



Universiteit  
Leiden  
The Netherlands

## **Freedom of overflight: a study of coastal State jurisdiction in international airspace**

Stewart, M.E.

### **Citation**

Stewart, M. E. (2021, June 10). *Freedom of overflight: a study of coastal State jurisdiction in international airspace*. Meijers-reeks. Retrieved from <https://hdl.handle.net/1887/3185505>

Version: Publisher's Version

License: [Licence agreement concerning inclusion of doctoral thesis in the Institutional Repository of the University of Leiden](#)

Downloaded from: <https://hdl.handle.net/1887/3185505>

**Note:** To cite this publication please use the final published version (if applicable).

Cover Page



Universiteit Leiden



The handle <http://hdl.handle.net/1887/3185505> holds various files of this Leiden University dissertation.

**Author:** Stewart, M.E.

**Title:** Freedom of overflight: a study of coastal State jurisdiction in international airspace

**Issue date:** 2021-06-10

## 3.1 INTRODUCTION

Outside States' territorial seas, freedom of navigation and overflight exist but this must be balanced by permitted maritime activities. As Mouton remarked, '[i]n pure theory and *ad absurdum* we could say that the freedom of navigation would only exist if but one ship sailed the oceans. As soon as a second appears, the first one might be hindered in its movement'.<sup>465</sup> This statement begs the question: *where is the balance between the freedom of overflight and jurisdiction over maritime constructions outside territorial sea?*

Representatives from ICAO did not play an active role in the negotiations during the drafting of UNCLOS and little attention was paid to the rules applicable to the airspace in a State's EEZ.<sup>466</sup> Nevertheless, a number of developments in the law of the sea took place with consequences for overflight.<sup>467</sup> One of these was the codification of a legal regime for the construction, operation and use of artificial islands, installations and structures at sea. The UNCLOS provisions set out the right of the coastal State to construct artificial islands and installations or structures in its EEZ and continental shelf, a right that is exclusive in relation to artificial islands in all instances and to installations and structures in certain circumstances.<sup>468</sup> UNCLOS also provides that the right to construct artificial islands and installations for all States – coastal and landlocked – is one of the freedoms of the high seas.<sup>469</sup>

This chapter will examine jurisdiction in international airspace over maritime constructions – as artificial islands, installations and structures will be collectively referred to – beyond the territorial sea. The primary body of

---

465 AMJ Heijmans, 'Artificial Islands and the Law of Nations' (1974) 21(2) *Netherlands International Law Review* 139, 145; citing MW Mouton, *The Continental Shelf* (Martinus Nijhoff 1952) 220.

466 ICAO WP/5-1, *Secretariat Study on Agenda Item 5: Consideration of the Report of the Rapporteur on 'United Nations Convention on the Law of the Sea – Implications, if any, for the Application of the Chicago Convention, its Annexes and other International Air Law Instruments'*, Presented at the Legal Committee 26<sup>th</sup> Session, Montreal (4 February 1987), reproduced in (1987) 3 *Int'l Org & L Sea: Documentary* YB 243, 244; Kay Hailbronner, 'The Legal Regime of the Airspace Above the Exclusive Economic Zone' (1983) 8(1) *Air Law* 30, 30.

467 For example, the extension of the territorial sea from 3nm to 12nm, which resulted in a number of straits becoming part of a State's territorial sea, as well as the development of the law which led to the recognition of archipelagic States. In response, the law codified transit passage and archipelagic sea lanes passage, respectively, to facilitate navigation and overflight (see Chapter 5).

468 UNCLOS, Articles 60(1)(a), (b) and (c), and Article 80. See Section 3.2.2.

469 *ibid* Article 87(1)(d).

the research will consider the jurisdiction of coastal States over the airspace of such constructions in their EEZ through the imposition of so-called 'safety zones', as they are referred to under the law of the sea. Article 60(4) UNCLOS provides that a 'coastal State may, where necessary, establish reasonable safety zones around... artificial islands, installations and structures'.<sup>470</sup> This article provides coastal States with the right to establish safety zones on the surface of the sea, in respect to vessels, but it is unclear whether it also includes the right to extend the zones to the airspace over the constructions.<sup>471</sup>

As a point of context, interference with overflight in relation to maritime constructions outside territorial seas is a corollary of the existence of the constructions, rather than a motivating factor for their construction. The reasons for the interference with airspace are varied, including for the safety of the constructions and aviation, for security, for political control, or for all these reasons.

Section 3.2.1 of this chapter will examine the definitions of 'artificial island', 'installation' and 'structure', as the terms are used in UNCLOS. Sections 3.2.2 and 3.2.3 will then consider the rights under UNCLOS for States, both coastal and land-locked, to build maritime constructions and their jurisdiction over them. These sections will introduce the concept of safety zones as the basis for examining the right of a State to prohibit overflight in the airspace based on that State's establishment of a maritime construction. Sections 3.2.4 and 3.2.5 will analyse the legal status and the associated rights of maritime constructions with natural features as their foundation, with reference to the discussion regarding the legal status of Mischief Reef in the *South China Sea Arbitration*. Section 3.3 forms the central study of the chapter and will attempt to determine whether States have a right to impose safety zones in international airspace on the basis of their maritime constructions, or whether a rule exists more generally under international law that could provide this right. In establishing whether this right exists, this section will examine the drafting history of UNCLOS; the practice of States; whether a legal basis exists under international civil aviation law, particularly with reference to Annexes 2 and 11 of the Chicago Convention; the context of UNCLOS more widely, analysing in particular how freedom of navigation and freedom of overflight are interpreted and applied; and, the necessary elements for such a right to arise under customary international law, with a focus on specific aspects that relate to safety zones in international airspace and the practice of States to date. Finally, in Section 3.4, this chapter will briefly consider jurisdiction

---

470 This article will be discussed in further detail in Section 3.2.3.5, which will also briefly discuss (together with Sections 3.2.2 and 3.2.3.3) the other contexts in which UNCLOS addresses the establishment of safety zones around maritime constructions.

471 The PCA Arbitral Tribunal addressed the matter of a State's jurisdiction in its safety zones in, *In the Matter of the Arctic Sunrise Arbitration (Netherlands v. Russia)*, P.C.A. Case No 2014-02, 14 August 2015, p. 49 para. 211, as to which see Section 3.2.3.2.

over flights to and from a maritime construction, including in the case of an artificial island being constructed for the purposes of a civilian airport, and in Section 3.5, a related but ancillary matter will be addressed: the legal status of islands in the case of human modification in response to rising sea levels and erosion, as well as the redrawing of territorial baselines after the reclamation of land, both of which involve shifts in the delimitation of international airspace. Section 3.6 will draw together the findings and conclude the chapter.

This chapter contributes to the overarching analysis in this research of the right of a coastal State to prohibit or restrict the overflight of other States' aircraft by way of the coastal State's jurisdiction arising from their rights and responsibilities in the maritime areas off their coasts. In the case of this chapter, that is the exclusive right of a coastal State in its EEZ and continental shelf to establish artificial islands, and to establish installations and structures for purposes related to exercising its EEZ rights and, more specifically, whether the corresponding right to establish safety zones in respect to those maritime constructions extends to a right to restrict or prohibit overflight.<sup>472</sup>

The impetus for this research was China's construction of artificial islands in the South China Sea. As the area stood in September 2018, the New York Times described it as one that 'presents a kaleidoscope of shifting variables... a collection of Chinese fortresses', through which freedom of overflight has been curtailed on many occasions.<sup>473</sup> For example, in September 2018, a P-8A Poseidon US Navy reconnaissance plane flew low near Mischief Reef and was reported to have been met with the following radio response: 'US military aircraft... [y]ou have violated our China sovereignty and infringed on our security and our rights. You need to leave immediately and keep far out'.<sup>474</sup> In December 2015, an American B-52 bomber flying over the South China Sea, 'unintentionally flew within two nautical miles of an artificial island built by China... exacerbating a hotly divisive issue for Washington and Beijing' and leading to a diplomatic protest being filed by China.<sup>475</sup> Concerns about infringements of freedoms under UNCLOS in the South China Sea led the UK, France and Germany to issue a joint statement in August 2019, in which they called for the respect of 'the freedom and rights of navigation in and overflight above the South China Sea'.<sup>476</sup>

472 These rights arise from UNCLOS, Articles 60(1)(a) and (b), Article 56 and Article 60(4).

473 Hannah Beech, 'China's Sea Control is a Done Deal, "Short of War with the US"' (The New York Times, 20 September 2018), available at <[www.nytimes.com/2018/09/20/world/asia/south-china-sea-navy.html](http://www.nytimes.com/2018/09/20/world/asia/south-china-sea-navy.html)> accessed 10 October 2019.

474 *ibid.*

475 Jeremy Page, 'US Bomber Flies Over Waters Claimed by China' (The Wall Street Journal, 18 December 2015), available at <[www.wsj.com/articles/u-s-jet-flies-over-waters-claimed-by-china-1450466358](http://www.wsj.com/articles/u-s-jet-flies-over-waters-claimed-by-china-1450466358)> accessed 10 October 2019.

476 'E3 Joint Statement on the Situation in the South China Sea' (Press Release, 29 August 2019), available at <[www.gov.uk/government/news/e3-joint-statement-on-the-situation-in-the-south-china-sea](http://www.gov.uk/government/news/e3-joint-statement-on-the-situation-in-the-south-china-sea)> access-ed 10 October 2019.

From the outset, it should be clearly stated that, as will be discussed in Sections 3.2.2 and 3.2.4, China did not have the right to build its maritime construction on Mischief Reef. This is in part on the basis that, as concluded by the Tribunal in the *South China Sea Arbitration*, the reef is situated in the EEZ of the Philippines.<sup>477</sup> Thus, the discussion of China's jurisdiction over the airspace above the construction is a moot point. Rather, the situation is relevant in that it provides the set of circumstances that gave rise to the question instigating this research, of whether a State, in general, may exercise jurisdiction over international airspace on the basis of their constructions at sea. The study therefore takes the case of Mischief Reef and asks, hypothetically, if this situation were to occur in future within the EEZ or continental shelf of the State building the maritime construction, and if that construction was otherwise consistent with international law, would the State have the right to extend the safety zones around the construction to the airspace over it, thereby prohibiting the overflight of other States' aircraft? This question has broader resonance considering reports of interference with overflight in international airspace in the region beyond the South China Sea.<sup>478</sup> Mischief Reef is also useful for examining the application of the laws relating to maritime constructions in respect to, as will be explained in Section 3.2.5, the dual application of the legal regime applying to the reef in its natural form, and that applying to the maritime construction built over it.

## 3.2 THE LEGAL FRAMEWORK UNDER UNCLOS APPLYING TO SAFETY ZONES

### 3.2.1 Defining artificial islands, installations and structures

Purely in terms of purpose, and at the risk of oversimplification, installations and structures are most commonly built to explore and exploit natural resources in the sea. Most domestic law governing maritime constructions targets the offshore oil and gas industry and refers to 'installations and structures', or an equivalent, as opposed to 'artificial islands'. Artificial islands, in contrast, are constructed for myriad reasons such as building an

<sup>477</sup> *In the Matter of the South China Sea Arbitration (Philippines v. China)*, P.C.A. Case No 2013-19, 12 July 2016, p. 260 para. 647 ('*South China Sea Arbitration (Philippines v. China)*').

<sup>478</sup> Nearby in the East China Sea, US military pilots were hit with lasers more than 20 times throughout 2018, although Chinese officials have not been definitively ruled as being behind the actions (Gordon Lubold and Jeremy Page, 'American Military Aircraft Targeted By Lasers in Pacific Ocean, US Officials Say' (The Wall Street Journal, 21 June 2018), available at <[www.wsj.com/articles/american-military-aircraft-targeted-by-lasers-in-pacific-ocean-u-s-officials-say-1529613999](http://www.wsj.com/articles/american-military-aircraft-targeted-by-lasers-in-pacific-ocean-u-s-officials-say-1529613999)> accessed 10 October 2019); and, lasers were used against Australian Navy pilots in the region in May 2019 (Euan Graham, 'Australian Pilots Hit with Lasers During Indo-Pacific Exercise' (Australian Strategic Policy Institute, 28 May 2019), available at <[www.aspistrategist.org.au/australian-pilots-hit-with-lasers-during-indo-pacific-exercise/](http://www.aspistrategist.org.au/australian-pilots-hit-with-lasers-during-indo-pacific-exercise/)> accessed 10 October 2019).

off-shore airport, either civil<sup>479</sup> or military,<sup>480</sup> for residential and agricultural purposes,<sup>481</sup> for commerce and tourism,<sup>482</sup> for military use,<sup>483</sup> and for environmental restoration,<sup>484</sup> and most are found off the coast of North America – both Canada and the US – and Asia, predominantly in Japan, Singapore and China.<sup>485</sup> Airports at sea outside territorial seas were discussed as early as the 1930s – so-called ‘seadromes’ – to facilitate technical landings in the Atlantic Ocean, when technology in aviation did not allow engines to carry aircraft the distance in one leg.<sup>486</sup> It was not until the 1970s though, that States began to plan the construction of large-scale projects for the purposes of natural resource exploitation, deep-water ports and airports.<sup>487</sup>

UNCLOS does not define artificial islands, installations, and structures, and in practice they are frequently conflated. This is despite the fact that ‘the distinction is significant’ because of the different legal regimes applying to each under UNCLOS. More specifically, a coastal State, and by extension other States in relation to that coastal State, have different rights *vis-à-vis* a maritime construction, depending on whether it is an artificial island, on the one hand, or an installation or structure on the other. These specific rights will be discussed in detail in Sections 3.2.2 and 3.2.3 but at this stage a few overarching points will be noted from those sections to establish the relevance of this current section.

*Firstly*, Article 60 UNCLOS provides coastal States with the exclusive right to construct artificial islands in their EEZ, as well as the exclusive right to construct installations and structures, but only in certain circumstances.<sup>488</sup> *Secondly*, the article provides that the coastal States may then establish safety zones around ‘such artificial islands, installations and structures’ regardless

479 For example, Kansai International Airport (Osaka, Japan), Hong Kong International Airport (Hong Kong), Macau International Airport (Macau), Chūbu Centrair International Airport (Tokoname, Japan), Incheon International Airport (Seoul, South Korea). See also, the discussion surrounding the construction of an artificial island for the purpose of building an airport in the EEZ of the Netherlands, plans for which are currently on hold indefinitely.

480 For example, the construction of an airstrip by China on Fiery Cross Reef in the South China Sea.

481 For example, the Flevopolder, the Netherlands, and some new quarters of Singapore.

482 For example, the Palm Jumeirah and World Islands, United Arab Emirates. This land is also used for residential purposes.

483 For example, Willingdon Island, India.

484 For example, Poplar Island and Hart-Miller Island, US.

485 Iván Cáceres Rabionet, Vicente Gracia García and Montserrat Rubio Galindo, ‘Indicators for Evaluating the Impact of Artificial Islands on Barcelona Coast’ (2008) 36(3) Coastal Management 254, 255. At the time of this article, the waters under the jurisdiction of these States contained over 80 per cent of the world’s artificial islands.

486 Pablo Mendes de Leon and Erik Jaap Molenaar, ‘Still a Mile too Far? International Law Implications of the Location of an Airport in the Sea’ (2001) 14 Leiden Journal of International Law 233, 235.

487 Heijmans (n 465) 140. These States included the US, Belgium, Germany, the UK and the Netherlands.

488 UNCLOS, Article 60(1)(a) and Article 60(1)(b) and (c). See Section 3.2.2.



of the type of maritime construction involved. That is, there is one legal framework for safety zones that applies without distinction to artificial islands, installations and structures. Finally, outside these exclusive rights of the coastal State, other States have the right to build maritime constructions and indeed, all States have the freedom to 'construct artificial islands and other installations' in the high seas in accordance with Article 87(1)(d). The matters discussed throughout this research in relation to safety zones are the same for these maritime constructions as for maritime constructions that apply to coastal States within the scope of Article 60. The rationale behind the extension of the safety zone provisions under Article 60 to other maritime constructions, is provided in Section 3.2.3.5.

In consideration of the above points, the purpose of this section is twofold. First, it aims to provide a practical context in which to consider the legal framework under which safety zones fall. Secondly, and more specifically, it endeavours to, together with Sections 3.2.2 and 3.2.3, demonstrate how the law applies in practice.

### 3.2.1.1 *Artificial islands*

The term 'artificial island' was first included in international law in UNCLOS. There is no internationally agreed definition of the term under UNCLOS or in the wider body of public international law and it may be best defined in terms of what it is not. For this purpose, the definition of an 'island' under UNCLOS will be briefly discussed, as the starting point for defining an artificial island.

An island, as distinct from an artificial island, has its own territorial sea, EEZ and continental shelf.<sup>489</sup> The term 'island' is defined as 'a naturally formed area of land, surrounded by water, which is above water at high tide',<sup>490</sup> where the size of the area of land is irrelevant.<sup>491</sup> However, in accordance with Article 121(3) UNCLOS, 'rocks which cannot sustain human habitation or economic life of their own shall have no exclusive economic zone or continental shelf',<sup>492</sup> that is, they will only give rise to a territorial sea. The ICJ confirmed in its 2012 judgment of the *Territorial and Maritime Dispute (Nicaragua v. Colombia)*, that the above definition of an island, its maritime zones and the exclusion of certain rocks as outlined, are considered 'an indivisible regime, all of which... has the status of customary international law'.<sup>493</sup>

---

489 UNCLOS Article 121(2).

490 *ibid* Article 121(1).

491 *Case Concerning Maritime Delimitation and Territorial Questions (Qatar v. Bahrain)*, Merits, Judgment, I.C.J. Rep. 2001 (Mar. 16), p. 40, p. 97 para. 185. Confirmed by the Court in the *Case Concerning Territorial and Maritime Dispute (Nicaragua v. Honduras)*, Reports of Judgments, Advisory Opinions and Orders, I.C.J. Rep. 2007 (Oct. 8), p. 659, p. 696 para. 113; and in, *Territorial and Maritime Dispute (Nicaragua v. Colombia)*, Judgment, I.C.J. Rep. 2012 (Nov. 19), p. 624, p. 645 para. 37.

492 UNCLOS, Article 121(3).

493 Judgment, I.C.J. Rep. 2012 (Nov. 19), p. 624, p. 674 para. 139.



Whilst the definition of an island and the application of its maritime zones are generally clear, the determination of which rocks are excluded is less so. For example, to be excluded, must the rock be unable to *both* sustain human habitation *and* economic life, or just one or the other? Considering the phrase in its ordinary meaning (despite the use of ‘or’, the phrase is framed in the negative) and its teleological interpretation (the potentially low hurdle of fulfilling the requirement of ‘human habitation’ or ‘economic life’), Franckx argues that both are required for a rock to be an island, that is, ‘the absence of either of these two requirements is sufficient to deprive it of such maritime zones’.<sup>494</sup> In contrast, the Tribunal in the *South China Sea Arbitration* concluded that only one of the two elements is required, either human habitation or economic life. On this point, the Tribunal relied on a contextual and teleological interpretation of Article 121(3). Regarding the former, the contextual interpretation, the Tribunal noted that the second part of Article 121(3) – ‘...shall have no exclusive economic zone or continental shelf’ – also uses a negation of a disjunction. The Tribunal highlighted that it would lead to a manifestly absurd outcome if the ‘or’ in this second part was interpreted as meaning ‘one or the other’ and it would be implausible to consider that the drafters, employing the same construction in the first part of the provision, would have intended for it to have been interpreted differently.<sup>495</sup> Secondly, it considered that interpreting the provision too narrowly, thereby restricting the circumstances in which a rock will generate an EEZ and a continental shelf, ‘could well deprive other populations, making use of islands.., of the resources on which they have traditionally depended’.<sup>496</sup>

What can be concluded from the above is that an *artificial* island is ‘an area of land that is above water at high tide that is not naturally formed’.<sup>497</sup> As Schofield explains:

‘The ‘naturally formed’ requirement clearly serves to disqualify artificial islands such as platforms, for example, constructed on submerged shoals, low-tide elevations or reefs. Island-building activities on the part of states, in an effort to enhance their claims to maritime space by creating new islands, is therefore contrary to the Convention’.<sup>498</sup>

Furthermore, we know that, as confirmed in the case of the *South China Sea Arbitration*, as to which see Section 3.2.4, construction on an area of land that

494 Erik Franckx, ‘The Regime of Islands and Rocks’ in David Attard, Malgosia Fitzmaurice and Norman A Martínez Gutiérrez (eds), *The Manual on International Maritime Law: Volume 1 - The Law of the Sea* (OUP 2014) 116-17.

495 *South China Sea Arbitration (Philippines v. China)*, p. 209-10 para. 495-96.

496 *ibid* p. 211 para. 497.

497 Alex G Oude Elferink, ‘Artificial Islands, Installations and Structures’ (Max Planck Encyclopedia of Public International Law 2013) 3.

