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THE MEANING OF PROHIBITED 'USE OF FORCE' IN INTERNATIONAL LAW

Erin Pobjie

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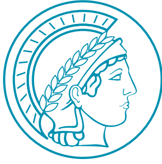

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ABSTRACT

Despite its central importance in the international legal order, there remains genuine uncertainty among States, scholars and jurists about the meaning of a prohibited 'use of force' under article 2(4) of the United Nations Charter and customary international law. This ambiguity is exploited by States and undermines compliance with the norm. This chapter accordingly presents and applies an original framework – type theory – to identify prohibited 'uses of force' between States, focusing on the meaning of 'use of force' as well as the contextual requirement of 'international relations'. It argues that a prohibited 'use of force' between States is characterised by a basket of elements, not all of which must necessarily be present in order for an act to meet the definition. Instead, these elements – including certain types of effects, gravity and intention – are identified and weighed to determine whether the threshold of the definition of a 'use of force' is met. The theory of 'type' is firstly set out before explaining how it applies to the prohibition of the use of force, with illustrative examples from State practice, including the attempted killings of George Bush and Sergei Skripal and instances of excessive or unlawful maritime law enforcement. Finally, this chapter applies the type theory framework to a potential 'use of force' in an emerging military domain – the testing of anti-satellite (ASAT) weapons in outer space – to illustrate how it can be applied in novel contexts. In applying the type theory framework to these concrete case studies, this chapter draws definitive conclusions regarding the definition of a 'use of force' and demonstrates the usefulness of this theory as a tool for legal scholars and practitioners.

KEYWORDS:

Article 2(4), UN Charter, treaty interpretation, aggression, jus ad bellum, international relations, space security

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The meaning of prohibited ‘use of force’ in international law

Erin Pobjie[*]

Introduction

This chapter presents and applies an original framework – type theory – for identifying an unlawful use of force between States under article 2(4) of the UN Charter and customary international law, focussing on the meaning of ‘use of force’. In doing so, it brings together the elements of a ‘use of force’ identified in earlier parts of this book. The theory of ‘type’ is firstly set out, before explaining how it applies to the prohibition of the use of force between States in international law, with illustrative examples from State practice and two case studies. These case studies will apply type theory to two very different scenarios: the attempted killing of Sergei Skripal in the UK in 2018 with the nerve agent Novichok, and the testing of anti-satellite (‘ASAT’) weapons in outer space, to demonstrate how to apply type theory in practice to assess whether an act is a prohibited ‘use of force’. Finally, this chapter offers some reflections and proposes a general framework to identify a prohibited ‘use of force’.

What is a type?

In the sense employed here, type denotes a category (here: ‘use of force’) which contains certain conditions (elements, such as physical means, physical effects etc.), not all (or even any) of which are necessary or sufficient, but which must be weighed and balanced to determine whether the threshold for the definition is met. A type is to be distinguished from a concept, in which an object (e.g. a forcible act) belongs to the set (‘use of force’) only if the shared group of necessary conditions are met (i.e. the conditions are all necessary and are jointly sufficient). A typical example of a concept is the definition of crimes: due to the requirements of *nullum crimen sine lege*, crimes under domestic and international law are typically defined by elements which must all be met in order for a particular act to fall within the definition. An example for illustrative purposes is the war crime of wilful killing, which has the following elements under article 8(2)(a) of the Rome Statute of the International Criminal Court (Elements of Crimes, footnotes omitted):

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Elements

1. The perpetrator killed one or more persons.
2. Such person or persons were protected under one or more of the Geneva Conventions of 1949.
3. The perpetrator was aware of the factual circumstances that established that protected status.
4. The conduct took place in the context of and was associated with an international armed conflict.
5. The perpetrator was aware of factual circumstances that established the existence of an armed conflict.

Under this definition, each of the above elements are necessary and when these elements are all fulfilled, then they are also jointly sufficient for meeting the definition of the crime.

In contrast, it is proposed that a prohibited 'use of force' between States within the meaning of article 2(4) of the UN Charter is defined by a basket of elements, not all (or possibly, any) of which are necessary conditions; these elements do not all have to be present for an act to meet the definition. Instead, these elements are identified and weighed up to determine whether the threshold of the definition is met. In other words, individually each these elements may *not* be necessary, but in a given case a particular combination of them may be jointly sufficient to constitute a prohibited 'use of force'. Conversely, if *none* of the elements are present, although they are not individually necessary, then the act will not constitute a prohibited 'use of force'.

The crime of *Nötigung* (coercion) under German criminal law provides an instructive illustration of the idea of type. *Nötigung* is a catch-all provision in section 240 of the German Criminal Code which criminalises the threat or use of force to coerce another person to carry out, suffer or refrain from an act.[1] The crime is defined as follows:

Section 240 of the *Strafgesetztbuch* (German Criminal Code)[2]

Using threats or force to cause a person to do, suffer or omit an act

(1) Whosoever unlawfully with force or threat of serious harm causes a person to commit, suffer or omit an act shall be liable to imprisonment not exceeding three years or a fine.
(2) The act shall be unlawful if the use of force or the threat of harm is deemed inappropriate for the purpose of achieving the desired outcome.
(3) The attempt shall be punishable.
(4) In especially serious cases the penalty shall be imprisonment from six months to five years. An especially serious case typically occurs if the offender
1. causes another person to engage in sexual activity;

[1] I am grateful to Christian Kaerkes for his invaluable assistance with this topic.
[2] Criminal Code in the version promulgated on 13 November 1998, Federal Law Gazette [Bundesgesetzblatt] I p. 3322, last amended by Article 1 of the Law of 24 September 2013, Federal Law Gazette I p. 3671 and with the text of Article 6(18) of the Law of 10 October 2013, Federal Law Gazette I p 3799.

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2. causes a pregnant woman to terminate the pregnancy; or
3. abuses his powers or position as a public official.[3]

The definition of the crime of *Nötigung* requires that the behaviour be unlawful. This is essentially a means-ends analysis, as set out in sub-section (2). However, it can also be unlawful under this analysis to achieve a lawful outcome with a lawful act if the means (the use of force or the threat of harm) 'is deemed inappropriate' for that purpose. For example, this is usually discussed in relation to making threats to lodge a legitimate criminal complaint with the authorities in cases where the desired outcome of the threat (for instance, repaying a debt) is not connected with the criminal complaint itself (i.e. a case of blackmail). Other examples of *Nötigung* include: a) locking up a person;[4] b) preventing a person from entering a building;[5] c) 'unwanted' anaesthesia;[6] d) turning off the heating of a property to compel the tenant to pay the rent;[7] and e) tailgating in traffic.[8]

What is interesting about the crime of *Nötigung* for our purposes is that the German courts have interpreted this crime as comprising a number of factors which must be weighed up, and which do not all have to be present for a particular act to be 'deemed inappropriate' under section 240(2) and thus fall within the scope of the crime. Under the current definition of 'use of force' with respect to *Nötigung*, two elements of 'force' must be present: 'force' is defined as any physical action that produces a physical effect on the victim (to break his or her (expected) resistance).[9] However, the threshold of these requirements is extremely low; the mere act of sitting down or turning a key meets the requirements for a physical action, and a physical reaction (such as perspiring) can suffice to meet the requirements for a physical effect. There is one minor limitation to this, however: force against objects is usually not enough unless it also indirectly impacts on a person (e.g. destroying windows of a building in the winter, so that the residents must vacate the premises).

In order to meet the elements of the crime of *Nötigung*, all relevant factors must be considered, although their specific requirements are debatable, including:

- lawfulness, weight and acceptability of the desired outcome;
- the intensity of the force;
- motivation;
- the weight of the encroachment on the freedom of the recipient of the use of force;
- a greater than insignificant effect on the receiver;
- priority of public authority (i.e. no vigilantism);
- internal connection between the act and desired outcome;
- effect on constitutional rights;
- legally relevant (not merely morally questionable) actions;

[3] Translation of the German Criminal Code provided by Prof. Dr. Michael Bohlander, available at: https://www.gesetze-im-internet.de/englisch_stgb/englisch_stgb.html#p2015.
[4] BGHSt 20, 194.
[5] OLG Düsseldorf, NJW 1986, 942, 943.
[6] BGH, NJW 1953, 351.
[7] OLG Hamm, NJW 1983, 1505, 1506.
[8] BGHSt 19, 263, 265 ff.
[9] BVerfGE 92, 1.

