council to an ad hoc arbitral tribunal agreed upon with the other parties to the dispute or to the Permanent Court of International Justice. Any such appeal shall be notified to the Council within sixty days of receipt of notification of the decision of the Council. Articles 85 and 86 provide for arbitration procedures from the Council and appeals to the International Court of Justice respectively.

[29] The First Freedom of the Air facilitates the transit of commercial aircraft and passengers through the airspace of foreign countries. This agreement is part of a series of agreements related to international air travel, collectively known as "freedoms of the air." IASTA is also called The Two Freedoms Agreement and includes the first and second freedoms of the air, as defined by the Chicago Convention. The First Freedom grants to air carriers the freedom to overfly a foreign country's airspace without landing. This allows airlines to operate flights that pass through the airspace of other countries without needing to stop for any purpose. The Second Freedom grants carriers the right to stop in a country for non traffic purposes, e.g. re-fuelling. IASTA was signed at Chicago on 7 December 1944 and entered into force on 30 January 1945. IASTA has 135 Parties. See https://www.icao.int/secretariat/legal/List%20of%20Parties/Transit_EN.pdf.

[30] (1906) S.E. (I) 93.

[31] [1939] AC 160. Also, *Commercial and Estates Co. of Egypt v. Board of Trade* [1925] 1 KB 271.

[32] There have been instances where North Korean missiles have reportedly transgressed the national airspace of other countries or have been launched in a way that posed potential risks to regional security. North Korea has conducted multiple missile tests that have flown over or fallen into Japan's exclusive economic zone (EEZ) – the maritime area where a state has special rights regarding the exploration and use of marine resources. These missile tests have sometimes been perceived as provocations and have led to concerns about the safety of maritime and aviation traffic in the region. There have been reports of North Korean artillery fire and missile launches that have occurred close to or across the demilitarized zone (DMZ) between North and South Korea. These actions have raised tensions and concerns about the potential for escalation. While these instances might not involve direct transgressions of other countries' airspace, they have the potential to affect regional stability.

[33] ICAO Council condemns DPRK missile launches. See ICAO.int at ICAO / ICAO Newsroom / ICAO Council condemns DPRK missile launches.

[34] The International Convention for the Prevention of Pollution from Ships (MARPOL) is the main international convention covering prevention of pollution of the marine environment by ships from operational or accidental causes. The MARPOL Convention was adopted on 2 November 1973 at IMO.