498 Clive Schofield, ‘The Trouble with Islands: The Definition and Role of Islands and Rocks in Maritime Boundary Delimitation’ in Jon M van Dyke, Seoung-Yong Hong (eds), *Maritime Boundary Disputes, Settlement Processes and the Law of the Sea* (Brill Nijhoff 2009) 24.

is below sea level at high tide but above it at low tide – i.e. a low-tide elevation – that results in the feature remaining above the surface of the water at high tide is considered an artificial island.<sup>499</sup>

Beyond this though, precisely what ‘not naturally formed’ entails is not always clear and UNCLOS does not explicitly provide for the situation in which an island ‘originated partly from human activity and partly from natural processes’.<sup>500</sup> Consequently, ‘[t]he distinction between an island and an artificial island may require complex assessments of law and fact’.<sup>501</sup>

At the 1930 Hague Conference in early discussions on the legal status of artificial islands, the ambiguity led to proposals for the two – naturally-formed islands and human-made islands – to be conflated. Gidel,<sup>502</sup> for example, argued that an artificial island should be assimilated with a natural island so long as it fulfilled the conditions of being above the surface of the water at high tide and capable of effective occupation and use.<sup>503</sup> These discussions seem anachronistic today with the codification of the definition of a natural island under Article 121 of UNCLOS, but as will be seen in Section 3.2.5 and again in Section 3.5, the ambiguity between natural and man-made is a distinction that the law continues to grapple with.

### 3.2.1.2 Installations and structures

The determination of the ordinary meaning of ‘installation and structure’ is necessarily tied to that of ‘artificial island’ and *vice versa*, although not all man-made objects at sea are either an artificial island, installation or structure. Vessels, for instance, are clearly excluded,<sup>504</sup> however even then,

499 See though Section 3.2.5.3 for the consequences of this in the case of the construction of a lighthouse or similar construction in the drawing of straight baselines.

500 Leendert Dorst, Alex G Oude Elferink and Thijs Ligteringen, ‘Recent Changes in the Dutch Baseline: The Inseparable Connection of Human Activities and Natural Processes’ (2012) 6, available at <[www.defensie.nl/downloads/brochures/2012/09/24/changes-dutch-baseline](http://www.defensie.nl/downloads/brochures/2012/09/24/changes-dutch-baseline)> accessed 29 September 2018.

501 Oude Elferink (n 497) 4.

502 Described by the author of the quoted article as ‘the French delegate at the conference [that is, The Hague Codification Conference in 1930] and the greatest living authority on the law of the sea’ (DHN Johnson, ‘Artificial Islands’ (1951) 4(2) *The Int’l L Quarterly* 203, 204).

503 ‘Une île est une élévation naturelle du sol maritime qui, entourée par l’eau, se trouve d’une manière permanente au-dessus de la marée haute et dont les conditions naturelles permettent la résidence stable de groupes humains organisés. Sont assimilées aux îles naturelles les îles artificielles satisfaisant aux mêmes conditions et dont la formation par l’action de phénomènes naturels a été provoquée ou accélérée au moyen de travaux’ (Gidel, *Le Droit International Public de la Mer*, Vol. III, Paris, 1934 p. 700 n. 1, as cited in Johnson (n 502) 204), translated: ‘An island is a natural elevation of the seabed which is surrounded by water and is permanently above the surface of the water at high tide and whose natural condition permits the stable habitation of organised human groups. Artificial islands satisfying the same conditions and whose creation has been formed or accelerated by means of human contribution also fall in this category’.

504 A clear distinction is made, for example, under Article 209 UNCLOS, which refers to ‘vessels, installations and structures’ in relation to pollution from activities in the Area.

'[t]he distinction between ships and structures and installations in certain instances may be complex'.<sup>505</sup>

Before going into further detail, the terms 'installation' and 'structure' will be considered as a single term as there is no apparent relevant difference in the application of the legal regime between the two. Article 87(1)(d) UNCLOS for example, refers only to 'artificial islands' and 'installations' in setting forth a State's right to construct on the high seas but the author has been unable to find any evidence to suggest that this was intended to create a discrepancy in the scope of this article compared with Article 60 UNCLOS.<sup>506</sup> As a side note here, Article 87(1)(d) in fact refers to 'artificial islands and *other* installations' (emphasis added), suggesting that an artificial island is a type of installation. This does not detract from the fact that Article 60 explicitly requires that there is a distinction between the two and that they must necessarily therefore have defining features. The wording of Article 87(1)(d) may reflect the fact that no distinction between the two is necessary under international law in the high sea: all States have the same rights in relation to all maritime constructions.<sup>507</sup>

Drawing on the extrapolated definition of artificial island as discussed in the Section 3.2.1.1 – 'an area of land that is above water at high tide that is not naturally formed' – the logical distinction between it and an installation or structure is that the latter have some man-made foundation that does not mimic the seabed. Commentary supports this view, suggesting that it is the basis of the construction that is relevant:

'Installations and structures appear to differ from artificial islands in that the latter are built from man-made or natural materials that are piled on the seabed to form an area of land'.<sup>508</sup>

And,

'The term 'artificial island' refers to constructions which have been created by dumping of natural substances like sand, rocks and gravel', while "installation' refers to constructions resting upon the seafloor by means of piles or tubes driven into the bottom, and to concrete structures'.<sup>509</sup>

---

505 Oude Elferink (n 497) 7.

506 In addition, Article 147 refers to only 'installations', Articles 194(3)(c) and (d) to 'installations and devices', Article 209(2) to 'installations, structures and other devices', and Articles 258 and 262 to 'installations or equipment'. The Drafting Committee of UNCLOS noted these inconsistencies but ultimately no adjustments were made (Myron H Nordquist (ed), *United Nations Convention on the Law of the Sea 1982: A Commentary – Volume II* (Brill Nijhoff 2011) 584).

507 Except in those portions of the where a State's continental shelf does not intersect with its EEZ, in which case that portion is part of the high seas but Article 60 UNCLOS applies *mutatis mutandis* in accordance with Article 80 UNCLOS. See Section 3.2.2.

508 Oude Elferink (n 497) 5.

509 Paul P Heller, 'Air Space Over Extended Jurisdictional Zones' in John King Gamble (ed) *Law of the Sea: Neglected Issues* (Law of the Sea Institute, University of Hawaii 1979) 148.

Although taking a slightly different approach, the UK likewise defines an installation in relation to its foundation. Under the UK *Continental Shelf Act 1964*, an 'installation' refers to 'any floating structure or device maintained on a station by whatever means',<sup>510</sup> which is also the definition employed by the UK's *Petroleum Act 1987*.

Beyond UNCLOS, other international agreements and supporting material provide further guidance on the interpretation of installation and structures. For example, International Maritime Organization (IMO) Resolution A.671(16) entitled 'Safety Zones and Safety of Navigation Around Offshore Installations and Structures',<sup>511</sup> mentions artificial islands but suggests that they are a subset of installations and structures, at least for the purpose of the Resolution: '[b]eing aware that safety zone regulations are applied by coastal States to protect mobile offshore drilling units on stations, production platforms, *artificial islands... referred to herein as installations or structures*' (emphasis added).<sup>512</sup> IMO Assembly Resolutions such as this are not binding but the IMO has wide international acceptance, with 174 Member States and its resolutions 'are usually adopted by consensus or by a majority vote among IMO Members [and] may potentially be characterized as generally accepted to reach such status by widespread and representative practice'.<sup>513</sup>

The IMO Resolution echoes the US's proposal at the 1974 Caracas Conference, forming part of the Third UN Conference on the Law of the Sea, in conflating the terms by suggesting that the term 'artificial island' should include 'all offshore facilities, installations or devices other than those which are mobile in their normal mode of operations at sea', including also floating installations'.<sup>514</sup> Presumably the reference to mobility was designed to exclude ships which, as discussed, are not always clearly distinguishable even taking into account mobility, which itself can be difficult to define.<sup>515</sup> Heijmans, commenting at the time on the broad-sweeping US position compared to that of Belgium, described the latter State's proposal at the Conference as limiting 'artificial islands' to 'to bottom-bearing islands', a view that is consistent with the commentary mentioned above, distinguishing between the two based on the construction's foundation.<sup>516</sup>

510 *Continental Shelf Act 1964* (UK), s. 11A.

511 IMO Resolution A.671(16) 'Safety Zones and Safety of Navigation Around Offshore Installations and Structures' (19 October 1989).

512 *ibid* 3.

513 Robert Beckman and Zhen Sun, *The Relationship between UNCLOS and IMO Instruments* (2017) 2 *Asia-Pacific Journal of Ocean Law and Policy* 201, 226.

514 Heijmans (n 465) 155; citing, respectively, U.N. Doc. A/AC 138/91 dated 11 July 1973; and, A/AC 138/SC II, L 35 art. 1,3 dated 16 July 1973 and Mr Stevenson, US Mission Press Release 18 July 1973, at p. 4.

515 Oude Elferink (n 497) 7.

516 Heijmans (n 465) 155; citing, respectively, U.N. Doc. A/AC 138/91 dated 11 July 1973; and, A/AC 138/SC II, L 35 art. 1,3 dated 16 July 1973 and Mr Stevenson, US Mission Press Release 18 July 1973, at p. 4.

In 1989, the UN Office for Ocean Affairs and the Law of the Sea published a document examining the provisions of UNCLOS that are relevant to baselines, in which an 'installation (offshore)' is defined as a '[m]an-made structure in the territorial sea, exclusive economic zone or on the continental shelf usually built for the exploration or exploitation of marine resources. They may also be built for other purposes such as marine scientific research, tide observations, etc.'<sup>517</sup> This definition is unusual in its focus on the purpose of the structure, at the expense of any requirement regarding the structure itself, beyond that it be man-made. The reason for this becomes clear though, when the definition is considered in the broader context of the document: under the definition of both 'artificial island' and 'structure', the reader is directed to the definition of 'installation'. Thus, the three terms are treated as one for the application of the law in accordance with this document.

Because of the different rights associated with installations and structures under Article 60 UNCLOS, they necessarily must be distinguished from artificial islands, but neither international law nor national law provide comprehensive definitions establishing the distinction. What can be drawn from the materials examined above is that the foundation of the maritime construction is generally the relevant factor to consider. Going further than this, although there is no uniformity in the approach, an artificial island is more likely to be a construction founded on an extension of the seabed, while an installation or structure remains distinct from the seabed. In any case, as explained at the beginning of this section, the purpose of establishing this distinction is to provide context to the legal framework under which safety zones fall and how it applies in practice. To reiterate, once a State has a right to build a maritime construction under UNCLOS, the type of maritime construction is irrelevant to the application of the legal regime on safety zones.

### 3.2.2 The right of States to construct and operate maritime constructions

Having determined, insofar as possible, what a maritime construction is, this section will examine the right of a State under UNCLOS to establish one. This provides the foundation for the following chapter, which sets out a State's jurisdiction in respect to their maritime constructions, including their right to establish safety zones.

A State's sovereignty over its territorial sea and archipelagic waters naturally encompasses any maritime constructions within these maritime zones and a State is only restricted in its construction, operation and use of them insofar as it is required to act in accordance with its international obli-

---

517 United Nations Office for Ocean Affairs and the Law of the Sea, 'The Law of the Sea - Baselines: An Examination of the Relevant Provisions of the United Nations Convention on the Law of the Sea' (1989) Appendix I, 56.

gations.<sup>518</sup> On the high seas, the right of States to build maritime constructions, as one of the freedoms of the high seas, is governed only minimally by UNCLOS. The rules on installations established for carrying out activities in 'the Area' – i.e. the 'seabed and ocean floor and subsoil thereof, beyond the limits of national jurisdiction'<sup>519</sup> – are subject to the conditions under Article 147 UNCLOS, including that they are 'erected, emplaced and removed' in accordance with the relevant part of UNCLOS (Part XI) and with the rules of the International Seabed Authority.<sup>520</sup> Furthermore, Part XIII UNCLOS, 'Marine Scientific Research', provides rules for the establishment of installations for scientific research.<sup>521</sup> Each of these sets of rules applying to installations will be discussed further in Section 3.2.3.3, in respect to their provisions on safety zones. Finally, there are also a number of general provisions under UNCLOS relating to environmental protection and the management of maritime constructions, although these are not further relevant to this study.<sup>522</sup>

UNCLOS provides more detailed rules on the rights of coastal States in establishing and operating maritime constructions in their EEZ and on their continental shelf. The relevant provisions under UNCLOS regarding maritime constructions in the EEZ are found under Article 60 and apply *mutatis mutandis* to the continental shelf.<sup>523</sup> The application of the provisions to the continental shelf is relevant in the case that a coastal State has not declared an EEZ or if the continental shelf extends beyond the EEZ.<sup>524</sup> In each of these cases, the continental shelf forms part of the high seas. In this situation therefore, elements of Article 60 are applicable to artificial islands, installations and structures on the high seas.<sup>525</sup> The freedom of the high seas to establish maritime constructions does not apply to these portions of the high seas that intersect with another State's continental shelf.

The legal regime of the EEZ (Part V UNCLOS) provides coastal States with, under Article 56, sovereign rights for the purpose of,

'exploring and exploiting, conserving and managing... the natural resources... and with regard to other activities for the economic exploitation and exploration of the zone, such as the production of energy from water, current and winds'.<sup>526</sup>

518 Oude Elferink (n 497) 11. This includes the right of other States' vessels to innocent passage through the territorial sea of another State in accordance with Article 17 UNCLOS. At the same time, the coastal State may adopt laws to protect installations in its territorial sea in accordance with Article 21(1)(b) UNCLOS.

519 UNCLOS, Article 1(1)(1).

520 *ibid* Article 147(2)(a). Other conditions include that they 'may not be established where interference may be caused to the use of recognized sea lanes essential to international navigation or in areas of intense fishing activity' (Article 147(2)(b)), and they must be 'used exclusively for peaceful purposes' (Article 147(2)(d)).

521 *ibid* Articles 258-262.

522 *ibid* Articles 194(3)(c) and (d), 208, 209(2), 214 and 249(g).

523 *ibid* Article 80.

524 Under Article 76(1) UNCLOS.

525 Nordquist (ed), *UNCLOS: A Commentary – Volume II* (n 506) 83.

526 UNCLOS, Article 56(1)(a).

It also provides the coastal State with jurisdiction over 'marine scientific research' and 'the protection and preservation of the marine environment'.<sup>527</sup>

Under Article 60(1) UNCLOS, a coastal State has 'the *exclusive* right to construct and to authorise and regulate the construction, operation and use of' (emphasis added) artificial islands<sup>528</sup> and of 'installations and structures for the purposes provided for in Article 56 and for other economic purposes'.<sup>529</sup> The lack of qualification for exclusive rights in respect to artificial islands suggests that coastal States have the exclusive right to construct them regardless of their purpose.<sup>530</sup> This interpretation is not uncontroversial though. For example, Vella argues that because Article 60 falls under Part V, Article 60 'will only apply to the extent that such islands are used for economic purposes'.<sup>531</sup> Whilst Vella's argument is logical, consideration of Article 60(1)(a) in relation to Article 60(1)(b) supports the former interpretation. Article 60(1)(b) provides States with the exclusive right to construct installations and structures but *a contrario*, Article 60(1)(a) expressly restricts the exclusivity to instances in which the installation or structure is constructed for one of the purposes under Article 56.

In coastal areas in which a continental shelf does not coincide with an EEZ – either where a State has a continental shelf but has not declared an EEZ or where the continental shelf exceeds the EEZ – the coastal State's exclusive right to construct installations and structures in that area is restricted to purposes falling within the scope of Article 77, which sets out the sovereign rights of a coastal State in its continental shelf, rather than within the scope of Article 56, applying to the EEZ.<sup>532</sup> Article 77 provides that States have sovereign rights for the purpose of exploring and exploiting its natural resources where those resources consist of 'the mineral and other non-living resources of the seabed and subsoil together with living organisms belonging to sedentary species'.<sup>533</sup>

527 UNCLOS, Article 56(1)(b)(ii) and (iii).

528 *ibid* Article 60(1)(a).

529 *ibid* Article 60(1)(b).

530 See also, Tara Davenport, 'Island-Building in the South China Sea: Legality and Limits' (2018) 8 *Asian J of Int'l Law* 76, 86.

531 Ivan Vella, 'A New Advent for Renewable Offshore Resources' in Norman A Martínez Gutiérrez (ed), *Serving the Rules of International Maritime Law: Essays in Honour of Professor David Joseph Attard* (Routledge 2010) 146-47.

532 *ibid* 148. Vella also claims here though that 'this means that such a coastal State may not construct (etc.) artificial islands, installations and structures *inter alia* for the production of energy from water, currents and winds', which the present author disagrees with. Firstly, as discussed, purpose is irrelevant for coastal States when it comes to their exclusive right to construct artificial islands. Secondly, in respect to installations and structures, the fact that their purpose does not fall within one of the areas over which the coastal State has sovereign rights means only that the coastal State does not have the *exclusive* right to construct an installation or structure for that purpose – i.e. that any State has the right to construct the installation or structure – not that the coastal State does not have the right to construct it.

533 UNCLOS, Articles 77(1) and (4).



Installations and structures for purposes outside the categories under Articles 56 and 77 may be established and operated by a State in the EEZ or on the continental shelf of another State, respectively, without the authority of the latter State<sup>534</sup> on the condition that they do not interfere with the rights of that State in the zone.<sup>535</sup> These include installations and structures for military purposes.<sup>536</sup> The freedom of all States to construct military installations and structures in the EEZ and on the continental shelf of any other State was a right that was closely protected during the drafting of UNCLOS. As Hailbronner explains,

‘[p]roposals to cover *all* installations were rejected since a number of states were prepared to accept the EEZ concept only if military activities within the EEZ, including the movement of aircraft, were not subject to the coastal state’s control’.<sup>537</sup>

At the same time, States have an obligation to use the sea for peaceful purposes and in exercising their rights must refrain from the threat or use of force against the territorial integrity or political independence of another State, as set forth in Article 2(4) of the UN Charter and as recognised in Article 301 UNLCOS.<sup>538</sup>

There are two restrictions to the right of a State, including the coastal State, to construct artificial islands, installations and structures in an EEZ or on a continental shelf. *Firstly*, a State may not establish a maritime construction where it would interfere with recognised sea lanes essential to international navigation.<sup>539</sup> This restriction is not specifically provided for the exercise of the right on the high seas but, as with all freedoms of the high seas, it must be exercised with due regard for the interests of other States in their exercise of the freedoms of the high seas in accordance with Article 87(2) UNCLOS. The requirement to respect international sea lanes is not relevant in the case of constructions on natural features, including low tide elevations, because sea lanes are established taking into account such features in any case.<sup>540</sup>

*Secondly*, States are obliged to ensure that the maritime construction does not interfere with their other obligations under public international law including, for example, the obligation to protect and preserve the mari-

---

534 James Kraska, ‘Military Activities on the Continental Shelf’ (Lawfare, 22 August 2016), available at <[www.lawfareblog.com/military-activities-continental-shelf](http://www.lawfareblog.com/military-activities-continental-shelf)> accessed 10 October 2019.

535 UNCLOS, Article 60(1)(c).

536 Vella (n 531) 147.

537 Kay Hailbronner, ‘Freedom of the Air and the Convention on the Law of the Sea’ (1983) 77 Am J Int’l L 490, 203.

538 UN Charter, Article 2(4).

539 UNCLOS, Article 60(7).

540 Xinjun Zhang, ‘The Latest Developments of the US Freedom of Navigation Programs in the South China Sea: Deregulation or Re-balance?’ (2016) 1 J of East Asia & Int’l L 167, 179.

time environment.<sup>541</sup> This was considered by the Tribunal in the *South China Sea Arbitration*, where it was found that, through its island building activities, China had breached a number of environmental protection obligations under UNCLOS.<sup>542</sup> Furthermore, although a condition rather than a restriction, coastal States are also required to give due notice of the construction of an artificial island and to provide continual warning of their presence.<sup>543</sup>

In addition to the environmental concerns, the Tribunal in the *South China Sea Arbitration* concluded that the actions of China in respect to its construction on Mischief Reef are in breach of the above provisions based on the fact that the reef is situated in the EEZ of the Philippines. The Tribunal found that the early activities of China on the reef between 1995 and 2013,<sup>544</sup> which it considered construction of 'structures' for fishing purposes, were in violation of Article 60(1)(c) because 'they had the potential to interfere with the exercise by the Philippines of its rights in the zone.'<sup>545</sup> According to the Tribunal, from 2015, when the construction evolved into the creation of an artificial island, China was in violation of Article 60(1)(a) on the basis that the Philippines, as the coastal State, has the exclusive right to establish artificial islands in its EEZ.<sup>546</sup>

### 3.2.3 Jurisdiction over maritime constructions including the establishment of safety zones

#### 3.2.3.1 A coastal State's exclusive jurisdiction over maritime constructions

Having determined when States have the right to build a maritime construction, this section sets out the express provisions under UNCLOS in

541 UNCLOS, Article 192. This provision is to be read together with other provisions under UNCLOS regarding the protection of the marine environment: Articles 123, 194, 197, 198, 200, 204, 205, 206 and 210.

542 *South China Sea Arbitration (Philippines v. China)*, p. 397 para. 993. China was found to have breached Arts 192, 194(1), 194(5), 197, 123 and 206 UNCLOS. For a discussion of these matter see, Yoshifumi Tanaka, 'The *South China Sea Arbitration*: Environmental Obligations under the Law of the Sea Convention' (2018) 27(1) RECIEL 90. See also, *Land Reclamation in and around the Straits of Johor (Malaysia v. Singapore)*, Provisional Measures, Order of October 2003, ITLOS Reports 2003, p. 10, p. 28. In considering the impact of land reclamation on the marine environment, the International Tribunal for the Law of the Sea (ITLOS) issued a provisional measure under Article 290 UNCLOS directing Singapore 'not to conduct its land reclamation in ways that might cause... serious harm to the marine environment' in the Straits of Johor. In this case, the reclamation took place in Singapore's territorial sea, with Malaysia's rights and environment being affected due to the cross-border effects of the reclamation work. The case did not involve the construction of artificial islands but may be relevant in considering restrictions to the construction, operation and use of artificial islands where the rights of other States and the marine environment are affected.