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- Individual autonomy (it is not unlawful if the act is considered an autonomous decision and is not required by the law);
- the factors listed in sub-section (4) are considered especially grave; and
- the context of the action / circumstances of the case.
- It is controversial whether long-term objectives of an act (e.g. environmental protection in violent demonstration cases) are legally relevant to determining if the definition of the crime is met; the majority does not consider them.[10]

Once the definition of 'force' is met, then one must weigh up the relevant factors against each other to determine whether the 'force' is unlawful under section 240. Each of the factors set out above may not be individually sufficient or even necessary conditions for an act to meet the definition of *Nötigung*. To give some examples of the way that this balancing act has been carried out by the German courts:[11]

- Loading and aiming a gun to scare people away constitutes 'force'. It is unlawful if one could have requested assistance from the police in time (priority of public authority). Another factor is the potential danger of a gun and the violation of the law which forbids the possession of firearms.[12]

- Turning off the heating of an apartment can be an unlawful use of force or threat of harm. It is to be considered that cold temperatures can have deleterious effects on health and make the apartment uninhabitable. Another relevant aspect is whether or not the claim (here, the rent) is disputed.[13]

- With respect to a sit-in protest: To determine lawfulness, it is to be considered whether the protest is protected by the right to freedom of speech and/or freedom of assembly. Furthermore, a road blockade which only lasts for one minute is of such a short duration that it may not be punishable. Another factor is whether all or only some entrances are affected. It was also considered that the only people affected were those against whom the protest was directed.[14]

- A 'tailgating-case': Here, the court considered the danger of the behaviour with respect to important legal rights (i.e. possible traffic accident, because the car could probably not stop in time). The motive of the tailgating (to be able to drive slightly faster) was unreasonable. Another factor was again the duration of the dangerous act.[15]

In each of these cases, the factors identified above are not explicitly weighed up against each other in detail. Rather, the relevant factors in the specific case are identified and the court

[10] For a discussion of these factors, see Claus Roxin, 'Verwerflichkeit und Sittenwidrigkeit als unrechtsbegründende Merkmale im Strafrecht, 1964 *JuS* 373.
[11] For key German jurisprudence regarding *Nötigung*, see BVerfGE 92, 1; BGHSt 23, 46 and BGHSt 37, 350.
[12] BGH, NJW 1993, 1869, 1870.
[13] OLG Hamm, NJW 1983, 1505, 1506 f.
[14] BayObLG, NJW 1993, 213, 214.
[15] BGHSt 19, 263, 265 ff.

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determines whether these factors are sufficient to meet the requirements for an unlawful use of force for the crime of *Nötigung*.

Type theory and 'use of force'

It is proposed that a prohibited 'use of force' between States within the meaning of article 2(4) of the UN Charter is a type rather than a concept – that is, it is characterised by a basket of elements, not all of which must necessarily be present for an act to meet the definition. Instead, these elements are identified and weighed up to determine whether the threshold of the definition of 'use of force' is met. In other words, individually each of these elements may not be necessary, but in a given case a particular combination of them may be jointly sufficient to constitute a prohibited 'use of force'. If some elements are weak, but other elements are of a higher gravity/intensity, then the balancing of the elements under the particular circumstances may result in an act meeting the definition of an unlawful 'use of force' under article 2(4). As with the crime of *Nötigung*, there are two kinds of elements to weigh up to determine whether an act constitutes an unlawful 'use of force' under article 2(4): firstly, those relating to whether an act is a 'use of force', and secondly, contextual elements that must be present for that 'use of force' to fall within the scope of article 2(4) and thus be unlawful under that provision.

Accordingly, if a 'use of force' is a type, then all 'uses of force' share elements in common; however, for an act to fall within the definition of 'use of force', it does not have to display *all* elements. The consequence of this is that there will be several different types of 'use of force', for example, classical uses of force employing armed force of a high gravity (bombardment, invasion against opposition), as well as uses of force that do not employ physical/armed force, such as an unresisted invasion or occupation. This theory is supported by the analysis of anomalous examples of 'use of force' and non-'use of force' in Chapter Seven, which has demonstrated that each of the elements of a 'use of force' must not always be present for an act to constitute an unlawful 'use of force'. Putting it all together, it is apparent that none of the elements of a 'use of force' identified in Part II are strictly necessary for an act to meet the definition, except for the object/target of the use of force (as explained in Chapter Four with respect to 'international relations', a nexus is probably required between the object or target of the 'use of force' and another State). The examples of 'use of force' which disprove the necessity of each of the elements of a prohibited 'use of force' are summarised below:

- ***Physical force***: military incursion without recourse to the use of weapons, unresisted invasion or military occupation, unconsented mere presence. Controversial: cyber operations, non-kinetic non-cyber operations.

- ***Physical effects***: as above. Although there are 'uses of force' which do not have any physical effects, to be legally relevant to the equation of whether an act is a 'use of force', any effects must be physical and direct (no intermediate steps between the act and its result). In other words, although a physical effect is not necessary for an act to constitute an unlawful 'use of force', non-physical and non-direct effects will not be relevant to the calculation. As discussed in Chapter Six, it is legally uncertain whether

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the physical effects must actually ensue (as opposed to merely potential effects), and if they must be permanent.

- ***Gravity***: as discussed in Chapter Six, it is legally uncertain if there is a lower gravity threshold for an act to fall within the scope of the *jus contra bellum*. However, since even a single shot fired across the border by the military of one State could be considered an unlawful 'use of force', this appears to negate the argument that there is a gravity threshold for a prohibited 'use of force' under article 2(4).

- ***Intent***: as discussed in Chapter Six, although it is legally uncertain, it seems that even an accidental use of force could be considered a violation of article 2(4) of the UN Charter under certain circumstances, such as 'the accidental projection of armed force … across a border' (for example, shots or shells fired).[16]

This disproves the null hypothesis (the commonly accepted position which, if proven, would disprove the alternative hypothesis) that a 'use of force' is not a type but a concept, for which there is a checklist of fixed elements that must always be present for the definition to be met. Rather, determining that an act meets the definition of a 'use of force' is not a matter of going through a checklist of elements to see whether every element is present. Instead, it is an equation that must be weighed up.

On the basis of this type hypothesis, two kinds of elements are proposed that indicate an unlawful 'use of force' under article 2(4): firstly, elements relevant to whether the act is a 'use of force', and secondly, contextual elements that are required to bring the 'use of force' within the scope of article 2(4) and render it unlawful. Since the latter are fundamental requirements, they are dealt with first:

1) Fundamental requirements (contextual elements): These are the necessary (but insufficient) contextual elements to bring a 'use of force' within the scope of article 2(4). These elements must always be present for an act to constitute an unlawful 'use of force' in violation of article 2(4), but on their own they will not suffice for an act to violate that provision (since it must also meet the definition of 'use of force'). 'Threat of force' is not considered here, but in respect of 'threats of force' under article 2(4), the same framework of analysis would apply with respect to the contextual elements.[17] These fundamental requirements follow explicitly from the text of article 2(4) itself, such as:

- two or more States;

- international relations;

- 'against the territorial integrity or political independence of any state or in any other manner inconsistent with the Purposes of the United Nations'.

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[16] Tom Ruys, 'The Meaning of "Force" and the Boundaries of the Jus Ad Bellum: Are "Minimal" Uses of Force Excluded from UN Charter Article 2 (4)?' (2014) 108(2) *American Journal of International Law* 159, 191.

[17] The concept of 'threat of force' in article 2(4) is significantly less explored – see Nikolas Stürchler, *The Threat of Force in International Law* (Cambridge University Press, 2009) for an innovative analysis.

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Each of these elements is discussed in further detail in Chapter Four.

2) Elements that indicate that an act is a 'use of force': These relate to the meaning of 'use of force' rather than to the other terms of article 2(4). These elements are more likely to be based on subsequent agreement or subsequent practice (rather than the fundamental requirements which are more likely to be text-based), since they do not come from a plain reading of the text of article 2(4) (or are not explicit) but are the result of a shared understanding of the parties to the UN Charter. These may include the following elements identified in Chapters Five and Six:

- ***Means***: Physical force
- ***Physical Effects***:
  - Direct physical effects
  - Permanent vs. temporary
  - Actual vs. potential
- ***Object/target*****:** In particular, the required nexus to a State. For non-State objects/targets that do not have a close association with a State, more will be required to bring the act within the scope of article 2(4), such as the presence of other factors including possibly the gravity of the (potential) effects, a pre-existing dispute between States or a coercive intent against a State.
- ***Gravity of effects***: Noting again that the question of whether there is a *de minimis* gravity threshold is not solved by the text of article 2(4), which neither specifies nor excludes a gravity threshold for a use of force to fall within the scope of the prohibition. As discussed in Chapter Seven, any such threshold may also differ by domain.
- ***Hostile intent***: The text of article 2(4) strongly indicates that at the very least, an intended *action* is required. The text does not explicitly require or exclude an intended *effect*, although State practice indicates that mistaken forcible acts are usually not treated as violating the prohibition of the use of force. There is textual support for the position that a coercive intent is required under article 2(4), due to the relationship between the prohibition of threats and uses of force; the relationship of the non-intervention principle and the principle of the non-use of force; and the object and purpose of the prohibition of the use of force in article 2(4).

Other relevant indicative factors that may relate to one or more of the above elements are:

- ***Type of weapon:*** The type of weapon employed could be relevant to the gravity of the (potential) effects and also to whether the 'use of force' is perceived to be in

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'international relations', since certain sophisticated weapons could only have been developed by States and are not easily available to other actors, thus making it more likely for the victim State to conclude attribution and hostile intent. An example is the use of the chemical weapon Novichok in the Skripal assassination attempt, discussed in Chapter Six and further below.

- ***Political context*:** As discussed in Chapter Four, the political context of a forcible act, such as whether there is a pre-existing political dispute, influences its characterisation as a violation of article 2(4). This relates to the contextual elements of prohibited force since the presence of a political dispute may bring an act within the realm of international relations and a use of force between States. It may also relate to elements relating to whether the act is a 'use of force', such as gravity (e.g. by increasing the perceived level of security threat to the State) and intention (by demonstrating a hostile/coercive intention, or at the very least, an intention to influence or resolve a political dispute using force).