543 UNCLOS, Article 60(3).

544 *South China Sea Arbitration (Philippines v. China)*, p. 402 para. 1004.

545 *ibid* p. 414 paras. 1036-37.

546 *ibid* pp. 414-15 paras. 1036-38.

relation to the subsequent jurisdiction States have over them. This section introduces the concept of safety zones and enforcement powers within them as provided under UNCLOS.

Unlike islands, artificial islands, installations and structures do not generate a territorial sea and ‘their presence does not affect the delimitation of the territorial sea, EEZ or continental shelf’ of a coastal State.<sup>547</sup> In terms of the constructions themselves, a coastal State has ‘exclusive jurisdiction’ over the artificial islands, installations and structures it constructs in its EEZ and continental shelf under Article 60(2) UNCLOS. This encompasses both civil and criminal jurisdiction, including with respect to, but not limited to, ‘customs, fiscal, health, safety and immigration laws and regulations’.<sup>548</sup>

### 3.2.3.2 *Right of the coastal state to establish safety zones and its jurisdiction within them*

Most importantly for the purposes of this research, under Article 60(4) a coastal State is permitted to establish safety zones around its maritime constructions. Specifically, the article reads:

‘The coastal State may, where necessary, establish reasonable safety zones *around* such artificial islands, installations and structures in which it may take appropriate measures to ensure the safety both of navigation and of the artificial islands, installations and structures’ (emphasis added).

In the view of the PCA Arbitral Tribunal, henceforth referred to as ‘the Tribunal’, in the case of *In the Matter of the Arctic Sunrise Arbitration (Netherlands v. Russia)* (*‘Arctic Sunrise Case’*), this provides the coastal State with the right to enact and enforce laws and regulations that ‘go beyond its rights in the EEZ at large’.<sup>549</sup> More specifically, the Tribunal stated that Article 60(4) UNCLOS:

‘allows the coastal State to take, in the safety zone, appropriate measures in the nature of the enactment of laws or regulations, and of the enforcement of such laws and regulations, provided that such measures are aimed at ensuring the safety of both navigation and the artificial islands, installations and structures’.<sup>550</sup>

In this case, a number of inflatable boats were launched from a Greenpeace vessel, the *Arctic Sunrise*, registered as a Dutch vessel, and, whilst the *Arctic Sunrise* remained at a distance, the inflatable boats entered the safety zone around a Russian petroleum installation without authorisation. Upon

547 UNCLOS, Article 60(8).

548 *ibid* Article 60(2).

549 P.C.A. Case No 2014-02, 14 August 2015, p. 49 para. 211.

550 *In the Matter of the Arctic Sunrise Arbitration (Netherlands v. Russia)*, P.C.A. Case No 2014-02, 14 August 2015, p. 49 para. 211.

reaching the installation, two people disembarked and attempted to scale it for the purpose of staging a protest. The question was whether the actions taken by Russian officials in response to this, including the subsequent boarding, seizure and detention of the Arctic Sunrise, were lawful.<sup>551</sup> The actions of the Russian authorities took place once the inflatable boats had returned to the Arctic Sunrise, which was outside the safety zone.<sup>552</sup> As a result of this, the question was whether the requirements of hot pursuit had been met, as to which see Section 3.2.3.6. The Tribunal did not consider in further detail the actions constituting a lawful response to breaches of domestic law within a safety zone.

As highlighted, Article 60(4) refers to safety zones *around* maritime constructions, as opposed to also *over* them, suggesting that the zones may be restricted to the surface of the sea. This is supported by the fact that Article 60(5) refers only to the *breadth* of the zones, with no mention of altitude, and to the obligation under Article 60(6) of *ships* to respect the zones and comply with generally accepted international navigation standards in their vicinity, with no mention of aircraft. This argument will be developed in Section 3.3.

### 3.2.3.3 *Maximum breadth of safety zones and obligation of vessels to respect*

As with the maritime constructions themselves, safety zones must not interfere with recognised sea lanes essential to international navigation.<sup>553</sup> In accordance with Article 60(5) UNCLOS, the breadth of the safety zone may not exceed 500 metres from the outer edge of the artificial island unless 'authorized by generally accepted international standards' or 'recommended by the competent international organization', in this case the IMO.<sup>554</sup> As of 2012, the IMO had not authorised the extension of a safety zone beyond 500 metres.<sup>555</sup> In 2009, the IMO considered whether the maximum breadth of a safety zone should be extended, ultimately taking no further action on the basis that 'there are currently no international standards to assess such requests'.<sup>556</sup> It is for the State to determine the breadth of its safety zones within the 500-metre limit and in doing so, it is required to consider the nature and function of the maritime construction.<sup>557</sup>

551 It is worthy of note that Russia did not participate in the proceedings.

552 *Arctic Sunrise Arbitration (Netherlands v. Russia)*, p. 64 para. 262-63.

553 UNCLOS, Article 60(7).

554 Nordquist (ed), *UNCLOS: A Commentary – Volume II* (n 506) 586; Mikhail Kashubsky and Anthony Morrison, 'Security of Offshore Oil and Gas Facilities: Exclusion Zones and Ships' Routeing' (2013) 5(1) *Australia Journal of Maritime and Ocean Affairs* 1, 2.

555 Assaf Harel, 'Preventing Terrorist Attacks on Offshore Platforms: Do States Have Sufficient Legal Tools?' (2012) 4 *Harvard National Security Journal* 131, 152.

556 IMO, 'Sub-Committee on Safety of Navigation (NAV)' (55<sup>th</sup> Session, 27-31 July 2009), available at <[www.imo.org/en/MediaCentre/MeetingSummaries/NCSR/Pages/NAV-55th-session.aspx](http://www.imo.org/en/MediaCentre/MeetingSummaries/NCSR/Pages/NAV-55th-session.aspx)> accessed 20 February 2020.

557 UNCLOS, Article 60(5).

In contrast to other maritime constructions, installations established for the purpose of scientific research under Article 260 UNCLOS do not appear to be entitled to a more expansive safety zone.<sup>558</sup> The provisions governing safety zones for installations built for the purpose of carrying out activities in the Area under Article 147, differ somewhat from those in Article 60 and, notably in the context of this discussion, there is no mention of any maximum breadth of such zones.<sup>559</sup>

While Article 60(6) provides that ships must respect safety zones around maritime constructions in the EEZ or continental shelf of a State, there is no mention in Article 147 of ships being required to comply with the safety zones. This says little about the intended physical scope of the safety zones though, in particular whether they can extend to the air, as no mention is made in Article 147 of any obligations of other States in respect to the installations and safety zones.

#### 3.2.3.4 *Security as an element of safety in establishing and taking measures within safety zones*

At the First UN Conference on the Law of the Sea, in 1958,<sup>560</sup> the discussion on safety zones centred around the flammability of oil platforms and the need to keep vessels at a safe distance. The representative of the Netherlands proposed a safety zone of a breadth of 50 metres, based on consultation with the oil industry, stating that this distance corresponded to the distance around oil installations on land within which a naked flame was forbidden.<sup>561</sup> The representative of Germany agreed with the Dutch proposal of the breadth of the zone, reiterating the Dutch view that 'the sole purpose of safety zones was to prevent fires'.<sup>562</sup> States present at the conference in 1958 then agreed on the greater maximum breadth of 500 metres, to provide an 'ample margin of safety'.<sup>563</sup> The specific focus of the drafters was based on the perceived threat to maritime constructions at that point:

---

558 Barbara Kwiatkowska, *The 200 mile Exclusive Economic Zone in the New Law of the Sea* (Martinus Nijhoff 1989) 120.

559 UNCLOS, Article 147(2).

560 It was at this conference that the four 1958 law of the sea conventions were adopted, on which many UNCLOS articles are based. See Section 2.7.1 (n 387).

561 'Summary Records of the 26<sup>th</sup> to 30<sup>th</sup> Meetings of the Fourth Committee – Extract from the Official Records of the United Nations Conference on the Law of the Sea' Vol. VI (Fourth Committee (Continental Shelf)) A/CONF.13/C.4/SR.26-30 (Geneva, 24 February – 27 April 1958) 81.

562 *ibid* 85.

563 *ibid* 82. This was the wording of the representative of the United Kingdom, but other States supporting the extended breadth included Yugoslavia and Italy (see p. 87). This distance was first raised by the ILC: whilst the ILC draft articles did not specify a maximum breadth, 500 metres was provided as a reasonable consideration for States in the commentary to the articles (YILC (1956) Vol. II, 299).

'Drafters of the LOSC did not intend to address the threat of deliberate attacks, such as a deliberate ramming of a platform with a ship full of explosives, in the provisions pertaining to offshore platforms, as such attacks were not common at the time'.<sup>564</sup>

During the 1960s and 70s there was a rapid rise in offshore oil and natural gas production<sup>565</sup> and by 2016, it accounted for over 25 per cent of global supplies.<sup>566</sup> The significant role it plays in energy production as well as its economic value has led to offshore platforms involved in this production becoming a target for terrorists.<sup>567</sup> Recalling Section 2.3.2, security is a necessary consideration in meeting safety standards in international civil aviation. It is proposed here that risks to security is likewise one of the elements a State must take into account in its safety zones in order to ensure the safety of its maritime constructions. In other words, as the threat to safety changes over time, so too does the focus in protecting that safety, within the limitations provided in Article 60, including the maximum breadth of the zone. States during the drafting<sup>568</sup> and since the adoption<sup>569</sup> of UNCLOS have argued that the 500-metre maximum breadth of safety zones is inadequate for protecting the security of maritime constructions, a view shared more recently by scholars.<sup>570</sup> O'Connell though, writing in 1989, emphasised that safety zones are just one method of protecting the safety of maritime constructions from threats to security, a recognition he explains also contributed to the retention of the 500-metre breadth during the drafting of UNCLOS.<sup>571</sup> In any case, States have the right to establish safety zones to protect the safety of their maritime constructions, where the considerations involved in that protection now involve risks stemming not just from fire or collision, but also from security threats such as terrorism.

---

564 Harel (n 555) 156; Stuart Kaye, 'International Measures to Protect Oil Platforms, Pipelines, and Submarine Cables from Attack' (2007) 31 Tul Mar LJ 377, 406.

565 Kaye, 'International Measures to Protect Oil Platforms' (n 564) 384.

566 'Offshore Energy Outlook' (International Energy Agency, 2018) 13.

567 Harel (n 555) 135.

568 DP O'Connell, *The International Law of the Sea – Vol I* (OUP 1982) 503. These States included the United States, Turkey and India (Harel (n 555) 148).

569 Harel (n 555) 150-51.

570 Kashubsky and Morrison (n 554) 3; Harel (n 555) 157; Kaye (n 564) 405.

571 O'Connell (n 568) 503: 'The mounting of armament on oil rigs would not be affected by limit of the safety zone because if it fired at an attacker beyond that distance, that would be in exercise of the right of self-defence. Nets and traps within the limit of the safety zone would be sufficient for protection against clandestine attachment of sabotage devices to the rig. In fact, neither expedient is necessary or likely, short of a major threat, because regular surveillance by suitable ships and aircraft suffices to ward off the mounting of terrorist attacks...'.<sup>571</sup>

### 3.2.3.5 *Safety zones in respect to maritime constructions outside an EEZ*

It is not clear under UNCLOS whether a State other than a coastal State constructing in an EEZ or on a continental shelf, has jurisdiction over its maritime constructions or whether it has the right to establish safety zones in respect to those constructions. UNCLOS does not provide for jurisdiction over maritime constructions in another State's EEZ or on their continental shelf or for any State constructing on the high seas outside another State's continental shelf in accordance with Article 87(1)(d). Aside from coastal States under Article 60(4), and all States in relation to maritime constructions for the purposes in Articles 147 and 260, UNCLOS also provides no further mention of safety zones over maritime constructions. This is not necessarily indicative of an absence of such right though. Article 60 specifically addresses the rights of coastal States to construct and regulate maritime constructions in its EEZ, with the rights of other States to construct in the zone being residual.<sup>572</sup> In this way, it makes sense that the right to construct safety zones is granted to coastal States specifically. Article 87(1)(d), on the other hand, is general in nature, listing the broad freedoms of the sea, which must be read in the context of UNCLOS as a whole.

### 3.2.3.6 *Enforcement powers in relation to safety zones under UNCLOS*

The Tribunal in the *Arctic Sunrise Case* recognised the right of a coastal State to enforce its laws applying in its safety zone, as discussed in Section 3.2.3.2. This case furthermore considered the right of hot pursuit in connection with safety zones for the purpose of exercising these enforcement powers. Under UNCLOS, enforcement in relation to the breach of the law within a safety zone is explicitly addressed only in the context of hot pursuit. With reference to safety zones, this is relevant when the State who suspects its laws relating to the safety zone have been breached has been unable to stop the foreign vessel within the zone. The right of hot pursuit, which is accepted as customary international law,<sup>573</sup> is recognised under Article 111 UNCLOS:

'The hot pursuit of a foreign ship may be undertaken when the competent authorities of the coastal State have good reason to believe that the ship has violated the laws and regulations of that State'.<sup>574</sup>

572 The title of Article 60 is 'Artificial islands, installations and structures in the Exclusive Economic Zone' and the article falls under Part V UNCLOS, 'Exclusive Economic Zone'.

573 Nicholas M Poulantzas, *The Right of International Pursuit in International Law* (2<sup>nd</sup> edn, Martinus Nijhoff 2002) 39.

574 UNCLOS, Article 111(1). In accordance with Article 111(5), only warships, military aircraft or 'other ships and aircraft clearly marked and identifiable as being on government service and authorized to that effect' have the right of hot pursuit.



The rules of hot pursuit apply when the pursuit commences in waters over which a State has sovereignty – internal waters, archipelagic waters or the territorial sea – or in a contiguous zone,<sup>575</sup> and also, in accordance with Article 111(2):

‘...*mutatis mutandis* to violations in the exclusive economic zone or on the continental shelf, including safety zones around continental shelf installations, of the laws and regulations of the coastal State applicable in accordance with this Convention to the exclusive economic zone or the continental shelf, including such safety zones’.

In addition to the coastal State having good reason to believe that there has been a violation of the laws and regulations applying in the safety zone and the pursuit having begun while the ship is still within the EEZ or the continental shelf, there are two other conditions for hot pursuit to be valid: (1) a signal to stop must have been issued to the ship prior to the pursuit commencing, and (2) the pursuit may only be continued outside the EEZ or continental shelf provided that it is uninterrupted.<sup>576</sup> The International Tribunal for the Law of the Sea (ITLOS) confirmed in the case of *M/V ‘Saiga’* (No. 2) that these conditions must be cumulatively met in order for a legitimate right of hot pursuit to exist.<sup>577</sup> Notably for the purpose of this research, although aircraft have the right to conduct hot pursuit, Article 111 provides no basis on which hot pursuit may be commenced against an aircraft violating the laws of a safety zone.

### 3.2.4 The South China Sea Arbitration

#### 3.2.4.1 *Relevant facts of the case*

In the *South China Sea Arbitration*, the Tribunal addressed *inter alia* a claim by the Philippines that China had inflicted ‘severe harm on the marine environment by constructing artificial islands and engaging in extensive land reclamation at seven reefs in the Spratly Islands’ (emphasis added).<sup>578</sup> The Tribunal described the reefs as, ‘in their natural form... largely submerged reefs, with small protrusions of coral that reach no more than a few metres above water at high tide’.<sup>579</sup> Four of those reefs – Cuarteron Reef, Fiery Cross Reef, Johnson Reef and Graven Reef (North) – are rocks that are not capable

575 UNCLOS, Articles 111(1) and (4).

576 *ibid* 111(4) and (1), respectively.

577 *M/V ‘Saiga’* (No. 2) (*Saint Vincent and the Grenadines v. Guinea*), Judgment, ITLOS Reports 1999, p. 10, p. 59 para. 146; as restated in *Arctic Sunrise Arbitration* (*Netherlands v. Russia*), p. 59 para. 246. For a discussion on why the hot pursuit regulations are impractical in the context of safety zones see, Stuart Kaye, ‘International Measures to Protect Oil Platforms, Pipelines, and Submarine Cables from Attack’ (2007) 31 *Tul Mar LJ* 377, 406-8.

578 *South China Sea Arbitration* (*Philippines v. China*), p. 3 para. 9.

579 *ibid* p. 179 para. 397.

of sustaining human life and habitation, and three – Hughes Reef, Subi Reef and Mischief Reef – are low-tide elevations, with the first two situated in the Philippines' territorial sea and the latter in the Philippines' EEZ.<sup>580</sup> As to the definitions and legal status of 'rocks' and 'low-tide elevations', see Section 3.2.4.2 and in particular, Table 3.1.

Construction on maritime features over which a State has sovereignty is not of interest to this research, as the airspace over them is national airspace. Therefore, rocks are not relevant to consider and nor are low-tide elevations in a State's territorial sea. The coastal State has sovereignty over the latter, including the airspace, and the former when they are situated in a State's territorial sea or when beyond the territorial sea in the case that they are subject to a valid claim to sovereignty.

Instead, this research is interested in Mischief Reef, as a natural feature – a low-tide elevation – outside the territorial sea of any State – in the Philippines' EEZ – which has been subject to human modification (see Figure 3.1 and Figure 3.2). As has been addressed in the introduction, this research does not set out to argue that China's actions in prohibiting overflight over Mischief Reef could have been justified through the imposition of safety zones in the airspace – they could not have – but rather it takes Mischief Reef as a starting point for examining whether the prohibition of overflight in international airspace over a maritime construction can ever be justified on the basis of that maritime construction. The construction on Mischief Reef brings with it interesting preliminary considerations regarding the legal status of a maritime construction built with an existing maritime feature, with its own legal status, as the foundation. In terms of the rights over natural maritime features, the UNCLOS framework is generally clear. In relation to Mischief Reef, as a low-tide elevation, it has certain rights associated with it (see Table 3.1), which vary according to the maritime zone in which the low-tide elevation is situated, but in any case, the rights do not extend to jurisdiction over the airspace. The question then, is how these rights change when the low-tide elevation is subject to human modification.

The efficiency and vast expanse of the construction in the case of Mischief Reef was possible, at least in part, because of the use of the low-tide elevation as a pre-existing foundation for the construction. As the Tribunal described the activities:

'Intense land reclamation began at Mischief Reef in January 2015. Progress was rapid... . By November 2015, the total area of land created by China on Mischief Reef was approximately 5,558,000 square metres... . The massive scale of China's work at Mischief Reef and the transformation of nearly the entire atoll into an artificial island is apparent in satellite imagery'<sup>581</sup> (see Figure 3.1 and Figure 3.2).

580 *ibid* p. 259-260 paras. 643-45 and 647.

581 *South China Sea Arbitration (Philippines v. China)*, p. 397 paras. 889-90.

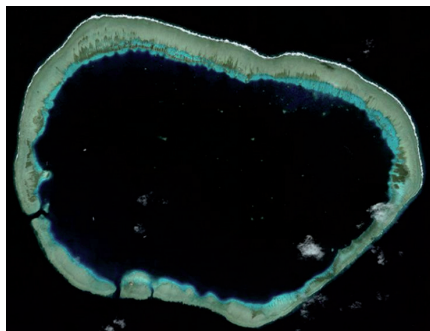


Figure 3.1: Satellite image of Mischief Reef in 2012<sup>582</sup>



Figure 3.2: Satellite image of Mischief Reef in 2019 (Google Maps)

The fact that the destruction of the reef as a result of the construction atop it was in breach of environmental protection laws, as mentioned in Section 3.2.2, illustrates that States do not have an unfettered right to employ these construction methods. In this way, international airspace may be indirectly protected from jurisdictional claims by States in connection with this type of use of natural features – namely, that which is destructive to the natural environment and that is irreversible – by prohibiting the construction from the outset. This does not exclude construction on low-tide elevations in general though, for example for use as a base for the construction of reversible artificial islands, i.e. with less environmental impact, or for installations or structures which are, as explained in Section 3.2.1.2, generally less invasive.

Three further clarifications on the *South China Sea Arbitration* are necessary in relation to its consideration in the context of this research. *Firstly*, the Tribunal did not address overflight in its decision, which instead focused on ‘the legal basis of maritime rights and entitlements in the South China Sea [and] the status of certain geographic features in the South China Sea’.<sup>583</sup> *Secondly*, there is no assertion that China has justified its practice of interfering with freedom of overflight over Mischief Reef on the basis of the human-modified elements of the reef. *Thirdly*, the research does not consider the myriad other legal questions that construction on the reef raises, either those considered by the Tribunal, such as those pertaining to the protection of the environment, or those outside the scope of the Tribunal decision, including questions of sovereignty and maritime delimitation.

582 Matt Liddy and Ben Spraggon, ‘Before and After: China Builds Artificial Island in South China Sea’ (Australian Broadcasting Corporation, 22 September 2015), available at <[www.abc.net.au/news/2015-09-22/south-china-sea-islands-before-and-after/6794076](http://www.abc.net.au/news/2015-09-22/south-china-sea-islands-before-and-after/6794076)> accessed 12 June 2018.

583 *South China Sea Arbitration (Philippines v. China)*, p. 1 para. 2.