- ***Who carries out the forcible act*:** it is a relevant whether the forcible act is carried out by military or police/other traditional law enforcement bodies, e.g. the coast guard.[18] This is relevant not only in terms of attribution, but also to the perception by the other State with respect to the perceived military nature of the act, and may also be relevant to the assessment of gravity and intent. Due to grey zone operations, this could become increasingly relevant, e.g. the use of maritime militia in the South and East China Seas.[19]

- ***Location of forcible act:*** It is also relevant to the assessment of whether an act constitutes a prohibited 'use of force' whether the conduct and/or its effects occur within or outside a State's own territory (on land, sea or air respectively); within a third State's territory (land, sea or air); in disputed territory or in zones to which special legal rules apply such as a State's Exclusive Economic Zone, the high seas, international airspace, outer space or *terra nullius*. This is relevant not only to the applicable legal framework and jurisdiction, but also to the 'international relations' aspect of the article 2(4) prohibition, and potentially also gravity (due to differences in potential threat or type of force that is possible in each domain).

According to the type theory proposed here, the above elements must be identified, weighed and balanced to determine whether an act is a prohibited 'use of force' under article 2(4), and may be combined in different permutations to produce different *types* of 'use of force' which may not share all of the same elements. Part of such a balancing and weighing exercise

[18] See Ruys, above n.16, 207, who notes that 'forcible acts by military units are more likely to trigger Article 2(4) than forcible acts by police units'.
[19] See Junichi Fukuda, 'A Japanese Perspective on the Role of the U.S.-Japan Alliance in Deterring – or, If Necessary, Defeating – Maritime Gray Zone Coercion,' in *The U.S.-Japan Alliance and Deterring Gray Zone Coercion in the Maritime, Cyber, and Space Domains* (Santa Monica, California: RAND Corporation, 2017), 23-41, which discusses the Japanese legal framework for response to various types of maritime incidents.

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implies that the weaker certain elements are, the higher the number or gravity/intensity of the other elements must be in order for the act to constitute a prohibited 'use of force'.

Applying type theory to anomalous examples of 'use of force'

As discussed in detail in Chapter Seven, there are several well-known and accepted 'uses of force' that violate the prohibition in article 2(4) but do not conform to all of the criteria normally associated with a 'use of force', namely, physical means and/or physical effects. These examples, taken from the 1974 Definition of Aggression,[20] include invasion and military occupation (article 3(a)), blockade (article 3(c)), mere presence in violation of a Status of Forces Agreement ('SOFA') (article 3(e)) and indirect use of force either through inter-State assistance (article 3(f)) or through non-State armed groups (article 3(g)). Other, lower gravity, examples discussed in Chapter Seven include intentionally crossing a border bearing arms with an intention to use them even before any weapons are actually fired and aerial incursion. Applying the type theory framework to these anomalous examples of 'use of force' helps to identify and explain why these are indeed unlawful 'uses of force'. The analysis results in the following two types of 'use of force' which display a different combination of elements, and highlights a unique third category of 'use of force' that is the result of subsequent agreement:

1. Military incursion without recourse to the use of weapons

Examples: unresisted invasion; military occupation (article 3(a) of the 1974 Definition of Aggression); intentionally crossing a border bearing arms with an intention to use them even before any weapons are actually fired; aerial incursion.

Contextual elements:

- Political context: in clear-cut cases (such as invasion and military occupation), the use of force occurs in the context of a political dispute and is clearly in 'international relations'.

Elements of 'use of force'/indicative factors:

- Lack of physical means.
- Lack of physical effects but high potential effects if escalation occurs.
- Actor: military units, indicating a clearly implied intention to use force if resisted (hostile intent, possibly coercive intent depending on context).
- Location: within the territory (including airspace) of another State, constituting a violation of sovereignty and territorial integrity and a high threat of escalation to physical means and physical effects on the territorial State.

[20] UN General Assembly, 'Definition of Aggression', 14 December 1974, GA Res. 3314 (XXIX). As explained in further detail in Chapter Five, this document is a subsequent agreement on the interpretation of the prohibition of the use of force in article 2(4) of the UN Charter under article 31(3)(a) of the Vienna Convention on the Law of Treaties.

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2. Unconsented presence in territory

Examples: the blockade of the ports or coasts of a State by the armed forces of another State (article 3(c) of the 1974 Definition of Aggression); the use of armed forces of one State which are within the territory of another State with the agreement of the receiving State, in contravention of the conditions provided for in the agreement or any extension of their presence in such territory beyond the termination of the agreement (article 3(e) of the 1974 Definition of Aggression).

Contextual elements:

- Political context: in clear-cut cases (blockade), the use of force occurs in the context of a political dispute and is clearly in 'international relations'. In the less clear-cut case of overstaying in violation of a Status of Forces Agreement, the political context may be a decisive factor in the characterisation of the act as a prohibited 'use of force' by indicating if the act is one in 'international relations' and if there is a hostile/coercive intent.

Elements of 'use of force'/indicative factors: As in the previous example, there is a lack of physical means and physical effects, but the following elements and indicative factors are present:

- Actor: military units, indicating an implied intention to use force if resisted (hostile intent, possibly coercive intent depending on context).

- Location: within the territory (including airspace) of another State, constituting a violation of sovereignty and territorial integrity and a threat of escalation to physical means and physical effects on the territorial State.

3. Special case: Indirect use of force

Examples: The action of a State in allowing its territory, which it has placed at the disposal of another State, to be used by that other State for perpetrating an act of aggression against a third State (article 3(f) of the 1974 Definition); the sending by or on behalf of a State of armed bands, groups, irregulars or mercenaries, which carry out acts of armed force against another State of such gravity as to amount to the acts listed above, or its substantial involvement therein (article 3(g) of the 1974 Definition).

Unlike the previous examples, due to the lack of both direct physical means or direct physical effects, this category of unlawful 'use of force' appears to really be an agreed special case rather than meeting the definition through a combination of elements that reaches a particular threshold. Thus, indirect force, unlike the other types of force discussed in this chapter, is a result of subsequent agreement between States regarding the interpretation of article 2(4) of the UN Charter to cover certain forms of indirect force.

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Illustrative examples of balancing the elements of a 'use of force'

Applying type theory to specific instances of inter-State 'use of force' further illustrates the notion of weighing the various elements of a prohibited 'use of force' to determine why some of these incidents were characterised by States as an unlawful 'use of force' and other similar incidents were not. Here, we will focus on the object/target of a use of force to explain why one attempted killing, i.e. a forcible act with potential but unrealised effects (the attempted killing of George Bush) was regarded by several States as an unlawful use of force but another (Sergei Skripal) was not. We will also examine excessive or unlawful maritime law enforcement to identify why some incidents (the *Mayaguez* incident, the *Germany/Iceland Fisheries Jurisdiction* case and *Guyana/Suriname*) were characterised as an unlawful 'use of force' whereas similar incidents (*Red Crusader*, *Torrey Canyon*, *Rainbow Warrior* and *M/V Saiga (No. 2)*) were not. As well as their explanatory purpose to show how type theory can help to clearly identify *why* particular incidents are or are not an unlawful 'use of force', these examples highlight the relationship between particular elements of a 'use of force'.

Potential effects, object/target and intention

A use of force with only potential but unrealised effects may require a higher level of (potential) gravity, intention, or an object/target that has a particularly close connection to another State (such as Foreign Minister/President) in order to be characterised as unlawful under article 2(4) of the UN Charter. Although these elements are elements of a 'use of force', they may also relate to the contextual element of whether the act is in 'international relations'. This is illustrated through the juxtaposition of States' legal characterisation of two attempted killings: that of former US President George Bush in 1993, and of the former Russian intelligence officer Sergei Skripal in England in 2018.

In the first incident, the Iraqi Intelligence Service ('IIS') allegedly directed and carried out an attempted assassination of former US President George Bush by planning to explode a car bomb next to his motorcade on a visit to Kuwait from 14 to 16 April 1993.[21] In response, on 26 to 27 June 1993, the US retaliated by launching twenty-three Tomahawk missiles against the headquarters of the IIS in Baghdad, destroying the building, killing at least six civilians and injuring twenty others. To justify the strike, the US referred to article 51 of the UN Charter and stated that it was exercising the 'right to self-defence by responding to the Government of Iran's unlawful attempt to murder the former Chief Executive of the United States Government, President George Bush …'[22] The international response to the US action was mixed.[23] However, some States that expressed support or understanding for the US action referred expressly to the nature of the target of the assassination attempt, including

[21] For an explanation of the facts, reaction of States and legal analysis of this incident, see Paulina Starski, 'The US Airstrike against the Iraqi Intelligence Headquarters –1993' in Tom Ruys and Olivier Corten (eds), *The Use of Force in International Law: A Case-Based Approach* (Oxford University Press, 2018), 504.

[22] Letter from the Permanent Representative of the US to the UN addressed to the President of the Security Council (26 June 1993), UN Doc S/26003.

[23] Starski (above n.21, 505, footnotes omitted) notes that 'Quite a few scholars discussing the 1993 raid find that the legality of the US riposte was viewed largely favourably by the international community and met only with little opposition. This finding does not appear to be entirely accurate if the statements of relevant actors are analysed closely.' For a close analysis of the reaction of the international community, see Starksi, 507-509; see also Christine Gray, *International Law and the Use of Force* (Oxford University Press, 3rd ed., 2008),196 ff.