These matters are beyond the scope of this research. Although there are disputes over sovereignty in the South China Sea, the Tribunal did not consider these matters because the arbitration claim was submitted under the dispute settlement mechanism set out in Part XV of UNCLOS and the Convention does not contain provisions on State sovereignty over land territory.<sup>584</sup> Whilst UNCLOS does address maritime delimitation, it was not considered by the Tribunal because China has excluded maritime boundary delimitation from compulsory dispute settlement, as it is permitted to do under UNCLOS.<sup>585</sup>

On a final note, the Tribunal's decision has not been received without criticism. Tanaka has examined some of the primary arguments against the decision, which he characterises as 'reflecting the progressive development of the law of the sea towards universalism' as opposed to unilateralism.<sup>586</sup> These arguments include that the Tribunal was unable to rely on evidence of State practice or a body of jurisprudence to support its interpretation of Article 121(3) UNCLOS.

#### 3.2.4.2 *No sovereignty over low-tide elevations or subsequently over the maritime constructions built atop them*

In the *South China Sea Arbitration*, the Tribunal considered whether low-tide elevations may be subject to claims of sovereignty. If low-tide elevations were subject to claims of territorial sovereignty, the 'artificial islands' created on them would also constitute the territory of the State and the regime applicable to artificial islands under UNCLOS would not be applicable. UNCLOS defines a low-tide elevation as 'a naturally formed area of land which is surrounded by and above water at low tide but submerged at high tide' and is silent on the matter of sovereignty regarding such features beyond unequivocally providing that they do not generate territorial sea.<sup>587</sup>

The ICJ considered the question of whether States have a right to claim sovereignty over low-tide elevations in its 2001 judgment on the *Case Concerning Maritime Delimitation and Territorial Questions (Qatar v. Bahrain)*,<sup>588</sup> in which it acknowledged that the law did not provide an answer to the matter at that time. The Court stated that if outside the territorial sea of a State, it is unclear whether a State may claim the land as part of its territory. In addition to recognising UNCLOS's silence on the matter, the Court acknowledged that State practice does not indicate a customary rule either

584 *South China Sea Arbitration (Philippines v. China)*, pp. 1-2 para. 5.

585 *ibid* p. 2 para. 6.

586 Yoshifumi Tanaka, 'Reflections on the Interpretation and Application of Article 121(3) in the *South China Sea Arbitration* (Merits)' (2017) 48(3-4) *Ocean Development & International Law* 365, 378-39.

587 UNCLOS, Articles 13(1) and (2).

588 *Merits, Judgment*, I.C.J. Rep. 2001 (Mar. 16), p.40.

way.<sup>589</sup> The ICJ again considered the legal status of low-tide elevations in 2012 in *Territorial and Maritime Dispute (Nicaragua v. Colombia)*, where it confirmed that they do not form part of the land territory of a State in a legal sense.<sup>590</sup>

This decision was affirmed by the Tribunal in the *South China Sea Arbitration*, which Guilfoyle has described as ‘the equivalent of a major constitutional decision’.<sup>591</sup> On the matter, the Tribunal stated:

‘...notwithstanding the use of the term ‘land’ in the physical description of a low-tide elevation, such low-tide elevations do not form part of the land territory of a State in the legal sense. Rather they form part of the submerged landmass of the State and fall within the legal regimes for the territorial sea or continental shelf, as the case may be. Accordingly, as distinct from land territory, the Tribunal subscribes to the view that ‘low-tide elevations cannot be appropriated...’.<sup>592</sup>

The Tribunal also clarified that what is relevant in determining the status of the feature is its ‘natural condition, prior to the onset of significant human modification’ and that in this sense, ‘a low-tide elevation will remain a low-tide elevation under the Convention, regardless of the scale of the island or installation built atop it’.<sup>593</sup> Regarding the scale of construction in the *South China Sea Arbitration*, the Tribunal described it as being to such an extent that ‘[i]n some cases, it would likely no longer be possible to directly observe the original status of the feature, as the contours of the reef platform have been entirely buried by millions of tons of landfill and concrete’ and, that the actions of the State ‘permanently destroyed... evidence of the natural condition’ of a number of the reefs in question.<sup>594</sup>

The above decisions clarify that construction on or around a natural feature does not alter the legal status of that nature feature, regardless of the physical alteration of its state. Following from this, such construction cannot give rise to a State’s right to sovereignty *over the feature*. Given that sovereignty over airspace arises from sovereignty over territory, as recognised in Articles 1 and 2 of the Chicago Convention, this in turn means that such construction cannot give rise to a State’s right to sovereignty *over the airspace*

589 ibid p.40, pp. 101-2 paras. 204-5. The question in this case was ‘whether a State can acquire sovereignty by appropriation over a low-tide elevation situated within the breadth of its territorial sea when that same low-tide elevation lies also within the breadth of the territorial sea of another State’ (p. 101 para. 204).

590 Judgment, I.C.J. Rep. 2012 (Nov. 19), p. 624, p. 641 para. 26 (*‘Territorial and Maritime Dispute (Nicaragua v. Colombia)’*).

591 Australian Broadcasting Corporation (Radio National, Late Night Live), ‘Who Owns the South China Sea?’ – Interview with Douglas Guilfoyle (14 July 2016), available at <[www.abc.net.au/radionational/programs/latenightlive/who-owns-the-south-china-sea/7629968](http://www.abc.net.au/radionational/programs/latenightlive/who-owns-the-south-china-sea/7629968)> at 8:09 minutes, accessed 8 June 2018.

592 *South China Sea Arbitration (Philippines v. China)*, p. 132 para. 309.

593 ibid pp. 131-132 paras. 305-306 and pp. 214-15 para. 511.

594 ibid pp. 131-2 para. 306 and p. 476 para. 1203.

above the maritime construction.<sup>595</sup> As a result, it can be concluded that a State may have sovereignty over the airspace over a maritime construction, but only on the basis of existing sovereignty over that airspace, that is, where the maritime construction has been built atop a natural feature that can be appropriated and over which a State has sovereignty.

*Table 3.1: Overview of naturally formed areas of land surrounded by water and associated sovereignty, sovereign rights and jurisdiction*

<i>Naturally formed areas of land surrounded by water</i>		
	<i>Area of land and its maritime zones</i>	<i>Subject to claims of territorial sovereignty?</i>
<i>Above water at high tide</i>	<ul style="list-style-type: none"> <li>– ‘island’ (Art 121(1))</li> <li>– has a territorial sea, EEZ and continental shelf (Art 121(2))</li> <li>– BUT, if the land is ‘a rock that cannot sustain human habitation or economic life’, it only has a territorial sea (Art 121(3))</li> </ul>	<ul style="list-style-type: none"> <li>– If in the territorial sea, the coastal State has sovereignty over the area of land.</li> <li>– If outside the territorial sea of a State, territorial recognition subject to public international law.</li> </ul>
<i>Above water at low tide (submerged at high tide)</i>	<ul style="list-style-type: none"> <li>– ‘low tide elevation’ (Art 13(1))</li> <li>– has no maritime zones (Art 13(2)) but if within 12nm of a State’s coastline or an island may be used as a base point for extending the territorial sea (Art 13(1), Art 7(4) and Art 47(4))</li> </ul>	<ul style="list-style-type: none"> <li>– A low-tide elevation cannot be appropriated.<sup>596</sup> If in the territorial sea though, the coastal State has sovereignty over the low-tide elevation, as it has sovereignty over the territorial sea itself.</li> <li>– If beyond the territorial sea of a State, but in the EEZ or continental shelf, the coastal State has sovereign rights and jurisdiction in accordance with the applicable regimes under Article 56(3) and 77 UNCLOS, respectively. Again, the low-tide elevation cannot be appropriated.</li> <li>– If in the high seas beyond any State’s EEZ or continental shelf no State may claim any sovereign rights over the land. It is part of the deep seabed and subject to the applicable law under Pt XI UNCLOS.</li> </ul>
<i>Below water at all times</i>	<ul style="list-style-type: none"> <li>– part of the bed and subsoil</li> </ul>	<ul style="list-style-type: none"> <li>– If in the territorial sea, the coastal State has sovereignty over the feature as it has sovereignty over the territorial sea itself and the bed and subsoil.</li> <li>– If beyond the territorial sea of a State, but in the EEZ or continental shelf, the coastal State has sovereign rights and jurisdiction in accordance with the applicable regimes under Article 56(3) and 77 UNCLOS, respectively.</li> <li>– If in the high seas beyond any State’s EEZ or continental shelf no State may claim any sovereign rights over the feature. It is part of the deep sea bed and subject to the applicable law under Pt XI UNCLOS.<sup>597</sup></li> </ul>

<sup>595</sup> See Section 2.2.2.1.

<sup>596</sup> *Territorial and Maritime Dispute (Nicaragua v. Colombia)*, p. 641 para. 26.

<sup>597</sup> *ibid* p. 127 para. 291.

### 3.2.5 The dual status of a natural feature/maritime construction

In confirming that a natural feature subject to human modification retains its prior legal status, the resulting land mass is both a natural feature and a maritime construction, with the legal regimes for each applying simultaneously. As outlined in Section 3.2.4, in relation to the relevance of Mischief Reef to this research to the exclusion of the other features in the *South China Sea Arbitration*, rocks and islands are subject to State sovereignty and construction over them does not generate new rights for the State. As such, when discussing changes to the rights of a State in relation to a natural feature as a result of maritime construction over that feature, it is low-tide elevations that are relevant, with the new rights being those under Article 60 UNCLOS.

Kohl argues that a natural feature's preservation of its original legal status upon human modification is inconsistent with the intention of the drafters of UNCLOS in that the drafters would not have created a specific legal regime for maritime constructions if those constructions were to retain their prior legal status:

'... it would make little sense for the framers to create a rule for legal entitlements belonging to artificial islands, but nevertheless maintain a belief that entitlements of artificial islands would be defined by the rules attached to each separate island's underlying feature... Moreover... the framers of UNCLOS likely did not intend the legal entitlements affecting artificial islands to be governed by some unrelated section of the Convention'.<sup>598</sup>

Counter to Kohl's view, the only logical interpretation of the relevant provisions of UNCLOS is that in the case of construction over a natural feature, that feature both retains its original legal status and takes on the legal status of an artificial island, installation or structure. This interpretation is supported by a number of considerations, outlined here below.

As discussed in Section 3.2.1, artificial islands are generally distinguished from installations and structures on the basis of the former involving an elevation of the seabed, where such construction has long been recognised in relation to man-made islands on coral reefs. In 1951, a hydrographer for the Admiralty in the UK who was asked to advise the Foreign Office on the legal status of artificial islands, acknowledged the 'many forms of artificial islands in the Gulf built upon coral, which have a close assimilation to small, natural islands'.<sup>599</sup> Of course, artificial islands

598 Adam W Kohl, 'China's Artificial Island Building Campaign in the South China Sea: Implications for the Reform of the United Nations Convention on the Law of the Sea' (2018) 122(3) Dickinson Law Review 917, 930.

599 Clive Schofield and Richard Schofield, 'Testing the Waters: Charting the Evolution of Claims to and from Low-Tide Elevations and Artificial Islands under the Law of the Sea' (2016) 1 Asia-Pacific J of Ocean L & P 37, 44.



or maritime constructions more broadly built upon low-tide elevations are only a subset of what is within the scope of Article 60 UNCLOS in that maritime constructions exist independently of natural features. At the same time, there is nothing in the text of UNCLOS to suggest that this subset was intended to fall outside the scope of Article 60. Particularly considering the generally understood characteristic of an artificial island integrated into the natural seabed, the exclusion of construction on low-tide elevations would be an unusual omission, even more so given it is not expressly stated.

Furthermore, the provisions under Article 60 have been drafted in a manner consistent with the laws applying to the natural state of the feature. Of course, in the case of a maritime construction over a natural feature certain provisions in Article 60 will not be applicable. These circumstances have been mentioned above, for example, in the case of a rock which is subject to a State's sovereignty, or in the case of a low-tide elevation where the requirement that the safety zone does not interfere with recognised sea lanes will not be relevant. In these circumstances, it is not that the natural feature is in conflict with the provisions, but that they are not relevant as a consequence of the natural feature already bringing about the result intended by the application of the provisions. Article 60 has been drafted to address maritime constructions in the EEZ as a whole, including those built on natural features, where those provisions are relevant. The broad scope of Article 60 reflects the fact that maritime constructions do not necessarily and in fact most often do not, rely on natural features.

Reflecting the consistency between the two legal regimes is Article 60(8), which begins with the statement '[a]rtificial islands, installations and structures do not possess the status of islands' and goes on to provide that artificial islands, installations and structures '*...have no territorial sea of their own, and their presence does not affect the delimitation of the territorial sea, the exclusive economic zone or the continental shelf*' (emphasis added). Considered in context, this provision is clearly intended to ensure that a maritime construction does not generate maritime zones and is not used to extend a territorial sea baseline. At the same times though, it serves to ensure that a natural feature that generates maritime zones – a rock or island – retains those zones regardless of any maritime construction that is built atop it.

A consequence of a feature retaining its prior legal status that is advantageous to high seas freedoms is that it may help to ensure that artificial islands do not end up being treated as natural islands over time and become subject to State sovereignty. Without the natural state of a feature being held as paramount, the passage of time may end up leading to it, in its modified form, being treated as a natural island. This new status may be *de facto*, or even *de jure* by way of the development of customary international law.

Despite the above arguments, the simultaneous application of two legal regimes to the one body of land in these situations does lead to some anomalous circumstances, which are addressed in the two following sections.

### 3.2.5.1 Consequences of a natural feature/maritime construction dual status

As explained in Section 3.2.4.1, the Tribunal in the *South China Sea Arbitration* made it clear that an artificial island built atop a natural feature retains its status as it was before human modification, meaning that the artificial island is at once an artificial island *and* a low-tide elevation or rock, as was the specific set of circumstances in this case. This raises questions in relation to the maritime zones pertaining to maritime constructions with these features as their foundations.

### 3.2.5.2 Rocks

As a conclusion extrapolated from Article 121(3) UNCLOS, we know that rocks that cannot sustain human habitation or economic life of their own generate territorial seas. The logical result under UNCLOS is that a maritime construction can be encircled by a territorial sea, by virtue of the rock on which it is constructed. At the same time, features permanently submerged and low-tide elevations with the exception of those discussed below in Section 3.2.5.3, 'have no zone generative capacity even if a structure has been built on them, which is itself permanently above sea level'.<sup>600</sup> This makes sense given that neither the natural features themselves nor the maritime constructions generate maritime zones. As a result though, two identical maritime constructions in size and shape – one constructed over or around a rock and the other a low-tide elevation or an entirely submerged feature – may possess different maritime zones based on their, potentially now unrecognisable, original state. This in itself is logical considering the applicable law and the consequences of the alternative, as discussed in Section 3.2.5, and it is not necessarily problematic, however it does require continuous recognition of the underlying form of the landmass as opposed to its existing and developing states.

### 3.2.5.3 Low-tide elevations and lighthouses

Lighthouses specifically, as a type of man-made structure, are a recurring theme in the records of the development of the law of the sea.<sup>601</sup> The basis for this is the *Fur Seal Arbitration Case* of 1893, in which Sir Charles Russell, the UK Attorney General at the time, argued that lighthouses should lead to the generation of a territorial sea: 'if a lighthouse is built upon a rock or upon piles driven into the bed of the sea, it becomes, as far as that light-

---

600 Schofield (n 498) 27.

601 MW Mouton, *The Continental Shelf* (Martinus Nijhoff 1952) 233.

house is concerned, part of the territory of the nation which has erected it, and... it has... all the rights that belong to the protection of territory'.<sup>602</sup>

In contrast, in 1912, in consideration of whether a lighthouse should be able to change a 'mere rock' into an island by virtue of having a lighthouse built upon it, Oppenheimer was unequivocal:

'If this assertion of Sir Charles Russell were correct', he said, 'it would be necessary to grant to any State which has built such a lighthouse a right of sovereignty over the territorial sea surrounding this lighthouse; but, in my opinion, this assertion is not justified. I believe that the assimilation of lighthouses and islands is misleading and that it would be better to treat lighthouses on the same footing as anchored flagships. Just as a state does not have the power to claim sovereignty over the territorial sea around an anchored flagship, so too does it have no power to claim sovereignty over a maritime area surrounding a lighthouse in the sea'.<sup>603</sup>

These discussions took place long before man-made structures and naturally formed islands were distinguished under international law, with only

---

602 Oral Argument of Sir Charles Russell on Behalf of Great Britain (10 May 1893), Proceedings of the Tribunal of Arbitration, Convened at Paris Under the Treaty Between the United States of America and Great Britain, Concluded at Washington February 29, 1892 for the Determination of Questions Between the Two Governments Concerning the Jurisdictional Rights of the United States in the Waters of Bering Sea, Vol. XIII (US Government Printing Office 1895), 337; in the case of *Award between the United States and the United Kingdom relating to the rights of Jurisdiction of United States in the Bering's Sea and the Preservation of Fur Seals* (1893) XXVIII R.I.A.A. 263.

603 Johnson (n 502) 206-7; citing Oppenheimer's report to the Institute of International Law for its Christiana session in 1912. Quote translated from the French: 'Si cette assertion de Sir Charles Russell était juste', he said, 'il serait nécessaire d'accorder à tout Etat qui a bâti un tel phare un droit de souveraineté sur la mer territoriale entourant ce phare; mais, à mon sens, cette assertion n'est pas justifiée. Je crois que l'assimilation des phares aux îles est de nature à induire en erreur et qu'il vaudrait mieux traiter les phares sur le même pied que les bateaux phares ancrés. De même qu'un Etat n'a pas le pouvoir de réclamer souveraineté sur une mer territoriale à l'entour d'un bateau-phare ancré, de même il n'a pas pouvoir de réclamer cette souveraineté sur une zone maritime à l'entour d'un phare dans la mer'. In 1951, Jessup echoed Oppenheimer's sentiments: 'it would be a dangerous doctrine in many parts of the world to allow States to appropriate new areas of water by means of structures on hidden shoals' (PC Jessup, *The Law of Territorial Waters and Maritime Jurisdiction* (GA Jennings 1927) 69, as cited in, Johnson (n 502) 207).

the latter ultimately entitled to maritime zones.<sup>604</sup> In this sense, these early discussions had added weight regarding claims of sovereignty over international waters compared with today, as it meant that a State would potentially be able to claim sovereignty over stretches of the high seas on the basis of small-scale constructions on tiny maritime features. The solution to this was to 'discover a more general principle of international law', which was 'to be found in the law relating to islands themselves'.<sup>605</sup> Thus, in relation to the above, the 'mere rock' referred to by Russell and Oppenheimer may today, if it is a 'rock' in the sense of Article 121(3) UNCLOS, generate a territorial sea regardless of the installation built upon it, as we have seen.

The development of the law through the three UN conferences on the law of the sea in the second half of the twentieth century focused on just that: the maritime feature as it exists naturally is generally the source of the rights associated with it. The condition 'generally' is used here because of: (1) the situation of low-tide elevations with lighthouses and similar constructions built upon them, which will be discussed directly below in this section, and; (2) the rights attributed to a State on the basis of its maritime construction, under Article 60, considered in Sections 3.2.2 and 3.2.3, in particular in relation to the right to establish safety zones.

The *South China Sea Arbitration* unequivocally confirms the retention of the legal status of a natural feature in the case of construction. However, a construction over a low-tide elevation can, in specific circumstances, affect maritime zones. Under UNCLOS, a territorial sea baseline can be measured from a low-tide elevation where that low-tide elevation is wholly or partly within the territorial sea.<sup>606</sup> This is unremarkable and is consistent with other natural features including reefs and bays, being used in such a manner.<sup>607</sup> However, under Article 7(4) UNCLOS, and in contrast to other instances of maritime construction, low-tide elevations that are beyond territorial sea may be used for the purpose of drawing straight baselines in the specific instance that 'lighthouses or similar installations which are

---

604 YILC (1956) Vol. II, 270. Draft Article 10 read: 'Every island has its own territorial sea. An island is an area of land, surrounded by water, which in normal circumstances is permanently above high-water mark'. Whilst it did not draw a distinction between naturally-formed and man-made islands in the text of the article, the accompanying commentary clearly excludes from the scope of the article low-tide elevations that have lighthouses built upon them (as well as low-tide elevations in general) and 'technical installations'. These ILC draft articles formed the basis for the resulting four 1958 conventions on the law of the sea, including the Convention on the Territorial Sea and the Contiguous Zone, with its Article 10 as a revised form of the ILC draft Article 10 (Convention on the Territorial Sea and the Contiguous Zone (Geneva, 29 Apr. 1958) 516 U.N.T.S. 205, entered into force 10 Sep. 1964 ('Convention on the Territorial Sea and the Contiguous Zone 1958')). The final version of the article expressly provides that an island must be 'naturally-formed', as was carried over into Article 121 UNCLOS.

605 Johnson (n 502) 211.

606 UNCLOS, Article 13(1) or Article 47(4) in the case of archipelagic baselines.

607 UNCLOS, Articles 6 and 10.

permanently above the sea' are constructed on them.<sup>608</sup> Aside from off the coast of Norway, there is little in the way of State practice regarding the application of this provision.<sup>609</sup> The situation is significant though because, keeping in mind that a lighthouse or similar installation will not necessarily be a maritime construction for the purpose of Article 60, the provision technically serves as an exception to maritime constructions being unable to generate maritime zones. It is only by way of the construction of the 'lighthouses or similar installations' resulting in the land mass of the low-tide elevation being permanently above the surface of the water, that the mass is able to be used to draw the straight baseline. In essence, it is the human modification that extends the territorial sea and in the case of that modification being a maritime construction, it is a case of a maritime construction doing so.

The provision leads to the unusual situation where a low-tide elevation with a lighthouse or similar installation may contribute to the delimitation of the territorial sea but construction over the low-tide elevation to accommodate, for example, an airport, may not. Whether this is the case in practice will depend on the interpretation of the vague term 'similar installation' used in Article 7(4) UNCLOS, and whether airports would fall under it. Mendes de Leon and Molenaar explain that at the time of the seadromes in the 1930s they were 'considered in the same fashion as beacons and lighthouses' insofar as they were 'instruments to bridge distances and to facilitate air navigation'.<sup>610</sup> The standard contemporaneous consideration for the construction of airports at sea is as a solution for lack of space rather than as an aid for navigation, in which case this comparison becomes more tenuous. Furthermore, due to advancements in navigation technology leading to increased reliance on tools such as the Global Position System (GPS), lighthouses are becoming obsolete and the provisions pertaining to lighthouses under UNCLOS are consequently losing their relevance.

As addressed in Section 2.2.3.1, natural features such as deep coastal indentations and fringes of islands,<sup>611</sup> as well as islets, rocks and reefs,<sup>612</sup> are legitimate basepoints for the drawing of a straight baseline, depending on the circumstances. The above case of construction on low-tide elevations is distinguished from these situations in that the defining factor is the human modification of the low-tide elevation. Finally, human modification can lead

---

608 Or Article 47(4), in the case of archipelagic baselines. The value of a low-tide elevation in generating maritime zones is restricted to this instance i.e. when it is in sufficient proximity to the coast of a State. As a result, they are known as 'parasitic basepoints' (Schofield (n 498) 26, with reference to, Clive Symmons, 'Some Problems Relating to the Definition of 'Insular Formations' in International Law: Islands and Low-Tide Elevations' (1995) 1(5) IBRU Maritime Briefing 7).

609 International Law Association, 'Baselines under the International Law of the Sea', Final Report (2018) 29.

610 Mendes de Leon and Molenaar (n 486) 235.

611 UNCLOS, Article 7(1).

612 *Fisheries (United Kingdom v. Norway)*, Judgment, I.C.J. Rep. 1951 (Dec. 18), p. 116.

to the extension of the territorial sea baseline in one other case, although this time in the case of construction in territorial sea: coastal land reclamation. This will be considered in Section 3.5.

### 3.3 THE RIGHT TO EXTEND SAFETY ZONES TO ENCOMPASS AIRSPACE

#### 3.3.1 Development of treaty law applying to safety zones

The ‘essential origins’<sup>613</sup> of safety zones is the recommendation by the ILC in 1953 of such areas around installations in the continental shelf.<sup>614</sup> The recommendation was part of a draft article that served as an early version of what went on to be accepted as Article 5(2) of the 1958 Convention on the Continental Shelf,<sup>615</sup> which provides that ‘the coastal State is entitled to... establish safety zones around such installations and devices and to take in those zones measures necessary for their protection’. Article 5(3) further states that the zones may extend to a breadth of 500 metres and ships must respect them. The wording of this article in respect to safety zones is similar to that under Article 60 UNCLOS and provides no indication of whether safety zones were intended to extend also to the airspace in addition to the surface of the sea. The matter was, however, addressed during its drafting at the First UN Conference on the Law of the Sea in 1958.

The ILC’s Report to the General Assembly in 1956, which included the draft articles on the law of the sea, was considered by the States present at the 1958 conference. A document forming part of the *travaux préparatoires* of the 1958 law of the sea conventions and addressing the relationship between international civil aviation law and the ILC draft articles, reveals support for the position that the draft ILC articles should be interpreted as permitting the establishment of safety zones in the airspace over maritime constructions. The author of the document, Eugène Pépin, concludes,

‘[n]either article 71 [the draft article on safety zones] nor its commentary... refer to air traffic and, consequently, a safety zone established around installations situated on the surface of the sea can presumably include part of the superjacent airspace. Such a safety zone or space may thus be assimilated to a prohibited, restricted or danger area, depending on the regulations enacted by the State concerned, and may even have no upward limit’.<sup>616</sup>

613 Schofield and Schofield (n 599) 43.

614 YILC (1953) Vol. II, 213, as draft Article 6(2).

615 Convention on the Continental Shelf (Geneva, 29 Apr. 1958) 499 U.N.T.S. 311, *entered into force* 10 Jun. 1964 (‘Continental Shelf Convention 1958’).

616 Eugène Pépin, *The Law of the Air and the Draft Articles Concerning the Law of the Sea Adopted by the International Law Commission at Its Eighth Session (A/CONF.13/4)* – Extract from the *Official Records of the United Nations Conference on the Law of the Sea*, Volume I (Preparatory Documents), United Nations Conference on the Law of the Sea, Geneva, 24 February–27 April 1958, 73.

Section 3.3.3.2 will address the reason safety zones are different to these spaces – prohibited, restricted and danger areas – in international civil aviation law and therefore why the extension of safety zones to the airspace over maritime constructions cannot be justified on these grounds.

In contrast to Pépin's conclusion, the *travaux préparatoires* indicate that States present at the 1958 conference considered that safety zones were limited to the sea rather than extending to the airspace. On consideration of the draft article, the representative of Yugoslavia stated that the concept of 'safety zone' should expressly encompass the airspace: 'since installations could be endangered by aircraft even more than ships, the [Yugoslavian] proposal also provided for an air safety zone to a height of 1,000 metres'.<sup>617</sup> A vote on this proposal by States present was defeated 18 votes to 17 though, with 21 abstentions.<sup>618</sup> The reason for the defeat is unclear. Was it because States believed it should be left open for them to determine through their national law? Was it because States believed that safety zones should be restricted to the sea? Did States perhaps believe that safety zones could extend to the airspace but that a conference on the law of the sea was not the correct forum to do so and that this was instead the domain of ICAO?

Regarding the latter point, this was certainly the opinion of the UK, at least. The records of the conference state of the representative of the UK, that 'she did not regard the question of air safety zones as falling within the competence of a conference on the law of the sea'.<sup>619</sup> Although definitive answers to these questions are elusive, the subsequent analysis in this chapter will reflect on them in attempting to determine what the legal status is today of establishing safety zones in the airspace over maritime constructions.

Following the adoption of UNCLOS, a 1987 ICAO Secretariat Study looking into the implications of UNCLOS for the application of the Chicago Convention found that 'since the Convention [referring to UNCLOS] refers to the 'breadth' of the safety zone, no such restrictions would appear to be permitted over the airspace above such installations and the right of overflight cannot be, under the Convention, curtailed by the coastal State'.<sup>620</sup> It reiterated this view in respect to the continental shelf: '[t]he coastal State is not granted under the Convention [UNCLOS] any special rights or jurisdiction or precedence or priority with respect to the airspace above the waters superjacent to the continental shelf'.<sup>621</sup> Recalling Section 2.7.3.2, the ICAO Secretariat has also made its position clear that the EEZ provides the coastal State with no rights or jurisdiction in respect to airspace.

---

617 'Summary Records of the 26<sup>th</sup> to 30<sup>th</sup> Meetings of the Fourth Committee – Extract from the Official Records of the United Nations Conference on the Law of the Sea' Vol. VI (Fourth Committee (Continental Shelf)) A/CONF.13/C.4/SR.26-30 (Geneva, 24 February – 27 April 1958) 84.

618 *ibid* 90.

619 *ibid* 85.

620 ICAO Secretariat Study on Agenda Item 5 (n 466) 255.

621 *ibid* 257.



### 3.3.2 Practice regarding safety zones extending to airspace

#### 3.3.2.1 Support for the extension of safety zones to airspace

Despite the unambiguous statements of ICAO, the alternative position, that is, that safety zones may be extended to airspace, is supported by the domestic law of France and by commentary.

France extends its safety zones to airspace under its domestic law applying to installations in its oil and gas industry.<sup>622</sup> Under Article 29 of *Ordonnance n° 2016-1687 du 8 décembre 2016 relative aux espaces maritimes relevant de la souveraineté ou de la juridiction de la République française*,

‘The representative of the State at sea may establish a safety zone around artificial islands, installations, works and their related facilities on the continental shelf or in the exclusive economic zone, extending up to a distance of 500 metres’.<sup>623</sup>

And in determining the extent of the safety zone,

‘Restrictions may be imposed on the overflight of artificial islands, installations and works and their associated installations and safety zones, within the measure necessary for the protection of these artificial islands, installations and works and the safety of air navigation’.<sup>624</sup>

Rothwell argues that the measures that a State may take in the safety zone include requesting prior overflight permission and altitude restrictions.<sup>625</sup> He argues that, despite the fact that Article 60 does not explicitly provide coastal States with the right to establish safety zones in the airspace above

622 Ordonnance n° 2016-1687 du 8 décembre 2016 relative aux espaces maritimes relevant de la souveraineté ou de la juridiction de la République française, Article 29 (‘Ordonnance n° 2016-1687’).

623 Translated from the original: ‘Le représentant de l’Etat en mer peut créer une zone de sécurité autour des îles artificielles, installations, ouvrages et leurs installations connexes sur le plateau continental ou dans la zone économique exclusive, s’étendant jusqu’à une distance de 500 mètres’.

624 Ordonnance n° 2016-1687, Article 29 7°. Translated from the original in French: ‘Des restrictions peuvent être apportées au survol des îles artificielles, installations et ouvrages et leurs installations connexes et des zones de sécurité, dans la mesure nécessaire à la protection de ces îles artificielles, installations et ouvrages et à la sécurité de la navigation aérienne’.

625 Donald R Rothwell, ‘Artificial Islands and International Law’ (Presentation delivered at ANU College of Law, Canberra, 28 July 2015) 23 and 27; Frank-Luke Attard Camilleri, *The Application of the High Seas Regime in the Exclusive Economic Zone* (Hamilton Books 2018) 31: ‘coastal States may still require aircraft flying above artificial installations and structures to observe the coastal State’s regulations regarding those structures’.

its maritime constructions, construing the provision as implicitly allowing for it is consistent with the intent of the article.<sup>626</sup>

This argument makes sense based on a teleological interpretation of Article 60 UNCLOS, a method of interpretation that involves consideration of the terms of the treaty in their context and of the treaty's object and purpose, as set out in Article 31(1) of the Vienna Convention on the Law of Treaties. This method of interpretation is increasingly relied upon by international courts and tribunals.<sup>627</sup> The provisions of Article 60 form part of the broader Part V of UNCLOS, which sets out the sovereign rights of the coastal State in the EEZ and establishes a framework for the State to effectively exercise those rights. Safety zones contribute to this aim by enabling the coastal State to exercise these rights safely, minimising the risk to the maritime construction itself and to other users of the maritime space. In terms of who these users are, the Preamble of UNCLOS highlights the danger of siloing the approach to managing activities at sea, emphasising that 'the problems of ocean space are closely interrelated and need to be considered as a whole', in this case the safety risks to and brought about by all users of the maritime space, including those in the airspace and on the surface of the water. Consideration of Article 60 in its wider context, acknowledging the 'interrelatedness' of activities at sea, and the purpose of the article in the legal regime governing activities in the EEZ, therefore supports the interpretation that safety zones apply equally in the airspace as on the surface of the sea.

Rothwell further illustrates his argument through the example of a maritime construction extending far into the airspace. Inevitably, a maritime construction will occupy airspace and there are no provisions limiting the height of such constructions. Rothwell then poses the question: What is there to stop a State constructing a tower on an artificial island that would occupy considerable airspace? The answer to this is nothing, at least explicitly, in which case, he then reasons, 'an air exclusion zone would seem to be an appropriate response to deal with aircraft in the vicinity' of the maritime construction.<sup>628</sup> An argument against the right of a State to extend safety zones around its maritime constructions is that it is a violation of the right to freedom of overflight. This argument will be examined below, in Section 3.3.3.

Regardless of the method of interpretation favoured – as to which, see below in this section – a treaty is binding on all State parties to it, by application of the principle of *pacta sunt servanda*. This principle is customary inter-

---

626 Correspondence from Donald Rothwell (Professor of International Law, Australian National University) to the author, dated 20 December 2019.

627 Irina Buga, *Modification of Treaties by Subsequent Practice* (OUP 2018) 81.

628 Correspondence from Donald Rothwell (Professor of International Law, Australian National University) to the author, dated 20 December 2019.

national law,<sup>629</sup> and is codified under Article 26 of the Vienna Convention on the Law of Treaties. It states that a treaty that has entered into force is binding on the States that are party to it and that those States must perform their obligations under it in good faith (*bona fides*). The principle is closely linked to the interpretation of the provisions of a treaty given that the performance of the treaty 'presupposes the interpretation of the treaty'.<sup>630</sup> As such, rather than lending support to the interpretation of a treaty, Article 26 requires States to meet their obligations under that treaty and to do so in a manner that does not frustrate its object and purpose.

While State parties are bound by their obligations under a treaty, those obligations do not bind non-party States. The general principle of law<sup>631</sup> of *res inter alios acta* (*pacta tertiis nec nocet nec prodest*) refers to, in terms of international treaty law, the 'well-established' rule that 'a treaty cannot impose obligations upon a 'third State''.<sup>632</sup> This is relevant to the interpretation of Article 60 because if it is found that this article provides States with the right to impose safety zones in international airspace, and thereby prohibit other States' aircraft from operating in that airspace, it will not bind non-parties. This is so unless the right has also developed into customary international law, as to which see Section 3.3.4. As established in Section 2.7.1, although UNCLOS is widely ratified, some key maritime States are not State parties to it.

In contrast to the teleological interpretation of Article 60, the textual interpretation does not support the extension of safety zones to airspace. Article 60 is not only silent on the establishment of safety zones in airspace but, in referring to the 'breadth' of the zones and the obligation for 'ships' to respect them, it indicates that they are restricted to the sea.<sup>633</sup> The textual interpretation is reflected in the reference to the ordinary meaning of the text in Article 31(1) of the Vienna Convention on the Law of Treaties and gives less weight to subsequent practice in interpreting the provisions of a treaty.<sup>634</sup>

---

629 Vienna Convention on the Law of Treaties, Preamble. The Preamble speaks of the principles of good faith and *pacta sunt servanda* as being 'universally recognised'; See also, Kirsten Schmalenbach, 'Pacta Sunt Servanda' in Oliver Dörr and Kirsten Schmalenbach (eds), *Vienna Convention on the Law of Treaties: A Commentary* (2<sup>nd</sup> edn, Springer 2018) 475; Mark Eugen Villiger, *Commentary on the 1969 Vienna Convention on the Law of Treaties* (Brill Nijhoff 2009) 368.

630 Mark Eugen Villiger, *Commentary on the 1969 Vienna Convention on the Law of Treaties* (Brill Nijhoff 2009) 366.

631 David J Bederman, 'Third Party Rights and Obligations in Treaties' in Duncan B Hollis (ed), *The Oxford Guide to Treaties* (OUP 2012) 328. As one of the sources of international law in accordance with Article 38(1)(c) of the Statute of the International Court of Justice (San Francisco, 26 Jun. 1945) T.S. No. 993, entered into force 24 Oct. 1945 ('ICJ Statute').

632 Lord McNair, *The Law of Treaties* (OUP 1986) 310.

633 Section 3.2.3.2.

634 Buga (n 627) 79.

A treaty's silence on a point requires consideration of the nature of the treaty and in the case that the treaty states broad principles, it will be more likely that implied terms will be accepted in interpreting it.<sup>635</sup> On this point, Gardiner highlights the decision of the Tribunal in *Air Services Agreement Case (USA v France)*,<sup>636</sup> in which it was concluded that the prohibition on the change of gauge 'within the territory of the two parties' under the ASA between the USA and France meant that the agreement permitted the change of gauge in the territories of third States by airlines operating services under the agreement. In reaching its decision, the Tribunal considered the provision within the treaty as a whole and the context in which the treaty was negotiated,<sup>637</sup> stating that the treaty 'is silent concerning most of the major operational issues facing an air carrier' and that 'the Agreement leaves to the Parties... the right to decide a wide range of key issues',<sup>638</sup> without amendment to the agreement having been considered necessary to achieve these objectives in the past. Thus, in this context, the Tribunal concluded that in interpreting the ASA, it was necessary to read into it an implied term permitting the change of gauge in the territory of a third State. At the same time, Gardiner emphasises, quoting Lord Sankey LC, that when interpreting the terms of a treaty, 'it is to be assumed that the parties have included the terms which they wished to include and on which they were able to agree'.<sup>639</sup> In contrast to the *Air Services Agreement Case*, Article 60 not only addresses a specific matter, rather than being general, it also, as mentioned above, includes specific terms that indicate that its application does not extend to the airspace.

The subjective method of interpretation of Article 60, reflected in Article 32 of the Vienna Convention on the Law of Treaties through its reference to the *travaux préparatoires*,<sup>640</sup> for example, lends further support to the textual interpretation. The subjective method aims to determine the intention of the drafters at the time of the treaty's conclusion.<sup>641</sup> As addressed in Section 3.3.1, the inclusion of airspace was discussed in the drafting process at the Geneva Conference and was rejected by those present. Recalling this discussion above, the article on safety zones accepted at the conclusion of this conference formed the basis for Article 60 UNCLOS, and despite the

635 Richard Gardiner, *Treaty Interpretation* (OUP 2015) 165-66.

636 Air Service Agreement of 27 March 1946 between the United States of America and France (USA v France) (1978) XVIII R.I.A.A. 417. As discussed in, Richard Gardiner, *Treaty Interpretation* (OUP 2015) 166.

637 *ibid* 435 and 440 (paras. 48 and 66).

638 *ibid* 437-38 (para. 54).

639 Gardiner (n 635) 166, citing *Edwards v Attorney General for Canada* [1930] AC 124, 136 per Lord Sankey LC.

640 Consideration of the *travaux préparatoires* is also viewed as part of teleological interpretation insofar as it contributes to establishing the original 'object and purpose' of the provisions of a treaty (Buga (n 627) 81).

641 Stefan Kadellbach, 'International Law Commission and Role of Subsequent Practice as a Means of Interpretation under Articles 31 and 32 VCLT' (2018) 46 QIL 5, 6.

changes between the two articles, nothing further was added to suggest that they were to extend to the airspace. State practice generally reflects this interpretation, where the subsequent practice of States is relevant to the interpretation of the provisions of a treaty in terms of considering them in their context,<sup>642</sup> as will be explained in the following section.

### 3.3.2.2 *Practice supporting restriction of safety zones to the surface of the sea*

The subsequent practice of States in applying a treaty provision may be used as a tool for interpreting those terms of the treaty, pursuant to Articles 31(3)(b) and 32 of the Vienna Convention on the Law of Treaties.<sup>643</sup> The purpose of considering subsequent practice is to understand as accurately as possible the original intention of the drafters, however State interpretation is a product of the context in which it takes place and so may shift over time.<sup>644</sup>

As indicated in Section 3.3.2.1, some States interpret Article 60 UNCLOS as providing the right to extend safety zones to include the airspace over maritime constructions. An overwhelming body of domestic legislation though, supported by IMO materials, strictly follows the text of Article 60 UNCLOS in omitting any reference to airspace, in accordance with what seems to have been the originally intended application of the provision, as discussed in Section 3.3.1.

In the UK, the *Petroleum Act 1987* states that,

‘A safety zone... shall extend to every point within 500 metres of any part of the installation (ignoring any moorings) and to every point in the water which is vertically above or below such point’.<sup>645</sup>

Offences for entering the safety zone apply only to vessels, with no mention of aircraft.<sup>646</sup>

Under US federal law,

‘A safety zone establishment... may extend to a maximum distance of 500 meters around the OCS [outer continental shelf] facility measured from each point on its outer edge or from its construction site, but may not interfere with the use of recognized sea lanes essential to navigation’.<sup>647</sup>

642 Vienna Convention on the Law of Treaties, Article 31(3)(b).

643 Acknowledging the circumstances in which Article 32 applies, that is, ‘when the interpretation according to article 31: (a) Leaves the meaning ambiguous or obscure; or (b) Leads to a result which is manifestly absurd or unreasonable’. See also, Georg Nolte, ‘First Report on Subsequent Agreements and Subsequent Practice in Relation to Treaty Interpretation’ (ILC 65<sup>th</sup> Session, 19 March 2013) 28.

644 Buga (n 627) 2.

645 *Petroleum Act 1987* (UK), Section 21(5).

646 *ibid* Section 23(1).

647 33 C.F.R. 147 (2010) § 147.15.

Keeping in mind that the US is not a party to UNCLOS, the source of its international rights and obligations in respect to safety zones outside territorial seas is Article 5 of the 1958 Convention on the Continental Shelf.

In Australia, under the *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (Cth), the dimensions of a 'petroleum safety zone',

'... may extend to a distance of 500 metres around the well, structure or equipment... where that distance is measured from each point of the outer edge of the well, structure or equipment'.<sup>648</sup>

As under UK legislation, the offences in relation to entering the zone are only applicable to vessels.<sup>649</sup>

The Russian Federal Law on the Continental Shelf of 25 October 1995 provides that,

'Safety zones extending for not more than 500 metres from each point on the outer edge of artificial islands, installations and structures shall be established around such islands, installations and structures'.<sup>650</sup>

IMO Resolution A.671(16), referred to in Section 3.2.1.2,<sup>651</sup> provides no mention of airspace, suggesting an understanding that safety zones are restricted to the sea. This document is the 'principle IMO resolution dealing with safety zones around offshore oil and gas installations'<sup>652</sup> and the IMO is, as mentioned in Section 3.2.1.2, generally understood to be the 'competent international organization' responsible under Article 60(5) for providing recommendations on the extension of the breadth of a safety zone beyond 500 metres.