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Japan, Brazil, New Zealand and Spain.[24] In particular, New Zealand asserted that 'any nation that seeks to assassinate the Head of State or a member of the senior political leadership of another State commits an act of aggression. Such actions are at the most serious end of the scale because Heads of State symbolize the sovereignty and integrity of their country'.[25] Some scholars also 'emphasized that the protection of a state's elected officials would be an essential attribute of state sovereignty, especially taking into account the destabilizing effects that an assassination of a Head of State could have on the nation'.[26] Thus, although the international response to the incident was 'not unanimous and in most cases not unequivocal'[27] regarding the US's self-defence claim, what matters for our purposes is the characterisation of the attempted killing itself as an unlawful use of force on the basis of the close nexus between the target and the victim State even though the intended harmful effect did not materialise.

In contrast, the attempted killing of Sergei Skripal in the UK by suspected Russian agents shows that when there is a relatively low nexus with the territorial State, the attempted killing of an individual by foreign State agents is not enough on its own for States to widely characterise the incident as an unlawful 'use of force' in violation of article 2(4). Mr Skripal (apparently a dual Russian/UK national and former double agent)[28] and his daughter Yulia were found unconscious on a bench in Salisbury and later hospitalised in serious condition together with an attending police officer. The United Kingdom alleged that a military-grade Novichok nerve agent of a type developed by Russia was used in the attack and accused Russia of being responsible for carrying out the attack. The Russian government denied any involvement.[29] Despite the use of a chemical weapon allegedly by Russian agents on the territory of the United Kingdom, the attempted killing was not widely denounced as a violation of article 2(4), possibly because of the lack of a particularly close connection between Mr Skripal and the territorial State. For such targets that do not have a close association with a State, other elements of a 'use of force' must be more serious to bring the act within the scope of article 2(4), such as the gravity of the (potential) effects, a pre-existing dispute between States or a coercive or hostile intent against a State. In this case, the UK emphasised the gravity of the potential effects of the chemical weapon on the wider public when claiming that the attack on Mr Skripal was an unlawful use of force in violation of article 2(4).[30] This incident is analysed in more detail as a case study to illustrate the application of type theory later in this chapter.

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[24] See Starski, above n.21, 507-510, 545-5.

[25] UN Security Council Verbatim Record (27 June 1993), UN Doc S/PV.3245 23 (New Zealand).

[26] Starski, above n.21, 512, citing Alan D Surchin, 'Terror and the Law: The Unilateral Use of Force and the June 1993 Bombing of Baghdad' (1995) 5 *Duke Journal of Comparative and International Law* 457, 474 and Robert F Teplitz, 'Taking Assassination Attempts Seriously: Did the United States Violate International Law in Forcefully Responding to the Iraq Plot to Kill George Bush' (1995) 28 *Cornell International Law Journal* 569, 609.

[27] Starski, *ibid.*, 507.

[28] Bill Chappell, 'Former Spy Sergei Skripal Released from Hospital, Recovering from Exotic Nerve Agent', *NPR* (18 May 2018) https://www.npr.org/sections/thetwo-way/2018/05/18/612259535/former-spy-sergei-skripal-released-from-hospital-recovering-from-exotic-nerve-ag.

[29] 'Russian Spy: What Happened to the Skripals?' *BBC News* (18 April 2018) http://www.bbc.com/news/uk-43643025.

[30] 'The Russian State Was Responsible for the Attempted Murder...and for Threatening the Lives of Other British Citizens in Salisbury: Statement by Ambassador Jonathan Allen, Chargé d'Affaires, at a UN Security Council Briefing on a nerve agent attack in Salisbury ' (14 March 2018). https://www.gov.uk/government/speeches/the-russian-state-was-responsible-for-the-attempted-murderand-for-threatening-the-lives-of-other-british-citizens-in-salisbury.

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'International relations', gravity and intention

As argued in Chapter Six, the elements of 'international relations', gravity and intention are interrelated. This is illustrated in the following case study on excessive or unlawful maritime law enforcement and 'use of force'. With respect to excessive maritime law enforcement, there is mixed practice in this regard. First of all, why would a use of force against a civilian vessel registered to another State be considered 'force' under article 2(4) at all? The reason is the principle of exclusive flag State jurisdiction – a use of force against a civilian vessel by a non-flag State is the exercise of enforcement jurisdiction within a domain subject to the exclusive jurisdiction of another State. It may therefore under certain circumstances fall under 'international relations' and be considered to be against the sovereignty of another State (i.e. the flag State). It is important to note that different international law principles apply to use of force in law enforcement versus a use of inter-State force under the *jus contra bellum*.[31] Patricia Jiminez Kwast makes the important point that there are two separate issues: which legal category applies (law enforcement or use of force), and whether the act complies with the lawful requirements of that category – just because law enforcement action is unlawful under that framework, does not automatically render it a violation of the prohibition of the use of force.[32] Tom Ruys posits that '[a]n argument could therefore be developed that enforcement action undertaken by the territorial state within its territory or, by extension, against merchant vessels in relation to a coastal state's Exclusive Economic Zone or continental shelf – even if the action is tainted by illegality – is presumed not to affect the international relations between those states and accordingly remains beyond the reach of Article 2(4). Only if it appears from the circumstances of the case that the force used "directly arises from a dispute between sovereign States" will this presumption be rebutted.'[33] In light of the increasing constabulary role of navies, especially in the South and East China Seas, the distinction between these two applicable legal frameworks and their boundary is of particular relevance.[34]

State practice shows that States do sometimes consider purported maritime law enforcement to be a use of force. There are numerous examples in State practice where forcible acts at sea were characterised by States as a violation of article 2(4): the 1975 *Mayaguez* incident (self-defence); the *Germany/Iceland Fisheries Jurisdiction* case (Germany claimed a violation of article 2(4), although the Court did not rule on this point); the *Canada/Spain Fisheries Jurisdiction* case (Spain claimed violation of article 2(4), but the Court held it had no jurisdiction – discussed in Chapter Seven); and the *Guyana/Suriname* arbitration. However, State practice is not consistent and numerous similar incidents have not been characterised as an unlawful use of force under article 2(4). These include the 1962 *Red Crusader* (Denmark/UK) case; the 1967 *Torrey Canyon* incident; the 1985 *Rainbow Warrior* incident and the 1997 *M/V Saiga (No. 2)* incident. It is therefore instructive to examine these incidents

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[31] For an overview of the jurisprudence regulating use of force in maritime law enforcement, see Matteo Tondini, 'The Use of Force in the Course of Maritime Law Enforcement Operations' (2017) 4(2) *Journal on the Use of Force and International Law* 253; with respect to international human rights law principles applicable to the use of force in law enforcement, see Nigel Rodley and Matt Pollard, *The Treatment of Prisoners under International Law* (Oxford, Oxford University Press, 3rd edition, 2009), 246-278.

[32] 'Maritime Law Enforcement and the Use of Force: Reflections on the Categorisation of Forcible Action at Sea in the Light of the Guyana/Suriname Award' (2008) 13(1) *Journal of Conflict and Security Law* 49.

[33] Above n.16, 206.

[34] See Matteo Tondini, above n.31; Ivan T Luke, 'Naval Operations in Peacetime: Not Just "Warfare Lite"' (2013) 66(2) *Naval War College Review* 11, 13; Scott W. Harold et al, *The U.S.-Japan Alliance and Deterring Gray Zone Coercion in the Maritime, Cyber, and Space Domains* (Santa Monica, California: RAND Corporation, 2017).

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through the lens of the type theory (i.e. the identification and balancing of the elements of a 'use of force') to see why only some of these incidents were characterised as an unlawful 'use of force'.

Excessive maritime law enforcement

The *Mayaguez* incident in 1975 occurred in the context of the Vietnam War and the recent ousting of the US-backed Khmer Republic by the Khmer Rouge. The US-flagged container ship the *Mayaguez* and its crew were seized by Cambodian naval forces within Cambodian territorial waters, although the US disputed the twelve nautical mile rule at the time. During the seizure of the vessel, the Khmer Rouge naval vessel fired a machine gun and then a rocket-propelled grenade across the bow of the ship before boarding and seizing the vessel.[35] The US launched a rescue operation, citing article 51 of the UN Charter.[36] The seizure of the *Mayaguez* was thus considered an unlawful 'use of force' (and 'armed attack') by the United States giving rise to a right to self-defence. In this incident, the target of the use of force had a strong connection to the victim State (given the political context) and due to the surrounding events, the forcible act evinced a hostile intent and was clearly in the 'international relations' between the two States concerned. Thus, the contextual elements of an unlawful 'use of force' were present. In terms of elements of 'use of force', the gravity of the physical means was moderate, as was the gravity of the physical effects (the seizure of the vessel and its crew).