Doctrine has also interpreted the silence as restrictive, declaring that '[t]he safety zone applies only to surface ship navigation';<sup>653</sup> 'the zone attracts no superjacent air rights as it is to be *'around such installations'*;<sup>654</sup> and,

'[t]he right to establish safety zones around those structures is limited to navigations [sic]. Aerial safety zones in which freedom of overflight may be suspended or restricted are not mentioned in Article 60'.<sup>655</sup>

648 *Offshore Petroleum and Greenhouse Gas Storage Act 2006* (Cth), s 616(2).

649 *ibid* s 616(1) and (3).

650 Federal Law on the Continental Shelf of the Russian Federation, adopted by the State Duma on 25 October 1995, Article 16. The above is an English translation, available at <[www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/RUS\\_1995\\_Law.pdf](http://www.un.org/Depts/los/LEGISLATIONANDTREATIES/PDFFILES/RUS_1995_Law.pdf)> accessed 12 February 2019.

651 IMO Resolution A.671(16) (n 511).

652 Kashubsky and Morrison (n 554) 4.

653 Carlos Espósito, James Kraska, Harry N Scheiber and Moon-Sang Kwon (eds), *Ocean Law and Policy: Twenty Years of Development Under the UNCLOS Regime* (Brill Nijhoff 2016) 186.

654 Clive Symmons, *The Maritime Zones of Islands in International Law* (Martinus Nijhoff 1979) 106.

655 Hailbronner, 'Freedom of the Air' (n 537) 510.

In the absence of an express right to extend safety zones to the airspace over maritime structures, the following sections of this chapter will examine whether doing so is a breach of codified international law and whether the right exists or could develop as customary international law.

### 3.3.3 Is the imposition of safety zones in the airspace in breach of international law?

#### 3.3.3.1 *Interference with overflight does not necessarily mean violation of the freedom*

In accordance with Articles 58 and 87(1)(b) UNCLOS, freedom of overflight applies in the EEZ and on the high seas, respectively. This freedom 'follows directly from the principle of freedom of the sea', as explained in Chapter 1.<sup>656</sup> Returning to Mouton's statement at the start of the chapter, what exactly constitutes a violation of the freedom of overflight?

Taking an initial broad approach to answering this question, the relationship between the right of a State to build maritime constructions and the right of other States to freedom of navigation will briefly be examined. Lawrence, writing in the mid-1970s, was adamantly against the right to establish maritime constructions in the high seas due to his view that the physical space they possess and the jurisdiction over them means that they are *prima facie* in conflict with the freedom of the high seas.<sup>657</sup> In Lawrence's words, 'fixed installations on the high seas may offer numerous actual and potential benefits. At the same time *their construction permanently precludes the utilization of the ocean space they occupy for other beneficial purposes*' (emphasis added).<sup>658</sup> Lawrence's views were shared by others, with a Rapporteur to the Council of Europe declaring that 'the creation of an artificial island amounts to exclusive occupancy of a maritime area'.<sup>659</sup>

These comments address the maritime constructions themselves, but the considerations apply equally to their safety zones and, more relevantly here, to their extension to airspace. In fact, they apply to the exercise of all activities of States and not exclusively in international waters. Even in its territorial sea, a coastal State is required to ensure that its actions, including the building of maritime constructions, do not interfere with innocent passage.<sup>660</sup>

656 Myron H Nordquist (ed), *United Nations Convention on the Law of the Sea 1982: A Commentary – Volume III* (Brill Nijhoff 2011) 81.

657 William H Lawrence, 'Superports, Airports and Other Fixed Installations on the High Seas' (1975) 6 J Mar L & Comm 575, 585-86.

658 *ibid* 591.

659 Nikos Papadakis, *The International Legal Regime of Artificial Islands* (Sijthoff 1977) 59, citing 'Report of the Legal Affairs Committee on the Legal Status of Artificial Islands Built on the High Seas' (Doc 3054), presented by Mr Margue, Rapporteur (Council of Europe Consultative Assembly, 9 December 1971) 7.

660 UNCLOS, Article 24(1). See also, the discussion on artificial islands and innocent passage in respect to the 1958 conventions in, Papadakis (n 659) 53.



Of course, as of the adoption of UNCLOS there is no ambiguity that States have the right to establish maritime constructions in the high seas and in an EEZ, depending on the purpose of the construction. In exercising their freedom to build maritime constructions in the EEZ and on the high seas, States are required to have due regard for the interests of other States.<sup>661</sup> This due regard obligation acknowledges that in the exercise of their rights States will, to some extent, limit the ability of other States to exercise their rights. For example, if State A builds an artificial island at certain coordinates on the high seas State B does not have the right to do so at the same coordinates, despite having had the right prior to the construction of the artificial island by State A. As Mouton expressed, to interpret an action as being in breach of international law because it affects the ability of another State to exercise its rights would be absurd. Instead, the due regard obligation on States acknowledges that the matter is one of a balance between the 'exercise of high seas freedoms [and other rights] and the rights and interests of all States'.<sup>662</sup>

Given the above, is the argument that freedom of overflight exists in international airspace sufficient to deny States the right to extend safety zones to the airspace? In attempting to answer this question, the question of whether international civil aviation law provides any possible mechanisms through which safety zones could be justified will first be considered.

### 3.3.3.2 *Consideration under international civil aviation law*

International civil aviation law contains both Standards and Recommended Practices to help ensure the safety of civil aircraft in the case of hazardous activities at sea. This section will examine whether any of these solutions could be interpreted in a manner so as to encompass safety zones over maritime constructions. In the alternative, it will consider whether these SARPs may serve to meet the requirements of a safety zone – to protect the safety of navigation and of the maritime construction – despite having a different intended purpose.

As mentioned in Section 2.6.5, ICAO provides procedures for States in relation to the establishment of danger areas in international airspace. Safety zones cannot be justified using the right to establish danger areas though because they do not bring with them a right to prohibit or restrict overflight; the zones instead designate areas in which activities potentially dangerous to civil aviation take place. Danger areas are also insufficient because they must be temporary. This could possibly be suitable for installations and structures, which are usually established for a task with a fixed period, but artificial islands generally exist for a more sustained duration.

661 UNCLOS, Articles 56(2), 58(3) and 87(2). These articles apply respectively to the coastal State in the EEZ, other States in the EEZ and all States on the high seas.

662 Nordquist (ed), *UNCLOS: A Commentary – Volume III* (n 656) 73.

Annex 11 contains rules for the coordination of activities that are hazardous to civil aircraft, where 'hazard' is defined by ICAO as 'a condition or an object with the potential to cause or contribute to an aircraft incident or accident'.<sup>663</sup> Most relevant here is Standard 2.19.1, which reads:

'The arrangement for activities potentially hazardous to civil aircraft, whether over the territory of a State or over the high seas, shall be coordinated with the appropriate air traffic services authorities. The coordination shall be effected early enough to permit timely promulgation of information regarding the activities in accordance with the provisions of Annex 15'.<sup>664</sup>

The accompanying Recommendation, provides:

'If the appropriate ATS authority is not that of the State where the organization planning the activities is located, initial coordination should be effected through the ATS authority responsible for the airspace over the State where the organization is located'.<sup>665</sup>

As with the establishment of maritime constructions and their safety zones on the surface of the sea, Annex 11 further recommends that:

'the locations or areas, times and durations for the activities should be selected to avoid closure or realignment of established ATS routes, blocking of the most economic flight levels, or delays of scheduled aircraft operations, unless no other options exists'.<sup>666</sup>

As with the safety zones on the surface of the sea, 'the size of the airspace designated for the conduct of activities should be kept as small as possible'.<sup>667</sup>

There is also in Annex 11 a Standard applicable to air traffic flow management (ATFM), in national or international airspace, in the situation where air traffic demand exceeds ATC capacity, as determined by the ATC authority responsible for that airspace.<sup>668</sup> In the case of traffic over that which has been accepted in a given period of time or over a particular location, or where the rate of traffic needs to be managed, ATC is required to notify certain parties of the restrictions, including flight crews operating in the airspace.<sup>669</sup> It is recommended that ATFM be implemented through

---

663 ICAO Doc 10084, *Risk Assessment Manual for Civil Aircraft Operations Over or Near Conflict Zones* (2nd edn, 2018) xiii.

664 Where Annex 15 addresses Aeronautical Information Services.

665 Chicago Convention, Annex 11 (15<sup>th</sup> edn, July 2018) 2.19.1.1.

666 *ibid* 2.19.2.1 a).

667 *ibid* 2.19.2.1 b).

668 *ibid* 3.7.5.1 and *Note*. See Section 4.2.1.1 for the definition of ATC and the relationship between it and other aspects of airspace management.

669 *ibid* 3.7.5.3.

regional air navigation agreements or multilateral agreements.<sup>670</sup> These ATC provisions are designed to allow coastal States to restrict overflight in international airspace and may possibly be used to restrict overflight over maritime constructions. The purpose of the SARPs in relation to this matter though, is to enable ATC to maintain safe airspace and it only applies in the case of airspace demand that exceeds the accepted traffic, when that situation arises. In this respect, it requires an initial accepted capacity and thus necessarily presupposes that the coastal State has not prohibited all flights in the airspace. Where these SARPs might be particularly relevant to coastal States in restricting overflight over maritime constructions is in the case of the construction of an airport at sea, as to which see Section 3.4. In this case, overflight restrictions are likely necessary in order for ATC to safely coordinate take-offs and landings.

The ICAO PANS in Doc 4444 (PANS-ATM) complement Annexes 2 and 11 and contain further guidance on ATM in international airspace, including in relation to the coordination of military aeronautical operations with civil aviation operations.<sup>671</sup> The material in the PANS-ATM does not have the same legal status as SARPs, but upon reaching a sufficient level of acceptance amongst the international community, provisions within it may eventually become SARPs.<sup>672</sup> Prior to or in the absence of this occurring, the material serves to 'assist the user in the application of those SARPs'.<sup>673</sup> The relevant SARPs and accompanying PANS-ATM are solely designed to facilitate the safe and efficient operation of civil aviation as opposed to also ensuring the safety of the activities in response to which they apply. In contrast, the purpose of safety zones under UNCLOS is the safety of both navigation and of the maritime construction. The provisions under international civil aviation law would at most consequentially fulfil this latter element.

### 3.3.3.3 *Prohibition of overflight in international airspace inconsistent with freedom of overflight*

SARPs and PANS for ATS regarding activities in international airspace are designed to address the safety and efficiency of international civil aviation. Where activities dangerous to aviation are conducted in international airspace, as an exercise of freedom of overflight, the State undertaking the activity is not permitted to prohibit other aircraft from the airspace, but instead has an obligation to warn of the danger. As such, the rules 'are predicated on the principle of voluntary compliance'<sup>674</sup> rather than, in the

<sup>670</sup> *ibid* 3.7.5.2 (Recommendation).

<sup>671</sup> ICAO Doc 4444, ICAO *Procedures for Air Navigation Services on Air Traffic Management* (16<sup>th</sup> edn, 2016) 16.1.

<sup>672</sup> *ibid* 3.2.

<sup>673</sup> *ibid* 3.2.

<sup>674</sup> Lawrence (n 657) 587; citing, *Legality of Using the High Seas in Connection with Nuclear Weapons Tests in the Pacific Ocean*, US Delegation Paper, UN Conference on the Law of the Sea, 1958, US/CLS/Pos/48(2)-(3), Annex II, Feb. 20, 1958.

words of Lawrence, being 'assertions of a claim to exclusive use or control over an area'.<sup>675</sup> Ultimately, as Standard 2.4 of Annex 2 dictates, the final authority on the disposition of the aircraft, including whether to enter such airspace, rests with the pilot-in-command.

In practice though, hazardous activities conducted in international airspace will often result in the exclusive use of the airspace by the State conducting the activities on the basis that the pilot-in-command also has an obligation, under Standard 3.1.1 of Annex 2, not to operate an aircraft in a negligent or reckless manner. Flying through airspace that has a NOTAM<sup>676</sup> issued in relation to it on the basis of the operation of military exercises, for example, could constitute negligent or reckless operation of an aircraft, depending on the circumstances. In the case of activities in international airspace leading to this result, although the airspace is not closed *de jure* it is closed *de facto*, in that aircraft will not operate in the area due to safety risks being too great.

As on the sea, every use of international airspace involves a balance between States' freedom of overflight. Mouton's single ship example can equally be extended to international airspace in relation to aircraft, but considering the balance more meaningfully, the legitimate impingement of a State's freedom of overflight as a result of the exercise of another State's exercise of the freedom can be illustrated through the use of airspace for military exercises. For example, *en route* air navigation warnings issued by the Netherlands in March 2019 included that in danger areas in international airspace *en route* instrument flight rules (IFR) and visual flight rules (VFR) GAT 'shall remain clear of the areas' and that authorisation for the use of the areas will only be granted to pre-scheduled OAT and/or special test flights.<sup>677</sup> This prohibition is on the basis of military aeronautical operations in the airspace or, more specifically, 'certain flying activities [that] are not readily adaptable to air traffic control, since specific aircraft – during at least part of their flight – cannot maintain a constant profile, heading and speed (e.g. test flights, air combat training manoeuvres)'.<sup>678</sup>

The peaceful use of international airspace for military activities falls within the freedom of overflight and in this respect, like all freedoms, its lawfulness depends on the balance between the right to exercise the freedom and the rights of other States to exercise their rights and freedoms.<sup>679</sup> Provided that the activities in the area of international airspace meet the prerequisite of being temporary, whether this balance has been achieved rests on a consideration of the reasonableness of the impact of the activities. Activities that limit the operation of other States' aircraft 'in large

---

675 *ibid* 586.

676 See Section 2.6.5 (n 376) for the definition of 'NOTAM'.

677 Aeronautical Information Publication Netherlands, ENR 5 Navigation Warnings – ENR 5.1 Prohibited, Restricted and Danger Areas (28 March 2019) 1.1.

678 *ibid*.

679 As addressed in Section 3.3.3.1.

areas of airspace and/or over an excessively long period of time can probably no longer be regarded as a reasonable enjoyment of a State's freedom of overflight'.<sup>680</sup>

The above serves to illustrate that although international civil aviation law does not expressly permit a State to prohibit the operation of another State's aircraft in international airspace, the activities of States in carrying out their freedoms of the high seas can in practice lead to the closure of airspace to other States' aircraft. Furthermore, this situation is generally accepted by States, provided it is temporary and that the restrictions are commensurate to needs of the activities carried out.

Based on the above, there appears to be a discrepancy in the interpretation of freedom of navigation and freedom of overflight in international law. Under the law of the sea, States are expressly permitted to exclude other States' vessels from certain areas of international waters, in pursuit of the exercise of their rights in the area, and violations of the exclusion can be enforced by the State imposing the exclusion. Under international civil aviation law, no State has the right to prohibit use of the airspace by another State's aircraft. In practice, as we have seen, the use of airspace by one State's aircraft may *de facto* result in the airspace being avoided by the aircraft of other States but even when this occurs, there are strict requirements on the extent of the operations that impact freedom of overflight.

### 3.3.4 Provision for the right to establish safety zones in airspace through the development of customary international law

#### 3.3.4.1 *Relevance and approach to section*

The US's action in overflying China's artificial islands in the South China Sea was an explicit message to China and to the international community, that the US did not accept China's proclaimed right to prohibit the operation of its aircraft in a portion of international airspace. Such actions, when undertaken by a sufficient number of States, can inhibit the development of customary international law or, in the case of emerging customary law, make clear a State's intention not to be bound by that law in the case it crystallises. The first of these results is part of the consideration of what constitutes State practice in the case of customary international law and the second is an example of a State acting as a persistent objector. Both of these matters will be considered in this section.

As has been established so far in this chapter, there is an absence of an express right under international treaty law to extend safety zones to airspace. There is also currently no evidence that the right exists under customary international law. In light of these two positions, could the right to do so emerge under customary international law? This section will first

---

680 Hailbronner, 'The Legal Regime' (n 466) 42.

address the elements of customary international law, including so-called 'particular' custom, also known as 'special' or 'local' custom. It will then examine the role of the persistent objector in the case of general customary law and finally, the emergence of customary international law in violation of codified law. This will be considered in light of the argument that the extension of safety zones to airspace is a violation of the freedom of overflight.

### 3.3.4.2 *The elements of customary international law*

Customary international law, as set out in Article 38(1)(b) of the ICJ Statute, is 'evidence of a general practice as accepted as law' or, in the words of the ILC, it 'means those rules of international law that derive from and reflect a general practice accepted as law'.<sup>681</sup> For a customary international law to exist two elements must be satisfied.<sup>682</sup> First, the custom must be a general practice of States and secondly, there must be *opinio juris*, or a belief by States that they are bound by the practice. The division of customary law into these two elements is widely accepted, including by the ICJ, other international courts and tribunals, and in academic literature,<sup>683</sup> but differentiating between the two can be difficult as they are 'closely, if not often impossibly, entangled'.<sup>684</sup>

Sources serving as evidence of State practice are various and include, among many others, the physical actions of States, acts of the executive, and diplomatic acts and correspondence.<sup>685</sup> However, the fact that 'relatively few States compile and publish their practice'<sup>686</sup> adds to the challenge in determining when a practice becomes general practice. The duration can be significant in helping to determine the existence of practice, however it need not necessarily be longstanding.<sup>687</sup> The practice must be uniform and consistent but uniformity does not require all States to adopt the practice.<sup>688</sup>

---

681 Michael Wood, 'Second Report on Identification of Customary International Law' (ILC 66<sup>th</sup> Session, 22 May 2014) 7.

682 *Continental Shelf (Libyan Arab Jamahiriya/Malta)*, Judgment, I.C.J. Rep. 1985 (Jun. 3), p. 13, p. 29 para. 27. In this case, the ICJ stated: '[i]t is of course axiomatic that the material of customary international law is to be looked for primarily in the actual practice and *opinio juris* of States'.

683 Wood, 'Second Report' (n 681) 7.

684 Buga (n 627) 202-3. The ILC also recognised this, stating that it would cover them together in the same report 'given the close relationship between the two' (Wood, 'Second Report' (n 681) 4).

685 James Crawford, *Brownlie's Principles of Public International Law* (9th edn, OUP 2019) 21-22; Wood, 'Second Report' (n 681) 22-23.

686 Wood, 'Second Report' (n 681) 3.

687 *North Sea Continental Shelf (Federal Republic of Germany/Netherlands; Federal Republic of Germany/Denmark)*, Judgment, I.C.J. Rep. 1969 (Feb. 20), p. 3, p. 43 para. 74: 'the passage of only a short period of time is not necessarily, or of itself, a bar to the formation of a new rule of customary international law'.

688 Crawford, *Brownlie's Principles* (n 685) 22.

In the *North Sea Continental Shelf Cases*, the ICJ stated that the practice should be 'extensive and virtually uniform'<sup>689</sup> but subsequently, in the *Military and Paramilitary Activities Case*, that it 'does not consider that... practice must be in absolutely rigorous conformity'.<sup>690</sup> The Court also highlighted in the *North Sea Continental Shelf Cases*, the importance of considering the practice of 'States whose interests are specially affected'.<sup>691</sup> This matter is also central to the concept of local custom, as to which see the following section.

The determination of *opinio juris*, or a State's acceptance of a practice as law, marks the distinction between practice as common usage – for example, salute at sea<sup>692</sup> – and as custom.<sup>693</sup> Evidence of its existence depends on the type of practice involved, for example, it may differ 'between cases involving the assertion of a legal right and those acknowledging a legal obligation'.<sup>694</sup> Whilst general practice may serve to indicate the presence of *opinio juris*,<sup>695</sup> it is not determinative of its existence.<sup>696</sup>

### 3.3.4.3 Local custom

The weight given to interested States for the purpose of identifying customary law has been the subject of ICJ cases involving practice between a small number of States.<sup>697</sup> Through these cases, the ICJ has repeatedly declared that customary international law can exist locally and even bilaterally, binding only on those States involved. This is relevant in the case that overflight restrictions emerge as common practice in a specific region, in which those States could be bound by the actions through the development of it into local customary international law. The 1960 case, *Right of Passage over Indian Territory*, involved transit by Portugal through Indian territory to Portuguese territory enclaved by the aforementioned Indian territory, without which passage Portugal was unable to exercise its sovereignty over the enclaves. The case was brought before the ICJ after India prevented Portugal from transiting through its territory 'contrary to the practice

689 *North Sea Continental Shelf (Federal Republic of Germany/Netherlands; Federal Republic of Germany/Denmark)*, Judgment, I.C.J. Rep. 1969 (Feb. 20), p. 3, p. 43 para. 74 ('*North Sea Continental Shelf Cases*').

690 *Military and Paramilitary Activities in and against Nicaragua (Nicaragua v. United States of America)*, Merits, I.C.J. Rep. 1986 (Jun. 27), p. 14, p. 98 para. 186. See Section 4.3.3.4 for further discussion on the distinction between the standards in these two cases.

691 *North Sea Continental Shelf Cases*, p. 43 para. 74.