In contrast, in the *Red Crusader* incident in 1962, maritime law enforcement was found to be excessive and unlawful but was not characterised as a violation of article 2(4) of the UN Charter. In that incident, Danish authorities arrested a British-flagged vessel in Danish territorial waters and fired shots at the vessel without warning. The international commission of inquiry found:[37]

> 'In opening fire at 03.22 hours up to 03.53 hours, the commanding officer of the Niels Ebbeen exceeded legitimate use of armed force on two counts: (a) firing without warning of solid gun-shot; (b) creating danger to human life on board the Red Crusader without proved necessity, by the effective firing at the Red Crusader after 03.40 hours.'[38]

Similarly, in the 1997 *M/V Saiga No. 2* incident, maritime law enforcement was found to be excessive but not an unlawful 'use of force' under article 2(4) of the UN Charter. In that incident, Guinea arrested a vessel flagged to St Vincent and the Grenadines within the Exclusive Economic Zone of Guinea, injuring at least two crew members. St Vincent and the Grenadines did not claim that it was a violation of article 2(4), but of the UN Convention on the Law of the Sea[39] ('UNCLOS') articles 56(2) and 58, 111, 292 (freedom of navigation,

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[35] Raphl Wetterhahn, *The Last Battle: The Mayaguez Incident and the End of the Vietnam War*. New York, N.Y., U.S.A.: Plume, 2002; for a legal analysis of the incident, see Natalino Ronzitti, 'The Mayaguez Incident - 1975' in Tom Ruys and Olivier Corten (eds), *The Use of Force in International Law: A Case-Based Approach* (Oxford University Press, 2018) 213.
[36] Letter dated 14 May 1975 from the Permanent Representative of the United States of America to the United Nations addressed to the President of the Security Council (15 May 1975) UN Doc S/11689.
[37] Judgment of 23 May 1962 (1967) 35 ILR 499.
[38] See Olivier Corten, *The Law against War: The Prohibition on the Use of Force in Contemporary International Law* (Hart, 2010), 58, who states that 'When the "use of armed force" is applied here, there is plainly no question of applying article 2(4) of the UN Charter.'
[39] *United Nations Convention on the Law of the Sea 1982* (adopted 10 December 1982, entered into force 16 November 1994), 1833 UNTS 397.

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violation of hot pursuit conditions and prompt release). The International Tribunal for the Law of the Sea also did not raise article 301 of UNCLOS nor article 2(4) of the UN Charter. The Tribunal instead applied the requirements for lawfulness of use of force in law enforcement measures:[40]

> 'In considering the use of force used by Guinea in the arrest of the Saiga, the Tribunal must take into account the circumstances of the arrest in the context of the applicable rules of international law. Although the Convention does not contain express provisions on the use of force in the arrest of ships, international law, which is applicable by virtue of article 293 of the Convention, requires that the use of force must be avoided as far as possible and, where force in unavoidable, it must not go beyond what is reasonable and necessary in the circumstances. Considerations of humanity must apply in the law of the sea, as they do in other areas of international law. These principles have been followed over the years in law enforcement operations at sea.'

In the *Red Crusader* and *M/V Saiga (No. 2)* incidents, it is not apparent that the vessels were targeted due to their nationality nor in the context of a political dispute between the States concerned. There was no apparent coercive or hostile intent against the flag State given that Denmark and Guinea respectively were enforcing domestic laws within their own territorial sea (in the case of the *Red Crusader*) or Exclusive Economic Zone (in the case of the *M/V Saiga No. 2*). As the forcible act did not occur in the international relations between the States concerned, the contextual elements of an unlawful 'use of force' are missing. In terms of elements of 'use of force', the physical means employed and their physical effects were of relatively low gravity. This coupled with a low nexus and a lack of hostile intent against another State results in an insufficient combination of elements of a 'use of force' including their relative weight. Accordingly, these two incidents were deemed to fall within the realm of law enforcement rather than the *jus contra bellum*.

Maritime law enforcement with no basis for jurisdiction

In contrast to the above incidents which involved excessive maritime law enforcement, the following category of incidents involved the purported exercise of law enforcement against foreign-flagged vessels with no (or a disputed) basis for jurisdiction because it took place in the territorial waters of another State, on the high seas or in a disputed maritime zone.

In the incidents of the *Fisheries Jurisdiction case (Germany v Iceland)* and the *Guyana v Suriname* arbitration, the purported maritime law enforcement by Iceland and Suriname respectively were characterised by the 'victim' State as either an unlawful use or threat of force. These incidents both occurred in disputed maritime zones. In the former case, Iceland sought to unilaterally extend its fisheries jurisdiction to fifty miles from the baseline. Germany challenged this and claimed that Iceland's actions in enforcing this extended fisheries jurisdiction zone against German fishing vessels by cutting their nets and firing warning shots and live rounds was a violation of article 2(4) of the UN Charter.[41] The International Court of Justice ('ICJ') did not analyse Germany's submission regarding use of force in substance. Instead, it made a finding on procedural grounds that it was unable to accede to the submission, since it was not put in concrete terms seeking specific damages

[40] *M/V "Saiga" (No. 2) (St. Vincent v. Guinea)*, ITLOS Case No. 2, Merits, (1 July 1999), paras. 155–56.
[41] Part V of Germany's memorial, and Annexes G, H, I, K and L.

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with evidence to support each claim.[42] In the case of *Guyana v Suriname* in 2007, Guyana claimed that the Surinamese navy had violated article 2(4) of the UN Charter by ordering an oil rig and drill ship operating under licences issued by Guyana to leave the disputed maritime zone in which they were operating.[43] The tribunal held that 'the action mounted by Suriname on 3 June 2000 seemed akin to a threat of military action rather than a mere law enforcement activity.'[44]

Applying type theory to these incidents, they were each characterised by the other State (and by the arbitral tribunal in *Guyana v Suriname*) as a use or threat of force despite the relatively low gravity of each incident in terms of their physical means and effects. One explanation is that since each incident took place within a disputed maritime zone and as a means of enforcing the State's claim to that zone, it was a coercive measure in the 'international relations' between the respective States. Thus, even incidents of low gravity in physical means and physical effects may suffice to meet the definition of unlawful use or threat of force when combined with a clear coercive intent and when the incident clearly takes place within 'international relations'.

In contrast, the incident of the *Torrey Canyon* in 1967, in which the British RAF dropped napalm bombs on a Liberian-flagged oil tanker which ran aground on the high seas (discussed in the previous chapter), was not characterised as an unlawful 'use of force' despite the lack of legal grounds for the UK to exercise law enforcement jurisdiction against the vessel to prevent marine pollution under either treaty or customary international law. Clearly, a high gravity of physical means and physical effects were present in this case. One basis for the lack of any invocation of article 2(4) in relation to this incident could be that the contextual requirement of 'international relations' was missing. Given that the UK had a clear and limited intention to release and burn the remaining oil in the vessel's tanks to prevent marine pollution on the high seas (an intention that was accepted as legitimate by the international community as a whole, as demonstrated by the subsequent adoption of the International Convention on Intervention on the High Seas in Cases of Oil Pollution Casualties[45] to permit this type of action), and the application of force, though deliberate, was not coercive nor hostile with respect to the flag State, it was not regarded by any State to engage the 'international relations' between the UK and the flag State of the vessel, Liberia, or any other State.[46]

In the *Rainbow Warrior* affair, on 10 July 1985, on official orders, French secret service agents carried out an attack against a British-flagged civilian (Greenpeace) vessel moored in

[42] Para 76. This reasoning was criticised by some of the judges, e.g. Declaration of Judge Dillard, 207-8; Separate Opinion of Judge Waldock, para. 13; Dissenting Opinion of Judge Onyeama, 250-1.
[43] Arbitral Tribunal Constituted pursuant to article 287, and in accordance with Annex VII of the UN Convention on the Law of the Sea (Guyana and Suriname, 17 September 2007), para. 151 ff. See also Corten, above n.38, 72-3 and Ruys, above n.16, 205.
[44] *Ibid*., paras. 443-44.
[45] Adopted 29 November 1969, entered into force 6 May 1975), 970 UNTS 221; see also (the subsequently adopted) UNCLOS art. 221 which also authorises States to 'take and enforce measures beyond the territorial sea proportionate to the actual or threatened damage to protect their coastline or related interests, including fishing, from pollution or threat of pollution following upon a maritime casualty or acts relating to such a casualty, which may reasonably be expected to result in major harmful consequences.
[46] This kind of limited intention negating the 'international relations' contextual element and resulting in a 'use of force' falling outside the scope of article 2(4) is to be distinguished from other claims of limited purpose to legally justify a 'use of force', such as humanitarian intervention, since the latter is less unambiguously to be regarded as occurring within 'international relations' and is also not universally regarded as a legitimate (as evidenced by the continuing heated controversy surrounding its morality and legality).

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the internal waters of New Zealand. Two high explosive devices detonated and sunk the vessel, killing a Dutch citizen who was on board.[47] The New Zealand government argued that the attack against the *Rainbow Warrior* was a 'serious violation of basic norms of international law … specifically, it involved a serious violation of New Zealand sovereignty and of the Charter of the United Nations' and sought reparations.[48] However, New Zealand did not allege a violation of article 2(4). Olivier Corten argues that this is probably because the operation was limited in scope and was not ordered by 'the highest echelons of the State'.[49] Applying type theory analysis to this incident, we can see that the attack clearly took place in the 'international relations' between the two States since it was officially ordered and carried out by French government agents and constituted a serious violation of the sovereignty of New Zealand. However, there was no hostile or coercive intention vis-a-vis New Zealand and although the physical means employed were of relatively high gravity, the physical effect on the 'victim' State (New Zealand) was confined to a violation of sovereignty, since the vessel was British-flagged and the person killed in the attack was of Dutch nationality. As such, New Zealand did not treat the matter as an unlawful 'use of force' against it but as a domestic crime (by the secret service agents who carried out the attack) and a violation of its sovereignty by France.

This conclusion has implications for a wider debate under *jus in bello* regarding whether 'non-consensual force against a non-State actor on the territory of another State is always an [International Armed Conflict ('IAC')], as opposed to those who say it is only sometimes an IAC, depending on the circumstances'.[50] The classification of conflict under *jus in bello* is a separate question to whether an act is a prohibited 'use of force' under *jus contra bellum* and is relevant to whether (and which) rules of international humanitarian law ('IHL') apply to the conduct of hostilities. The International Committee for the Red Cross ('ICRC') appears to take the first position set out above, stating that an IAC 'arises between the territorial State and the intervening State when force is used on the former's territory without its consent.'[51] The benefit of this approach is that it provides legal certainty regarding the classification of conflict and applicability of IHL rules to ensure protection. Others such as Noam Lubell point out the absurdity of applying this approach to incidents such as the sinking of the *Rainbow Warrior* since this would lead to the conclusion that there was an IAC between France and New Zealand, which 'would … seem incongruous with the notion of IAC' and lead to inappropriate application of IHL rules to the situation.[52] The conclusion of the type theory analysis in this chapter that the sinking of the *Rainbow Warrior* was not a 'use of force' under article 2(4) of the UN Charter allows a way out of the impasse and has the potential to provide clarity to the debate on classification of conflict under *jus in bello* when States use force against non-State actors on the territory of another State. A more detailed analysis of the relationship between 'use of force' under *jus contra bellum* and classification of conflict under *jus in bello* is beyond the scope of this book.

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[47] Memorandum of the Government of New Zealand to the Secretary-General of the United Nations, RIAA, vol XIX, 201.
[48] *Ibid.*, 201-202.
[49] Above n.38 86.
[50] See Noam Lubell, 'Fragmented Wars: Multi-Territorial Military Operations against Armed Groups', (2017) 93 *International Law Studies* 215, 231-238, with further references to scholarship on both sides of the debate at footnote 42.
[51] International Committee for the Red Cross, *Commentary to the Geneva Convention I for the Amelioration of the Condition of the Wounded and Sick in the Armed Forces in the Field* (2nd ed. 2016), 262. See also Dapo Akande, 'Classification of Armed Conflicts: Relevant Legal Concepts', in (Elizabeth Wilmshurst ed.) *International Law and the Classification of Conflicts* (Oxford University Press, 2012) 32, 70-79.
[52] Above n.50 , 234.

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Case study: The attempted killing of Sergei Skripal

The final part of this chapter sets out a detailed analysis of two illustrative examples in order to demonstrate how to apply type theory to a specific incident. The first case study that will be analysed is the killing of Sergei Skripal in the UK in 2018. The second case study concerns the use of force in outer space. This exercise will show the usefulness of type theory for analysing controversial or borderline incidents and demonstrate how to apply it in concrete cases, as well as highlighting the open questions and challenges involved.

Facts and legal claim

As briefly discussed earlier in this chapter, Mr Skripal, a former Russian double agent,[53] was the subject of an attempted assassination in Salisbury in the United Kingdom in 2018 using a military-grade nerve agent, Novichok. Traces of the nerve agent Novichok were later discovered at nine sites around Salisbury, with the highest concentration on the doorknob of Mr Skripal's home.[54] A UK police investigation identified two Russian military intelligence officers as the main suspects in the attack on Mr Skripal.[55] The United Kingdom accused Russia of the attempted killing, with the Russian government denying involvement in the attack.

In a statement to the House of Commons on 14 March 2018, UK Prime Minister Theresa May said that the UK government had given Russia one day to account for the incident and stated: 'Should there be no credible response, we will conclude that this action amounts to an unlawful use of force by the Russian State against the United Kingdom. … this attempted murder using a weapons-grade nerve agent in a British town was … an indiscriminate and reckless act against the United Kingdom, putting the lives of innocent civilians at risk.'[56] On 14 March 2018, the UK Ambassador Jonathan Allen, in a briefing to the UN Security Council, stated that the UK 'conclude[d] that the Russian State was responsible for the attempted murder of Mr Skripal and his daughter, and Police Officer Nick Bailey, and for threatening the lives of other British citizens in Salisbury' and described it as 'an unlawful use of force – a violation of article two of the United Nations charter, the basis of the international legal order.'[57]

Applying type theory to the Skripal incident shows that the contextual elements in this incident are factually contentious, whereas the elements of a 'use of force' are legally contentious. The systematic application of type theory highlights that the crux of the matter is

[53] 'Sergei Skripal: Who is the former Russian intelligence officer?' *BBC News* (29 March 2018) https://www.bbc.com/news/world-europe-43291394.
[54] 'Russian Spy: What Happened to the Skripals?' Above n.29.
[55] Gordon Corera 'Salisbury poisoning: What did the attack mean for the UK and Russia?' *BBC News* (4 March 2020) https://www.bbc.com/news/uk-51722301.
[56] 'PM Commons Statement on Salisbury Incident Response: 14 March 2018' (*GOV.UK*) https://www.gov.uk/government/speeches/pm-commons-statement-on-salisbury-incident-response-14-march-2018. See also the UK's briefing to the North Atlantic Council in which it described the incident as an 'indiscriminate and reckless attack against the United Kingdom, putting the lives of innocent civilians at risk.': NATO, 'Statement by the North Atlantic Council on the Use of a Nerve Agent in Salisbury', http://www.nato.int/cps/en/natohq/news_152787.htm.
[57] 'The Russian State Was Responsible for the Attempted Murder...and for Threatening the Lives of Other British Citizens in Salisbury', above n.30.

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whether the potential effects of the purported use of force suffice to render the act a violation of *jus contra bellum*.

Contextual factors:

- Two or more States. If, as the UK claimed, Russia was responsible for the attack, then this contextual element is fulfilled. Of course, this would need to be substantiated by evidence and fulfil the attribution requirements under international law.[58] For the purposes of this analysis, we will leave these aside in order to focus on the legally contentious aspects of the incident.

- In their 'international relations'. Again, proceeding on the assumption that the attack is attributable to Russia, the use of a prohibited nerve agent on the territory of another State to carry out a targeted killing is clearly in 'international relations'.

- 'against the territorial integrity or political independence of any state or in any other manner inconsistent with the Purposes of the United Nations'. A targeted killing by a State on the territory of another State violates the territorial integrity of that State. It is also inconsistent with the Purposes of the United Nations (namely, respect for human rights: Article 1(3) of the Charter).

Accordingly, if the attack is attributable to Russia, all contextual elements of a prohibited 'use of force' are fulfilled.

Elements of prohibited force

- Means: No physical force was employed, but the weapon used was a prohibited military-grade chemical nerve agent, Novichok.

- Physical effects: The Novichok attack had direct physical effects on at least four people who fell critically or seriously ill: Sergei Skripal, his daughter Yulia Skripal and two police officers involved in the investigation of the attack. Months after the attack, two more individuals in Salisbury suffered physical effects after coming into contact with the container used to carry the nerve agent, one of whom died.[59] In addition to the direct physical effects, the use of the highly toxic chemical weapon Novichok carried a risk of potential harm to the wider public due to nature of the weapon, which was used in a public location and can reportedly persist for long periods.[60]

  The UK emphasised the potential effects of the attack in the UN Security Council, namely, that 'British Police Officer Nick Bailey, was … exposed and remains in hospital in a serious condition. Hundreds of British citizens have been potentially

[58] ILC, 'Draft Articles on Responsibility of State for Internationally Wrongful Acts, with Commentaries, in Report of the International Law Commission on the Work of Its Fifty-Third Session' (A/56/10, 2001) ('ILC Draft Articles'), Chapter II.
[59] Simon Murphy, 'Met Confirms Second Police Officer Was Victim of Salisbury Attack', *The Guardian* (15 August 2019) https://www.theguardian.com/uk-news/2019/aug/15/met-confirms-second-police-officer-was-victim-of-salisbury-attack.
[60] 'Russian Spy: What Are Nerve Agents and What Do They Do?', *BBC News* (12 March 2018) https://www.bbc.com/news/health-43328976.

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exposed to this nerve agent in what was an indiscriminate and reckless act against the United Kingdom.'[61] Marc Weller argues that the UK's position is implicitly that 'any use of toxins would amount to a use of force, due to their potential (rather than actual) widespread and indiscriminate effects'.[62]

- Object/target: The attack took place in the United Kingdom town of Salisbury. The target of the forcible act, Sergei Skripal, was a Russian double agent convicted of spying for the United Kingdom and relocated there in 2010 as part of a prisoner swap, later gaining UK citizenship.[63]

- Gravity of effects: the actual effects were relatively low in gravity but there was a potential for high gravity of effects, as set out above.

- Hostile intent: there is no evidence that the attack manifested a hostile intent *against the United Kingdom* rather than against the individual target of the attack due to his prior conviction in Russia of spying.

Conclusion

Assuming that the attack was attributable to Russia, then the contextual elements are present which would bring the attack within the scope of article 2(4) of the UN Charter. The following elements of a 'use of force' are present: means (prohibited chemical weapon), direct physical effects with low gravity but very grave potential effects. Conversely, the target of the attack, Mr Skirpal, did not have close ties to the territorial State, the actual gravity of the attack was relatively low and there was no evidence of a hostile intent by Russia against the United Kingdom. For the United Kingdom (the only State to characterise the attempted killing as a prohibited use of force), it appears that the decisive element was the use of a prohibited chemical weapon on its territory which carried a risk of grave harm to the wider public. This characterisation is plausible but it is a borderline case because none of the other elements of a 'use of force' were particularly pronounced. In the absence of a closer connection between the target of the forcible act and the territorial State, a hostile intent or more widespread harm directly caused by the nerve agent, in this author's view, the attempted killing of Sergei Skirpal was not a prohibited use of force against the United Kingdom. Nevertheless, this incident provides an illustration of how the type of weapon and potential harm may be considered as relevant factors in an assessment of legality under article 2(4).