692 Dear Kemp and Peter Kemp (eds), *The Oxford Companion to Ships and the Sea* (2<sup>nd</sup> edn, OUP 2006), available at <www.oxfordreference.com> accessed 20 November 2019.

693 Wood, 'Second Report' (n 681) 56.

694 Wood, 'Second Report' (n 681) 58.

695 Crawford, *Brownlie's Principles* (n 685) 24–25.

696 For example see, *Legality of the Threat or Use of Nuclear Weapons*, Advisory Opinion, I.C.J. Rep. 1996 (Jul. 8), p. 226, p. 32 para. 67.

697 Michael Wood, 'Third Report on Identification of Customary International Law' (ILC 67<sup>th</sup> Session, 27 March 2015) 54.



hitherto followed'.<sup>698</sup> The Court considered whether, as Portugal claimed, a local custom had arisen by way of the 'practice hitherto'. India on the other hand argued that 'no local customs could be established between only two States'.<sup>699</sup> The Court ultimately found in favour of Portugal stating, '[i]t is difficult to see why the number of States between which a local custom may be established on the basis of long practice must necessarily be larger than two'.<sup>700</sup> The Court reached its decision considering that India had both permitted the actions of Portugal and failed to express any objection to it.<sup>701</sup>

#### 3.3.4.4 *The persistent objector rule*

Once a customary international law has crystallised, a State may not withdraw from being bound by it.<sup>702</sup> That is, unless a State is a persistent objector, in which case the persistent objector rule exempts the State from being bound by the law if it has consistently objected to it during the process of its formation,<sup>703</sup> the onus of proof in relation to which is on that State.<sup>704</sup> The ICJ has supported the persistent objector rule in its judgments in the *Asylum Case*, the *Anglo-Norwegian Fisheries Case* and the *North Sea Continental Shelf Cases*,<sup>705</sup> although the Court has not used the rule in its *ratio decidendi*. In both the *Asylum Case* and the *Anglo-Norwegian Fisheries Case* the rule was discussed in *obiter dictum* and in the *North Sea Continental Shelf Cases* it was indirectly mentioned in that the Court acknowledged the importance of State objection.<sup>706</sup> It is generally accepted that the persistent objector rule applies only in the case of general customary law and not also to that of local custom.<sup>707</sup> Exactly how the objection must be issued in order to fulfil the elements of a persistent objector is unclear,<sup>708</sup> but certain elements are accepted as a minimum: the objection must be expressed, be

698 *Case Concerning Right of Passage over Indian Territory (Portugal v. India)*, Merits, I.C.J. Rep. 1960 (Apr. 12), p. 6, p. 27.

699 *ibid* p. 39.

700 *Ibid*.

701 *ibid* p. 40.

702 Elias Olufemi, 'Persistent Objector' (Max Planck Encyclopedia of Public International Law 2006) 1.

703 *ibid* 2.

704 James A Green, *The Persistent Objector Rule in International Law* (OUP 2016) 66.

705 *Asylum Case (Colombia/Peru)*, Judgment, I.C.J. Rep. 1950 (Nov. 20), p. 266 ('*Asylum Case (Colombia/Peru)*'); *Fisheries (United Kingdom v. Norway)*, Judgment, I.C.J. Rep. 1951 (Dec. 18), p. 116; *North Sea Continental Shelf Cases*.

706 Holning Lau, 'Rethinking the Persistent Objector Doctrine in International Human Rights Law' (2005) 6(1) *Chicago Journal of International Law* 495, 499-500.

707 Olufemi (n 702) 10. As the author explains on this point however, the ICJ in the *Asylum Case (Colombia/Peru)*, pp. 276-77, applied Article 38 of the ICJ Statute which relates to general practice, despite the case involving regional custom: 'the ICJ did not base its ruling on a typological distinction between general and regional custom – if such difference can be said to exist'.

708 Green (n 704) 66; Olufemi (n 702) 15.

made known internationally, and be maintained.<sup>709</sup> Some publicists have argued that an objection may be either verbal or through actions.<sup>710</sup> Others, in contrast, are of the opinion that actions are required to demonstrate persistent objection in addition to verbal opposition, which brings with it practical challenges, such as that States may not be presented with the opportunity to act or that doing so could be costly.<sup>711</sup> These factors potentially present impediments to States functioning in the international legal order on the basis of the principle of the sovereign equality of States, as recognised in Article 2(1) of the UN Charter. Finally, whether a persistent objector objects to being bound by the emerging law or to the emergence of the law *per se*, is not necessary for the application of the persistent objector rule and in practice, States may expressly do both.<sup>712</sup>

The US overflight over China's artificial islands in the South China Sea demonstrates that it does not recognise the right of China to impose prohibitions in the airspace. Likewise, the statements from the governments of the UK, France and Germany, as discussed in the introduction, demonstrate these States' explicit objection to China's actions. If the prohibition of airspace over maritime constructions was to develop into general customary international law, these States could potentially stand as persistent objectors and therefore be exempt from the law. From this point, the States would have to maintain their persistent objection to the law in order for the exemption to continue to apply.<sup>713</sup> At the same time, on the basis of their objections, these States may be estopped from imposing their own safety zones above maritime constructions in future. The doctrine of estoppel prevents – or estops – a representing party 'from successfully adopting different, subsequent statements on the same issue'.<sup>714</sup> International law is dynamic though and so subsequent actions would be considered in the context at the time. Furthermore, the complications of the situation in the South China Sea – the consideration that China in fact declares the artificial islands as sovereign territory and bases the prohibition of its airspace on that – could be used to the advantage of these States if they were to be estopped in the

---

709 Olufemi (n 702) 16.

710 *ibid.*

711 Both the initial claim and the tensions that arise as a result are identified in, Green (n 704) 76.

712 Green (n 704) 75. As discussed by the author, this was so for example with Turkey in the case of the extension of the territorial sea to 12nm. During the drafting of UNCLOS, Turkey argued that this rule had not achieved the status of customary international law and then afterwards stated that if it had indeed developed into customary law, Turkey was not bound by it on the basis of its persistent objection.

713 Green (n 704) 80.

714 Thomas Cottier and Jörg Paul Müller, 'Estoppel' (Max Planck Encyclopedia of International Law 2007) 1. Estoppel does not fit neatly within one of the sources of international law under Article 38 of the ICJ Statute. As the authors explain, 'it is more suitable to base it upon a combination of general principles of law, precedent, and doctrine, resulting in a norm of customary international law' (para 10).

case that they could sufficiently distinguish the future situation from the current situation by way of these specificities.

### 3.3.4.5 Customary international law as international law applicable in the relations between the parties

In the case that the right to establish a safety zone in the airspace above a maritime construction existed in the form of customary international law it could either exist independently from Article 60, operating in parallel to it, or alternatively, it could demonstrate the application of Article 60. It is the latter that will be examined here. Taking into account Rothwell's interpretation of Article 60 UNCLOS, the practice of States in establishing safety zones over maritime constructions involves the application of Article 60.

As mentioned in Section 3.3.2.2, subsequent practice in the application of a treaty is relevant to the interpretation of those terms of the treaty in accordance with Article 31(3)(b) and Article 32 of the Vienna Convention on the Law of Treaties. The ICJ recognised in its *Namibia Advisory Opinion* that customary international law, where it is a relevant rule of international law applicable in the relations between the parties, is also to be taken into account, in accordance with Article 31(3)(c) of the Vienna Convention on the Law of Treaties. This is a form of systemic integration, as mentioned in Section 2.2.2.1.<sup>715</sup> Customary international law is relevant in this respect whether it is 'general, regional or local customary rules'<sup>716</sup> provided it is relevant to the subject matter of the treaty.<sup>717</sup>

The Court in the *Namibia Advisory Opinion*, discussing the interpretation of the Mandate for German South West Africa, found that it:

'must take into consideration the changes which have occurred in the supervening half-century, and its interpretation cannot remain unaffected by the subsequent development of law, through the Charter of the United Nations *and by way of customary law*. Moreover, an inter-national instrument has to be interpreted and applied within the frame-work of the entire legal system prevailing at the time of the interpretation' (emphasis added).<sup>718</sup>

In the context of this research, customary international law, if it were found to exist and had formed through the application of Article 60 UNCLOS, is taken into account in accordance with Article 31(3)(c) as a tool for interpretation more directly than the Court's consideration of it in the *Namibia*

715 *Legal Consequences for States of the Continued Presence of South Africa in Namibia (South West Africa) notwithstanding Security Council Resolution 276 (1970)*, Advisory Opinion, I.C.J. Rep. 1971 (Jun. 21), p.16, p. 31 para. 53 ('*Namibia Advisory Opinion*').

716 Villiger, *Commentary on the 1969 Vienna Convention* (n 630) 433.

717 Mark Eugen Villiger, 'The Rules on Interpretation: Misgivings, Misunderstandings, Miscarriage? The 'Crucible' Intended by the International Law Commission' in Enzo Cannizzaro (ed), *The Law of Treaties beyond the Vienna Convention* (OUP 2011) 112.

718 *Namibia Advisory Opinion*, p. 31 para. 53.

*Advisory Opinion.* The question before the Court was what the consequences were for States involved of the continued presence of South Africa in Namibia<sup>719</sup> and the development of law included the demise of the League of Nations and the enshrinement of the principle of self-determination in the subsequent UN Charter.<sup>720</sup> In the present case, the development of the law is the hypothetical crystallisation of customary international law supporting the, in this case, teleological interpretation of Article 60 which provides States with the right to impose safety zones in the airspace over maritime constructions. It is recognised that this argument has a circularity to it – State practice in interpreting and applying the law in turn feeds back in to determining how that law is to be interpreted – and, whilst not ideal, the circularity of treaty interpretation has been recognised on numerous occasions.<sup>721</sup>

A final point to note on Article 31(3)(c) is that the principle of systemic integration is solely ‘to further the process of interpretation, not to displace the treaty’,<sup>722</sup> and once the practice constituting the customary law can no longer be considered to be an interpretation of the terms of the treaty – in the case that it modifies the provision, for instance – the practice no longer falls within the scope of Article 31(3)(c).<sup>723</sup>

#### 3.3.4.6 Customary international law in violation of treaty law

Customary international law can develop in conflict with treaty law,<sup>724</sup> which is relevant in light of the argument that the establishment of safety zones in international airspace is a breach of freedom of overflight.<sup>725</sup> The ability for customary international law to modify treaty law is a result of there being no hierarchy between the two sources under Article 38(1) of

---

719 *ibid* p. 27 para. 42.

720 *ibid* pp. 28 and 31 paras. 44 and 52.

721 See for example, Michael Beyers, *Custom, Power and the Power of Rules* (CUP 1999) 130–31. In this instance, Beyers discusses ‘the chronological paradox’ in relation to customary international law: ‘States creating new customary rules must believe that those rules already exist, and that their practice, therefore, is in accordance with the law’. See also, ‘Report of the Study Group on Fragmentation of International Law: Difficulties arising from the Diversification and Expansion of International Law’, finalised by Martti Koskeniemi (ILC 58<sup>th</sup> Session, 13 April 2006) 190, which addresses the ‘disturbing circularity’ of the formulation of Article 53 of the Vienna Convention on the Law of Treaties, specifically the conflict between *jus cogens* limiting what can be agreed upon by States under treaty law and what States agree upon in a treaty possibly being indicative of the content of *jus cogens*.

722 Gardiner (n 635) 291.

723 Buga (n 627) 219.

724 *ibid*.

725 Acknowledging that UNCLOS merely recognises the freedoms of navigation and overflight, which exist independently of the Convention (see Section 2.7.1).

the ICJ Statute; they are both primary sources of international law.<sup>726</sup> The order in which the sources are listed under this article reflects 'the degree of certainty with which their existence can be discerned' as opposed to their authority, and in the case of conflict between a customary rule and a treaty norm, 'the norm that will prevail in a given case will depend on their normative content, context, and the parties bound by them'.<sup>727</sup> The determination of customary international law that has developed in conflict with a treaty obligation is the same as with other rules of customary law, however given that it is created *contra legem*, or against the existing law, the existence of *opinio juris* may be more difficult to prove. In contrast to the emergence of customary international law in general though, customary international law modifying treaty law 'requires the intention of all of [the parties]' rather than just a general practice,<sup>728</sup> providing a significant hurdle to its crystallisation.

A well-known example of customary international law developing in conflict with treaty law is the emergence of the EEZ, which had developed as a form of customary international law at the time it was codified in UNCLOS.<sup>729</sup> The EEZ reserved sovereign rights for the coastal State that were in direct conflict with certain freedoms of the high seas codified under the 1958 Convention on the High Seas, such as freedom of fishing.<sup>730</sup>

Another example is the launch of the Sputnik 1 satellite in 1957. This launch occurred well prior to the existence of the Outer Space Treaty, which codified that outer space is not subject to State sovereignty, but after the entry into force of the Chicago Convention, which makes clear that a State has sovereignty over the airspace over its territory.<sup>731</sup> Despite this, no objections were raised to the orbit of Sputnik 1, which passed over the territories of numerous States.<sup>732</sup> The absence of opposition is seen as evidence that States viewed outer space as having a different legal character to airspace, where in outer space States are free to undertake activities without the permission of the underlying State<sup>733</sup> or, in other words, that 'customary international law did not extend claims of sovereignty into outer space'.<sup>734</sup>

---

726 *Jus cogens* norms are an exception to this, as recognised under Articles 53 and 64 of the Vienna Convention on the Law of Treaties.

727 Buga (n 627) 213.

728 *ibid* 198.

729 See Section 2.7.3.1 for the recognition by the ICJ of the customary status of the EEZ in 1982, which occurred prior to the adoption of UNCLOS.

730 Convention on the High Seas 1958, Articles 1 and 2.

731 Outer Space Treaty, Article 2 and Chicago Convention, Article 1. See Section 2.2.4 for discussion of these treaty provisions.

732 John Cobb Cooper, 'Flight-Space and the Satellites' (1958) 7(1) *The International and Comparative Law Quarterly* 82, 88.

733 Steven Freeland, 'Fly Me to the Moon: How will International Law Cope with Commercial Space Tourism?' (2010) 11 *Melb J Int'l L* 1, 10.

734 Michael G Gallagher, 'Legal Aspects of the Strategic Defense Initiative' (1986) 111 *US Military Law Review* 11, 20.

Just as the demarcation of the airspace and outer space is still not defined, nor is the altitude at which States are permitted to undertake space activities over the territories of other States. The Manual of International Law Applicable to Military Uses of Outer Space (MILAMOS) excluded the issue of the use of airspace at lower altitudes over other States for launches on the basis that there was insufficient acceptance by States to consider it as an emerging customary international law.<sup>735</sup>

The determination between subsequent practice demonstrating the application of a treaty provision or modifying the terms requires interpretation itself<sup>736</sup> and States are reluctant to recognise that subsequent practice modifies a treaty provision, in part because it is seen as a departure from the principle of *pacta sunt servanda*.<sup>737</sup> As a result, it is generally a last resort, when there is 'genuine incompatibility' that is 'irreconcilable through interpretation'.<sup>738</sup> On this point, a parallel may be drawn between the cases of Sputnik 1 and safety zones. Rather than resulting in a modification of Article 1 of the Chicago Convention in relation to the former, and the principle of freedom of overflight as it is recognised under Article 87(1)(b) UNCLOS in relation to the latter, these cases involve interpretation of the law. For Article 1 of the Chicago Convention, the new customary international law meant that 'airspace above its territory' now had a maximum altitude, albeit undefined. Similarly, in the case of safety zones, they could be understood not to involve a violation of the principle of freedom of overflight but to bring about a shift in the interpretation of it, consistent with the relationship between the corresponding freedom of navigation and the right to construct safety zones on the surface of the sea.

#### 3.3.4.7 Customary international law supporting the restriction of safety zones to the surface of the sea

Taking a contrasting view, and merely as a point to note, it could instead be argued, considering the wide body of domestic law implementing Article 60 UNCLOS only on the surface of the sea, that there is State practice – and possibly also *opinio juris* – to suggest that general customary international law could develop or even exist in support of the opposite proposition, that is, that a State's right to establish safety zones around its maritime constructions in international waters is restricted to vessels.

735 McGill University, 'MILAMOS Project', available at <mcgill.ca/milamos/> accessed 3 November 2019.

736 Buga (n 627) 2.

737 '38<sup>th</sup> Meeting of the Committee of the Whole – Extract from the Official Records of the United Nations Conference on the Law of Treaties, First Session (Summary Records of the Plenary Meetings and the Meetings of the Committee of the Whole)' A/CONF.39/C.1/SR.38 (Vienna, 26 March – 24 May 1968) 210-13. States raising this concern included Chile, Russia, Guinea, Uruguay, Cuba, Portugal and the Netherlands.

738 Buga (n 627) 219.

### 3.4 ARTIFICIAL ISLANDS FACILITATING AIRCRAFT OPERATIONS

#### 3.4.1 Jurisdiction in airspace over artificial islands facilitating aircraft operations

This section will consider the rights of States to manage the airspace over maritime constructions in international waters when those structures facilitate the take-off and landing of aircraft. This is the case for example for offshore petroleum installations, which rely on helicopter operations as part of their activities. It is also the case for artificial islands built for the purpose of facilitating airports at sea in international waters. China's military airport on Fiery Cross Reef is one example of this but airports for international civil aviation are also likely in future. To-date artificial islands with civil international airports have been constructed and are operating in territorial seas<sup>739</sup> but plans for airports in international waters have not yet come to fruition.

In 1979, Heller stated that,

'[i]t appears to be doubtful (and consequently should be clarified) whether the right granted to the coastal state in Article 60(1) to regulate the operation and use of artificial islands, installations and structures includes the right to regulate and exercise jurisdiction with regard to aviation, because of the reference to particular governmental interests (customs, fiscal, health, safety, immigration) only in Article 60(2).'

<sup>740</sup>

Forty years later, this point seems today to be clarified, at least to an extent. Article 60(2), as discussed in Section 3.2.3.1 provides the coastal State with *exclusive jurisdiction* over those maritime constructions that it has the exclusive right to construct under Article 60(1) and that exclusive jurisdiction *includes* jurisdiction with regard to customs, fiscal, health, safety and immigration laws and regulations. The wording in this provision 'includes jurisdiction with regard to...', suggests that the list is indicative rather than exclusive. This is consistent with Article 60(1), which provides that, in respect to the relevant maritime constructions, which the coastal State 'shall have the exclusive right to... regulate.... the operation and use of...'. This interpretation is also consistent with the purpose of the provision in its broader context. It is included to enable coastal States to effectively exercise their rights in the zone which, given the nature of the activities and the distances involved from the shore, were logically intended to encompass air transport. In fact, to deny States the right to regulate air traffic to and from their maritime constructions would not only be illogical but would also have adverse safety consequences. This view is supported by Hailbronner who, in 1983, observed that '[j]urisdiction in respect of flights to and from those structures and islands is inseparably interconnected with the coastal

---

739 See above n 479.

740 Heller (n 509) 149.



state's exclusive rights to construct and use the installations'.<sup>741</sup> Finally, although in practice unlikely to be relevant, the provision addresses the 'exclusive jurisdiction' of the coastal State. Even if the regulation of aviation operations was to fall outside its scope, it does not preclude the coastal State from exercising jurisdiction over it.

As mentioned in the previous paragraph, the exclusive jurisdiction under Article 60(2) is only over the maritime constructions that the coastal State has the exclusive right to construct. Recalling Section 3.2.3.1, those maritime constructions are: artificial islands, regardless of their purpose, installations and structures for the purposes under Article 56 and 77 – that is, for carrying out their rights in the EEZ or on the continental shelf, whichever the case may be – and *other economic purposes*, as well as installations and structures which may interfere with the exercise of the rights of the coastal State in the zone. This leaves other States unable to construct artificial islands in the EEZ or on continental shelf of that coastal State and with little incentive to construct an installation or structure. Going further than this, considering Article 60(1)(c), the coastal State arguably even has the exclusive right to construct airport facilities in its EEZ and continental shelf as any construction and operation of an installation or structure by another State would be likely to interfere with the rights of the coastal State.<sup>742</sup>

The argument put forward here is that together, these provisions are so broad that coastal States will almost always have exclusive jurisdiction over aviation on maritime constructions in their EEZ and on their continental shelf. This position is supported by a 1987 ICAO Secretariat Study, which stated that 'the interpretation of the text leads to a conclusion that the coastal State would have the exclusive jurisdiction over any airports or heliports constructed on installations in the EEZ'.<sup>743</sup> State practice supports this interpretation and the legislation of coastal States worldwide indicates that States assume jurisdiction over flights to and from structures on the continental shelf, including in terms of licensing, insurance, liability, safety regulations and traffic rules.<sup>744</sup> For example, through various structures and to varying degrees, the US, Norway, the UK, Canada and Australia have legislation or memoranda of understanding between departments governing the operation of helicopters to and from their offshore petroleum facilities.<sup>745</sup>

As demonstrated above, the legal basis for the regulation of aviation on maritime constructions does not involve safety zones, but instead centres on the scope of Articles 60(1) and 60(2) UNCLOS. Again returning to Hail-

741 Hailbronner, 'Freedom of the Air' (n 537) 509.

742 Camilleri (n 625) 31, with reference to Soons (1974).

743 ICAO *Secretariat Study on Agenda Item 5* (n 466) 255. This also extends to those constructed on the continental shelf, through Article 80 UNCLOS.