Case study: Use of force in outer space

The second case study to demonstrate how to apply type theory and its utility concerns the use of force in outer space. Outer space has been militarised since the late 1950s and is becoming an increasingly important military domain. In 2019 NATO declared outer space to

[61] The Russian State Was Responsible for the Attempted Murder...and for Threatening the Lives of Other British Citizens in Salisbury', above n.30.
[62] 'An international use of force in Salisbury', 14 March 2018, *EJIL Talk*.
[63] 'Sergei Skripal: Who Is the Former Russian Intelligence Officer?', *BBC News* (29 March 2018) https://www.bbc.com/news/world-europe-43291394.

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be an operational domain[64] and a growing number of States have since established a military space force or expanded existing military branches to cover outer space.[65] Space capabilities have important military functions including for navigation, surveillance, communications, situational (battlefield) awareness and targeting.[66] Military uses of outer space at present principally concern satellites, which are potentially threatened by the testing and use of anti-satellite ('ASAT') and other space weapons and their stationing (potentially, in some instances) in outer space. The Gulf War is regarded as the first space war due to the heavy reliance by Allied States on space-based military assets against Iraq.[67] Critical civilian infrastructure and services also increasingly relies on space systems, including infrastructure essential for food production, health care, disaster relief, transport, communication, energy and trade, environmental science and the global navigation satellite systems such as GPS, which themselves underpin global communication networks, banking and financial markets and energy grids.[68] At the 2021 Brussels Summit, NATO leaders recognised that 'attacks to, from, or within space present a clear challenge to the security of the Alliance, the impact of which could threaten national and Euro-Atlantic prosperity, security, and stability, and could be as harmful to modern societies as a conventional attack'.[69]

The prohibition of the threat or use of force in article 2(4) of the UN Charter applies in outer space. The applicability of international law, including the UN Charter, to activities in outer space is recognised in article III of the Outer Space Treaty[70] ('OST') as well as article 3(2) of the Moon Agreement,[71] and in relevant UN General Assembly resolutions.[72] Article III of the OST provides: 'States Parties to the Treaty shall carry on activities in the exploration and use of outer space, including the moon and other celestial bodies, in accordance with international law, including the Charter of the United Nations, in the interest of maintaining international peace and security and promoting international co-operation and understanding.' Article 3(2) of the Moon Agreement is more explicit and provides: 'Any threat or use of force or any other hostile act or threat of hostile act on the moon is prohibited. It is likewise prohibited to use the moon in order to commit any such act or to engage in any such threat in relation to the earth, the moon, spacecraft, the personnel of spacecraft or man-made space objects.'[73] However, as on Earth, there is no agreed definition of a prohibited use of force in

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[64] NATO, 'NATO's Approach to Space', (2 December 2021) https://www.nato.int/cps/en/natohq/topics_175419.htm.

[65] These include the United States Space Force (established 2019), United Kingdom Space Command (formed in 2021), the French Air and Space Force (renamed in 2020), the Spanish Air and Space Force (renamed in 2022), the German Weltraumkommando der Bundeswehr (established in 2021) and the Australian Defence Space Command (established in 2022).

[66] United States and Defense Intelligence Agency, *Challenges to Security in Space: Space Reliance in an Era of Competition and Expansion* (2022), 2.

[67] Isavella Maria Vasilogeorgi, 'Military Uses of Outer Space: Legal Limitations, Contemporary Perspectives' (2014) 39(2) *Journal of Space Law* 379, 408 with further references.

[68] ICRC, *The Potential Human Cost of the Use of Weapons in Outer Space and the Protection Afforded by International Humanitarian Law,* (9 April 2021), 2.

[69] NATO, *Brussels Summit Communiqué Issued by NATO Heads of State and Government (2021)* (14 June 2021), para. 33.

[70] *Treaty on Principles Governing the Activities of States in the Exploration and Use of Outer Space, including the Moon and Other Celestial Bodies*, 27 January 1967, 610 UNTS 205.

[71] *Agreement Governing the Activities of States on the Moon and Other Celestial Bodies* (1979), 1636 UNTS 3.

[72] E.g. UN General Assembly Resolution 75/36 (16 December 2020), UN Doc. A/RES/75/36, preambular para. 1.

[73] Under art 1(1) of the Moon Agreement, reference to the moon in the agreement also includes reference to other celestial bodies within the solar system other than the earth. For a concise overview of the international legal framework relevant to space security, see United Nations Institute for Disarmament Research (UNIDIR), *Existing Legal and Regulatory Frameworks Concerning Threats Arising from State Behaviours with Respect to*

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space.[74] The application of the prohibition of the use of force in outer space faces special challenges due to the unique environment of outer space and the types of 'use of force' that can be employed there. These challenges include issues of attribution, wide-spread dual use of objects for military and civilian purposes, difficulties with identifying hostile intent and whether attacks with temporary and reversible effects (such as dazzling satellites through directed energy attacks, i.e., temporarily blinding an imaging satellite by using a laser to interfere with its sensor or jamming of GPS signals) would meet the threshold of prohibited force under *jus contra bellum*. As such, the use of force in outer space makes for an apt case study to demonstrate how the type framework can be applied to an emerging domain to analyse whether certain acts constitute an unlawful use of force or not. We will focus on a current counterspace capability that has already been demonstrated, namely, direct-ascent ASAT ('DA-ASAT') tests.

DA-ASAT tests

Due to their visibility, predictable paths, limited manoeuvrability, fragility and low defensibility, satellites are highly vulnerable to attack and other forms of interference.[75] The high speed of satellites (about 17,500 km/hr in low Earth orbit) also renders them vulnerable to destruction by collision with small objects on different orbits.[76] Forms of attack on satellites include kinetic attacks such as direct ascent ASAT weapons (e.g. anti-ballistic missiles which can also kill satellites) and on-orbit ASAT weapons (e.g. a satellite releasing an object which will collide with another satellite). Several States, including the USA, Russia, China and India have already developed counterspace capabilities, including anti-satellite weapons.[77] On 15 November 2021, Russia launched an unannounced DA-ASAT missile test to destroy one of its own defunct satellites. The destructive impact forced astronauts and cosmonauts aboard the International Space Station to seek shelter in their hardened Crew Dragon and Soyuz capsules from thousands of trackable pieces of space debris, many of which will remain in orbit for months or years.[78] In addition to the trackable space debris, there will be tens of thousands of untrackable but still lethal debris created that, because they are untracked, cannot be avoided through manoeuvres. This is not the first kinetic DA-ASAT test creating long-lasting debris: notoriously, China conducted such a test in 2007, blowing up one of its own weather satellites and creating several thousand trackable pieces of debris.[79] The United States conducted a kinetic DA-ASAT test in 2008, creating 400 pieces of trackable debris,[80] as did India in 2019, creating a similar amount of trackable debris.[81]

Outer Space (Advance Unedited Version) (No A/AC.294/2022/WP.1, 5 May 2022).

[74] Recent concrete proposals for regulating military uses of outer space include a draft treaty sponsored by Russia and China on the Prevention of the Placement of Weapons in Outer Space, the Threat or Use of Force against Outer Space Objects (PPWT) in 2008 and revised in 2014; an EU-led International Code of Conduct for Outer Space Activities in 2010, measures proposed by the UN Group of Governmental Experts (GGE) on transparency and confidence building measures (TCBMs) in 2013 and further practical measures for the prevention of an arms race in outer space (PAROS) in 2018-2019.

[75] David Wright, Laura Grego and Lisbeth Gronlund, *The Physics of Space Security: A Reference Manual* (American Academy of Arts and Sciences, 2005), 109.

[76] *Ibid,*109.

[77] Brian Weedon and Victoria Samson (eds.), *Secure World Foundation Global Counterspace Capabilities Report* (April 2022), viii-xxii.

[78] Joey Roulette, 'Debris From Test of Russian Antisatellite Weapon Forces Astronauts to Shelter', *The New York Times* (16 November 2021).

[79] *Secure World Foundation Global Counterspace Capabilities Report*, above n.79, 03-11.

[80] *Ibid*, 01-15.

[81] *Ibid*, 04-03.

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A major issue with kinetic ASAT weapons is the side effect of creating space debris, with even small pieces able to destroy other space objects due to the often high relative velocities of objects in orbit.[82] Risks from space debris are increasing due to a rapidly changing orbital environment characterised by higher congestion including from abandoned rocket bodies and satellite mega-constellations.[83] In the worst case, space debris can trigger the Kessler syndrome, a collisional cascade that could make some orbits unsafe to access and use for decades. The clear dangers of space debris have led to calls for a treaty banning kinetic ASAT testing[84] and unilateral declarations by a growing number of States including the USA,[85] Canada,[86] Germany,[87] New Zealand,[88] the UK,[89] Japan[90] and Australia[91] committing to refrain from such testing.

In the absence of physical effects on another State, the use by a State of a DA-ASAT weapon against its own satellite is not a prohibited use of force, because the contextual requirements are missing. But what if the DA-ASAT test creates debris which causes physical damage to or destruction of another State's space object?[92] We shall apply the type theory framework to assess this question. The scenario in question is the use of a DA-ASAT missile strike that targets and destroys a State's own satellite, creating debris which permanently damages or destroys another State's satellite.

<u>Contextual factors:</u>

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[82] See Christos Kypraios and Elena Carpanelli, (2018) 'Space Debris' in *Max Planck Encyclopaedia of Public International Law*.