744 Hailbronner, 'Freedom of the Air' (n 537) 510.

745 'Review of Selected Offshore Petroleum Regulatory Regimes: Offshore Helicopter Safety Inquiry' (Aerosafe Risk Management, Canada, 2010).

bronner, '... the exercise of jurisdiction under Article 60(2) does not justify general restrictions on the freedom of overflight over those installations'.<sup>746</sup> The operation of air services to and from a maritime construction does involve risks for airspace users though, and air traffic must be managed to mitigate those risks. This is achieved in the same way as in relation to any other risks in the airspace, as managed by the responsible authority pursuant to arrangements specific to that flight information region.

### 3.4.2 Rights of the State in the operation of an airport for international civil aviation outside territory

If a coastal State were to establish a maritime construction beyond its territorial sea – in its EEZ or on its continental shelf – for the purpose of establishing a civil international airport, there are a number of considerations additional to the above that have to be taken into account under international civil aviation law.

*Firstly*, as outlined in the previous section, it is indisputable under Articles 60(1) and (2) UNCLOS that the coastal State has jurisdiction over the airport. *Secondly*, the negotiation of traffic rights in ASAs is based on each State in the ASA designating a location to and from which the rights may be exercised, that is, the defined territory of the State. If a State constructs an airport on a maritime construction that sits beyond its territorial sea, the State would have to demonstrate that it has the right to grant traffic rights in its EEZ and the other State or States in the ASA would have to be prepared to accept this.<sup>747</sup> In addition, and further to the statement of ICAO mentioned in Section 3.3.1 that a State does not have jurisdiction over the airspace over artificial islands beyond its territorial sea, the State would have to negotiate the exclusive use of the airspace above the airport and in the approach and take-off corridors with the other States that use the airspace, which could be achieved through amendments to the relevant regional air navigation agreements, upon approval by the ICAO Council.<sup>748</sup> Recalling Section 3.3.3.3, it would be difficult to see how exclusive use of the airspace in this case would be accepted by other States considering freedom of overflight. This would most likely require law-making by concluding a new international agreement. The above matters, among other relevant considerations, have been addressed thoroughly in previous academic publications<sup>749</sup> and this research will not delve further into them here.

746 Hailbronner, 'Freedom of the Air' (n 537) 510.

747 Mendes de Leon and Molenaar (n 486) 240–41.

748 *ibid* 243.

749 PPC Haanappel, *The Law and Policy of Air Space and Outer Space: A Comparative Approach* (Kluwer Law International 2003) 23; Niels van Antwerpen, *Cross-Border Provision of Air Navigation Services with Specific Reference to Europe: Safeguarding Transparent Lines of Responsibility and Liability* (Kluwer Law International 2008) 160; Lawrence (n 657); Hailbronner, 'Freedom of the Air' (n 537); Mendes de Leon and Molenaar (n 486).

### 3.5 CHANGES TO INTERNATIONAL AIRSPACE DELIMITATION AS A RESULT OF LAND FORTIFICATION AND RECLAMATION

The last section of this chapter will highlight some final, ancillary, matters with implications for overflight in international airspace. The aim of this section is not so much to analyse and find answers to these issues, but to draw attention to them as matters that will, in future, need to be addressed to ensure clear delimitation of international airspace.

#### 3.5.1 The legal status of islands in the face of submersion and erosion

This section will address a number of related issues on the legal status of islands and their maritime zones in light of human modification in response to rising sea levels and coastal erosion. These issues have implications for the delimitation of national airspace and correspondingly, consequences for international airspace and freedom of overflight.

The first of these is related to the discussion going back to the early 20<sup>th</sup> century on whether international law should draw a distinction between natural and man-made islands, as addressed in Section 3.2.1.1. Of course this is now well settled in international law under Article 121 UNCLOS, but part of the debate questioned where the demarcation lies between natural and man-made islands, a matter that has not been resolved but which has new significance today in light of rising sea levels and erosion due to climate change.<sup>750</sup>

Recalling Section 3.2.4.2, the Tribunal in the *South China Sea Arbitration* provided some clarity, confirming that the relevant consideration is the *natural* state prior to human modification. But the question then is what exactly constitutes ‘human modification’ and subsequently, ‘whether an island of mixed natural and human origin should fall under Article 121’<sup>751</sup> under certain circumstances. This seems to be *prima facie* a simple matter, but there are circumstances with no clear classification. For example, if an island has been submerged and is then built back up is it an artificial island? What if an island has been eroded so significantly or submerged to the point that it can no longer sustain human habitation or economic life and it is then rebuilt – will it be an artificial island built on a rock or a natural

---

750 ‘Regional patterns of sea-level rise have been observed from satellites since 1993 and are associated with increased coastal impacts in many regions. It is unknown whether such patterns will be transient, arising from natural climate variations, or persistent, driven by external climate forcing. Here, using climate model ensembles, we demonstrate that forced changes are likely to have contributed significantly to observed altimeter-era patterns of rise and that these patterns may persist for decades to come, with increased intensity as climate change progresses’ (John T Fasullo and R Steven Neren, ‘Altimeter-Era Emergence of the Patterns of Forced Sea-Level Rise in Climate Models and Implications for the Future’ (2018) 115(51) *Proceedings of the National Academy of Sciences of the United States of America* 12944, 12944).

751 Dorst, Elferink and Ligteringen (n 500).

island as it was prior to erosion/submersion? And, what would the status be of a low-tide elevation in the case of 'an artificial construction near [that] low-tide elevation that leads to the accumulation of materials that change the feature into an island'?<sup>752</sup> Answers to these questions are not provided under Article 121 in relation to naturally formed islands.

This question was similarly posed by Gidel back in 1930:

'If a natural island is in the process of gradually disappearing beneath the waves and it is decided to erect earthworks so as to keep the island above the level of the sea, is that island natural or artificial? Again, if, in the well-known case of *The Anna*, the 'little mud islands composed of earth and trees drifted down by the river', which were the subject of Lord Stowell's judgment, had been 'embanked and fortified, would they then have been natural or artificial?'.<sup>753</sup>

Evidently Gidel was not referring to the impact of climate change but his words have a new resonance reflecting on these challenges today, as States rely on human modification to protect their land. The example that Gidel describes may also impact territorial boundaries and therefore airspace division when it occurs on a State's coastline, in an area within its sovereignty. This is discussed below in Section 3.5.2.

Secondly, if a natural island becomes submerged due to rising sea levels or erosion, does the State also lose the maritime zones that island generated? At its most extreme, this may be applied to the case of an entire island State becoming submerged in which case that State would either lose its territorial sea and other maritime zones or, which is not envisaged by UNCLOS, retain its maritime zones despite them being generated by a land mass that no longer exists. This matter does not directly involve maritime constructions, but closely related is the question of whether artificial islands can amount to a 'defined territory' for the purpose of statehood in these circumstances, the answer to which is unclear.<sup>754</sup> For example, the Maldives has built an artificial island, Hulhumalé, next to its capital, Malé, for the purpose of relocating its population.<sup>755</sup> In instances such as this, the question of whether an artificial island can constitute territory is relevant in order to determine whether a submerged State is able to relocate to an artificial island and maintain its statehood.<sup>756</sup> Hulhumalé was constructed in the territorial sea of the Maldives so it is clearly under the sovereignty of the Maldives and thus its construction has no implications for overflight

752 *ibid.*

753 Johnson (n 502) 212; in part quoting, *The Anna* (1805) 5 C.Rob. 373.

754 See, for example, discussion in, Jenny Grote Stoutenburg, *Disappearing Island States in International Law* (Brill Nijhoff 2015) 169-173.

755 Michael Gagain, 'Climate Change, Sea Level Rise, and Artificial Islands: Saving the Maldives' Statehood and Maritime Claims Through the 'Constitution of the Oceans' (2012) 23(1) *Colo J Int'l Env'tl L & Pol'y* 77, 81-82.

756 A defined territory is one of the four necessary elements of a State, as discussed in Section 2.2.1.

rights. However, if artificial islands constructed in territorial seas could be considered territory – presumably without maritime zones, in accordance with UNCLOS, but this too stands to be debated<sup>757</sup> – and this recognition then became practice in the high seas, it would significantly impact overflight rights. Having said this, it is difficult to see how sovereignty over artificial islands could be extended to those in the high seas given that no State may claim sovereignty over the high seas.<sup>758</sup> Once again, this has a direct impact on freedom of overflight as, if a State has the right to declare sovereignty over an artificial island beyond its territorial sea, the airspace over it will correspondingly be considered national airspace.

Without intervention, submerged features have in the past resulted in the loss of rights associated with the landmass that had comprised the feature and the maritime zones it generated. For example,

‘...[I]n the course of negotiation of the maritime boundary between Belgium and the United Kingdom, the United Kingdom was forced to abandon one of its key basepoints, a drying bank called the Shipwash, when a new hydrographic survey revealed that the feature had eroded to the extent that it no longer dried and could no longer be regarded as a low-tide elevation.’<sup>759</sup>

These issues as legal issues, and their significant implications in practice, are recognised by the international community. At its 75<sup>th</sup> Conference of the International Law Association (ILA), two resolutions were adopted on the impact of rising sea levels on territorial baselines, reflecting the broad topics on which the need for future work was acknowledged during the conference:

‘6. The implications of the existing law of the normal baseline in situations of territorial loss resulting from sea-level rise;

7. The recognition that substantial territorial loss resulting from sea-level rise is an issue that extends beyond baselines and the law of the sea, and encompasses consideration at a junction of several parts of international law, including such fundamental aspects as elements of statehood under international law, human rights, refugee law, and access to resources, as well as broader issues of international peace and security’.<sup>760</sup>

So far, these issues are rarely considered in terms of their impact on international airspace and overflight, despite each of them resulting in the redrawing of international airspace.

<sup>757</sup> See, for example, discussion in, Grote Stoutenburg (n 754) 173.

<sup>758</sup> UNCLOS, Article 89.

<sup>759</sup> Schofield and Schofield (n 599) 65.

<sup>760</sup> Resolution No 1/2012 on Baselines under the International Law of the Sea, adopted at the 75<sup>th</sup> Conference of the International Law Association (Sofia, 26-30 August 2012).

### 3.5.2 Reclaimed land and the effect on the delimitation of international airspace

This section will discuss changes to the delimitation of international airspace as a result of the redrawing of territorial baselines after the reclamation of land. Whilst maritime constructions do not generate maritime zones, State practice indicates that coastal land reclamation does generally lead to changes in the delimitation of the territorial sea. This is certainly so in the case of reclaimed land attached to the mainland. As such, this is an example, in contrast to artificial islands, installations and structures, of constructions at sea bringing – albeit indirectly – international airspace under coastal State sovereignty. For reclaimed land not connected to the mainland, it is not generally accepted as being considered for the purpose of redefining the baseline of the territorial sea.

The starting point for discussing the legal basis of land reclamation for the drawing of territorial sea baselines is Articles 11 and 5 UNCLOS, read together.

Article 11 UNCLOS, titled ‘Ports’, states:

‘For the purpose of delimiting the territorial sea, the outermost permanent harbour works which form an integral part of the harbour system are regarded as forming part of the coast. Off-shore installations and artificial islands shall not be considered as permanent harbour works’.

Article 5 UNCLOS, titled ‘Normal baseline’ reads:

‘Except where otherwise provided in this Convention, the normal baseline for measuring the breadth of the territorial sea is the low-water line along the coast as marked on large-scale charts officially recognized by the coastal State’.

Considering these two together, if construction, including reclaimed land, ‘forms an integral part of the harbour system’, it will be part of the coast and will therefore, in accordance with Article 5, be able to be used as a point from which to draw the territorial sea baseline.

Article 11 makes clear that the body must be connected to the coast in that ‘offshore’ constructions are excluded but beyond this, UNCLOS is silent on the definition of ‘harbour works’ and of what will ‘form an integral part of the harbour system’. The term ‘harbour works’ has been defined by the International Hydrographic Organization (IHO), a body that surveys and charts the world’s oceans. It defines the term as:

‘permanent manmade structures built along the coast which form an integral part of the harbor system such as ... sea walls, etc.’, where ‘harbour’ is defined as ‘a natural or artificially improved body of water providing protection for vessels, and generally anchorage and docking facilities.’<sup>761</sup>

---

761 International Hydrographic Organization, *Hydrographic Dictionary*, available at <hd.iho.int/en> access-ed 2 February 2018.

Reclaimed coastal land tends to be within enclosed waters, in which case it has no impact on territorial sea delimitation<sup>762</sup> and there is relatively little State practice on the use of reclaimed land for the drawing of baselines. There are sufficient instances to conclude though, that reclaimed land that does not contribute to harbour works is accepted under customary international law as forming part of the coast and may therefore be used as a base point for measuring the territorial sea baseline.<sup>763</sup> This has been recognised by the ILA:

*‘existing international law recognizes harbor works..., any coast protective work which extends above the chart datum, and any human-induced extension of the natural coast, as part of the coast for the purpose of Article 5. As such, the normal baseline moves, sometimes seaward, with the resulting changes in coastal configuration’.*<sup>764</sup>

Huge land reclamation projects have taken place in Singapore since the 1970s, with Changi Airport, Sentosa, Jurong Island and Tuas South, all resting on reclaimed land, but it is not known whether this land is used to measure its territorial sea baseline.<sup>765</sup> The Netherlands relies heavily on reinforcing its coastline, including through many man-made structures. Hoek van Holland, for example, which consists almost entirely of man-made land, extended the coastline by around five and a half miles and has been used to measure the territorial baseline ‘with no objection from the international community’.<sup>766</sup>

Under Article 11 UNCLOS, land that is reclaimed to form part of the coastline but is later detached, intentionally or through erosion, will not continue to be able to be taken into account in determining the territorial sea baseline. This occurred in the UAE with the construction of Palm Jumeirah. At the completion of its construction it was attached to the coast but was subsequently severed and connected by bridges.<sup>767</sup> A similar situation exists in the Netherlands, where part of the Rotterdam harbour known as the Zandmotor, which is an artificial extension of the coast, was designed with the intention of it becoming separated.<sup>768</sup> Whereas the Zandmotor is considered coastline for the purposes of the territorial sea baseline,<sup>769</sup> in accordance with Article 11, it would no longer be able to serve as a baseline

---

762 Chris Carleton, ‘Problems Relating to Non-Natural and Man-Made Basepoints under UNCLOS’ in Clive Ralph Symmons (ed), *Selected Contemporary Issues in the Law of the Sea* (Martinus Nijhoff Publishers 2011) 53.

763 Oude Elferink (n 497) 9.

764 International Law Association, ‘Baselines under the International Law of the Sea’, Final Report (2012) 28.

765 Carleton (n 762) 53.

766 *ibid* 52.

767 *ibid* 57.

768 Dorst, Elferink and Ligteringen (n 500).

769 *ibid*.



point after it separates from the coastline. Some commentators have questioned whether the fact that its breakaway from the coast involves natural erosion might mean that it could continue to be considered as a base point for the territorial sea baseline,<sup>770</sup> however there is no international practice to support this claim. In any case, it is the nautical charts that provide the definitive judgment on States' territorial sea baselines and so until they are revised to take into account the change in conditions, they will continue to reflect the extended baselines. In the case of the Zandmotor, although the territorial baseline was extended as a result of it, the continental shelf and the EEZ boundaries remained unchanged as they have been settled by the Netherlands and its neighbouring sea States through treaties.<sup>771</sup>

Although land reclamation is accepted under customary international law as contributing to the measurement of a State's baseline, it is not always uncontroversial when a State does so.<sup>772</sup> As with the issues raised in Section 3.5.1, the ILA also recognised the relevance of this matter at its 75<sup>th</sup> Conference, listing as one its significant issues: '[t]he implications of the existing law of the normal baseline in situations of territorial gain resulting from human-made structures and the artificial conservation or extension of existing coasts'.<sup>773</sup>

Again, as with the issues raised above in Section 3.5.1, the reclamation of land along coastline is rarely considered from the perspective of international civil aviation law, despite the impact it has on the redrawing of international airspace boundaries.

### 3.6 CONCLUSION TO CHAPTER

This chapter began by outlining the distinction between artificial islands, on the one hand, and installations and structures, on the other, as the constructed bodies – maritime constructions – that are the subject of Article 60 UNCLOS. It demonstrated that there are some obstacles to definitively classifying them in certain circumstances, notwithstanding the importance of the distinction to the application of Article 60. A coastal State has the exclusive right in its EEZ and on its continental shelf to construct artificial islands and to construct installations and structures for purposes relating to its specific rights and jurisdiction within those maritime areas. In order to ensure both the safety of navigation and of the constructions themselves, the State also has the right to establish a safety zone around the construction. This safety zone may extend to a maximum breadth of 500 metres from the outer edge of the maritime construction and, as confirmed by the

---

770 *ibid.*

771 Including between the Netherlands and Germany (1964 and 1971), the United Kingdom and Northern Ireland (1965) and Belgium (1996) (*ibid.*).

772 Oude Elferink (n 497) 9.

773 Resolution No 1/2012 on Baselines (n 760).

Tribunal in the case of the *Arctic Sunrise Case*, the jurisdiction a State may exercise in the zone for the protection of the construction and of navigation in its vicinity, goes beyond the rights and jurisdiction the State has within the EEZ or the continental shelf more broadly. The provisions explicitly provide that the safety zones apply to the sea and restrict navigation, but as to whether they may also be applied in the airspace over the construction, and therefore prohibit overflight, UNCLOS provides no indication.

A legal matter that has, until relatively recently, lacked clarification, is that of the legal status of a natural feature combined with a maritime construction. This matter was addressed by the Tribunal in the *South China Sea Arbitration*, in which it was confirmed that, where a construction uses an existing maritime feature as its foundation, the maritime feature retains its legal status as per its original form. This was an important clarification for the law of the sea, and for this study, because it confirmed that the maritime construction over a low-tide elevation, or a rock, cannot change the legal status of that low-tide elevation or rock. For a low-tide elevation, this means that any maritime construction on or around it cannot result in it being a rock or an island and thereby forming the basis for territorial claims, leading to international airspace becoming national airspace. The Tribunal also confirmed that no State may appropriate a low-tide elevation outside its territorial waters and thus, once again, the question of sovereignty over a maritime construction built atop such feature or over the airspace above it, is not relevant. Finally, in relation to maritime constructions over natural features, the chapter explained that, as a result of the foundations of maritime constructions retaining the legal status of their original form, the dual nature of these natural features/maritime constructions may result in a situation that appears to conflict with Article 60(8) UNCLOS, particularly that maritime constructions do not possess a territorial sea or affect the delimitation of the territorial sea, both situations with implications for the delimitation of national and international airspace.

Having established when a maritime construction necessarily falls outside the sovereignty of a coastal State, this chapter then turned to examine whether a coastal State has the right to extend the safety zone of such maritime construction to the airspace above it, thereby providing the State with the right to prohibit the overflight of other States' aircraft above the construction. International law indicates that safety zones are restricted to the surface of the sea. This is supported by a number of factors including the ordinary meaning of Articles 60(4) and (5); the drafting history of the 1958 Convention on the Continental Shelf and the fact that no significant amendments were made to the articles as adopted in UNCLOS; the subsequent interpretation of the articles by ICAO and subsequent materials published by the IMO; and, by State practice.

The principle of freedom of overflight also supports the argument that safety zones are limited to the sea itself. The coastal State does have the option, however, of establishing danger areas in the airspace, as does any other State in international airspace. A State using international airspace to

the exclusion of other States does not necessarily violate freedom of overflight, just as a State using the ocean – e.g. through a maritime construction – is not violating freedom of navigation. Considering other acceptable uses of international airspace though, there are specific limitations on the way in which a State's activities is able to legitimately restrict the overflight of other States' aircraft whenever necessary and proportionate. The danger area over the maritime construction would need to be temporary, rather than a permanent measure and it would not provide the State whose maritime construction it is with the right to prohibit the aircraft of other States.

In the absence of an explicit right under UNCLOS to extend safety zones to the airspace over maritime constructions, the right to do so may still crystallise into customary international law, although there is insufficient State practice to suggest the emergence of any such customary law. If the right were to emerge as customary international law, its conflict with freedom of overflight would not necessarily stand as an obstacle to this, as discussed.

It is proposed here that the solution to meeting the safety risks presented both by maritime constructions to aircraft and by aircraft to maritime constructions, just as with any other safety risk regarding overflight, should be managed by the ATS provider responsible for the FIR within which the maritime construction is located. This management would involve coordination of the traffic and perhaps a reasonable restriction of altitude to avoid collision with the maritime construction, but nothing beyond this. This conclusion is also consistent with the management of air traffic to and from a maritime construction, where that forms part of the activities on the construction. Whilst a State does not have jurisdiction over international airspace above its maritime construction, in the case of aviation operations to and from a maritime construction Articles 60(1) and (2) UNCLOS make it clear that the coastal State has jurisdiction over those operations insofar as matters such as licensing, insurance, liability, safety regulations and traffic rules are concerned. In the case of a maritime construction built for the purpose of an airport for international civil aviation, the exclusive use of international airspace over the maritime construction would need to be negotiated with other States and, considering the principle of freedom of overflight, it is difficult to see how this will be accepted as a permanent measure.

Finally, this chapter briefly raised some ancillary matters regarding maritime constructions with implications for overflight in international airspace. The purpose of this section was not to attempt to find solutions but to raise the issues as ones of significance that require attention going forward, particularly given their link to climate change which is affecting island States, and indeed coastal areas in general, to an increasing extent worldwide.