[83] Aaron C Boley and Michael Byers, 'Satellite Mega-Constellations Create Risks in Low Earth Orbit, the Atmosphere and on Earth' (2021) 11(1) *Scientific Reports* 10642.

[84] 'International Open Letter Re: Kinetic ASAT Test Ban Treaty', Letter from Outer Space Institute to the President of the UN General Assembly, 2 September 2021.

[85] The White House, *Vice President Harris Advances National Security Norms in Space* (19 April 2022) https://www.whitehouse.gov/briefing-room/statements-releases/2022/04/18/fact-sheet-vice-president-harris-advances-national-security-norms-in-space/.

[86] Permanent Mission of Canada to the United Nations in Geneva, tweet posted 9 May 2022 at 4:25PM, https://twitter.com/CanadaGeneva/status/1523685496399966209.

[87] *Statement by Germany in the Open-Ended Working Group on Reducing Space Threats through Norms, Rules and Principles of Responsible Behaviours on 13 September 2022* https://documents.unoda.org/wp-content/uploads/2022/09/220913-Statement-by-Germany-on-13-September.pdf.

[88] New Zealand Foreign Minister Nanaia Mahuta, 'Otago Foreign Policy School, Opening Address' (1 July 2022) https://www.beehive.govt.nz/speech/otago-foreign-policy-school-opening-address.

[89] UK Foreign, Commonwealth & Development Office and UK Space Agency, *Responsible Space Behaviours: The UK Commits Not to Destructively Test Direct Ascent Anti-Satellite Missiles* (3 October 2022) https://www.gov.uk/government/news/responsible-space-behaviours-the-uk-commits-not-to-destructively-test-direct-ascent-anti-satellite-missiles.

[90] Ministry of Foreign Affairs of Japan, *Decision Not to Conduct Destructive, Direct-Ascent Anti-Satellite Missile Testing* (13 September 2022) https://www.mofa.go.jp/press/release/press3e_000451.html.

[91] Australian Government, *Australia Advances Responsible Action in Space: Joint Media Release of the Minister for Foreign Affairs, Minister for Defence and Minister for Industry and Science* (27 October 2022) https://www.foreignminister.gov.au/minister/penny-wong/media-release/australia-advances-responsible-action-space?utm_source=nationaltribune&utm_medium=nationaltribune&utm_campaign=news.

[92] In addition to physical damage, debris created by a DA-ASAT test could potentially cause the loss of safe access to valuable orbits or the premature exhaustion of thruster fuel because of the need to engage in frequent collision-avoidance manoeuvres. This is beyond the scope of the present analysis. For a discussion, see Michael Byers and Aaron Boley, *Who Owns Outer Space? International Law, Astrophysics, and the Sustainable Development of Space* (Cambridge University Press, 2023).

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Whether the contextual factors of article 2(4) of the UN Charter are met in this scenario primarily depends on whether the incident is regarded by States are taking place in their 'international relations'. As argued in Chapter Four, the text of article 2(4) and its object and purpose do not exclude an interpretation that encompasses a use of force that is in 'international relations' outside the context of State damage, such as malicious destruction of parts of Antarctica, the Moon or other celestial bodies as *terra nullius,* if it is 'inconsistent with the Purposes of the United Nations'. This is as yet untested in State practice. In any case, our case study is concerned with the creation of debris which damages or destroys another State's satellite.

Whether such damage is considered to be in 'international relations' will be influenced by the perceived intent of the State conducting the DA-ASAT test and the degree of recklessness in carrying out the strike. Intent is discussed further below as an element of 'use of force'. An assessment of whether the incident occurs in 'international relations' will of course also depend on the relations between the States concerned. Damage to another State's satellite caused by debris generated by a DA-ASAT test is more likely to be perceived to be in 'international relations' if there is already a heightened state of tension between the two States – for example, between Russia and the USA. Alternatively, it could be considered that all such incidents are in 'international relations' because they take place in the context of the Outer Space Treaty and negatively affect the freedom for exploration and use by all States guaranteed in article I.

In addition to being in 'international relations', to meet the contextual elements of article 2(4) and fall within the scope of the prohibition, a use of force in space must also be 'against the territorial integrity or political independence of any state, or in any other manner inconsistent with the Purposes of the United Nations'. States may not assert sovereignty over celestial bodies (article II OST). Nevertheless, State practice and subsequent agreement regarding the interpretation of the UN Charter confirm that uses of force against objects or persons with a certain nexus to a State may fall within the scope of article 2(4); for example, uses of force against private vessels and aircraft registered to another State.[93] Similar to flag ship jurisdiction, under article VIII of the OST, '[a] State Party to the Treaty on whose registry an object launched into outer space is carried shall retain jurisdiction and control over such object, and over any personnel thereof, while in outer space or on a celestial body.'[94] With respect to space objects, it is as yet unclear if registration would suffice for a use of force against the object to be considered 'against the territorial integrity or political independence of any state, or in any other manner inconsistent with the Purposes of the United Nations' or if a more specific nexus with the State is required. The function of the space object (military/civil vs commercial) will be relevant to this determination – an assessment that overlaps with the element of 'force' of effects (discussed below). Other factors that may be relevant to determining if the required nexus is met are the number of satellites struck[95] and the value of the satellite, financially or in terms of the importance of its functions to the State.[96]

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[93] See article 3(g) of the Annex to 1974 General Assembly Resolution 3314 which lists as an act of aggression an 'attack by the armed forces of a State on the . . . marine and air fleets of another State'.
[94] See also Convention on Registration of Objects Launched into Outer Space (1975) 1023 UNTS 15.
[95] For instance, there would seem to be a difference between an attack on single merchant vessel and a fleet of merchant vessels, at least with respect to an act of aggression: article 3(g) of the 1974 General Assembly Definition of Aggression (discussed in Chapter Four).
[96] An extreme example would be a billion dollar Earth imaging satellite essential for food production versus a CubeSat ('a square-shaped miniature satellite (10 cm × 10 cm × 10 cm—roughly the size of a Rubik's cube),

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Elements of 'use of force':

Means: A DA-ASAT missile is a kinetic weapon and thus employs physical means.

Effects: The direct physical effects of debris generated by a DA-ASAT test colliding with another State's satellite could well be catastrophic damage to or destruction of the satellite due to the high relative velocity that would likely be involved.[97] An issue is whether this effect is sufficiently proximate to the ASAT test since it is a secondary effect. A factor which may come into play in this assessment is the known risk that debris generated by a DA-ASAT test will collide with other States' space objects. For example, even an ASAT test carried out at low altitude in an effort to minimise long-lived debris, such as the test conducted by India in 2019, has 'the potential to affect a busy, near-future orbital environment that includes at least four planned "mega-constellation" from different countries: SpaceX's Starlink with 42,000 satellites and Amazon's Kuiper with 3236 satellites, both from the United States; OneWeb with 7000 satellites from the United Kingdom; and Guo Wang's StarNet with 12,992 satellites from China.'[98]

If a collision of space debris from an ASAT test destroys another State's satellite, there may be further serious effects. Damage to or destruction of a satellite may adversely affect critical military functions such as 'ISR, meteorology, communications, PNT, and SSA [space situational awareness]', which are of particular importance for coordinating forces in distant theatre conflicts.[99] The use of force in space could also have significant non-military effects. Disabling, damaging, or destroying such satellites, including through missile attacks, could have 'wide-reaching consequences for civilians on earth'.[100] Canada's submission to the UN Open-Ended Working Group on Reducing Space Threats ('OEWG') in May 2022 stated that:

> 'Actions that disrupt or impair the delivery of critical space-based services, resulting in serious risks for the safety and security of people or property are irresponsible and could be perceived as a threat. For example, actions that disrupt a satellite's ability to provide crucial information to the public, such as navigation information used by aircrafts to avoid collisions or data used by emergency responders to forecast and/or respond to major disasters. These effects and consequences are expected to increase as more terrestrial activities leverage space to deliver services.'[101]

Similarly, there are potential secondary physical effects of the destruction of a satellite from space debris generated by an ASAT test. 'Due to the high impact energies involved, debris from a kinetic ASAT test often ends up on highly eccentric orbits that cross multiple satellite

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weighing about 1 kg': Canadian Space Agency, 'CubeSats in a nutshell', https://www.asc-csa.gc.ca/eng/satellites/cubesat/what-is-a-cubesat.asp.

[97] *The Physics of Space Security: A Reference Manual*, above n.75, 109.

[98] 'International Open Letter Re: Kinetic ASAT Test Ban Treaty', above n.84, 1.

[99] Dean Cheng, 'Space Deterrence, the U.S.-Japan Alliance, and Asian Security: A U.S. Perspective' (RAND Corporation, 2017) 74, 75: ''Given the distances encompassed within the Asia-Pacific theater, now extending even to the Indian Ocean as part of the "Indo-Pacific," space-based systems play a central and growing role in coordinating forces and creating a common situational picture. This reliance on space is especially great for U.S. forces, because they are typically conducting expeditionary operations far from the U.S. homeland.'

[100] ICRC, *The Potential Human Cost of the Use of Weapons in Outer Space and the Protection Afforded by International Humanitarian Law* (9 April 2021) ('ICRC Position Paper'), 2.

[101] Canada, *Canada's Views on Reducing Space Threats through Norms, Rules and Principles of Responsible Behaviour (Advanced Unedited Version)*, UN Doc. A/AC.294/2022/WP.7, 3.

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"orbital shells" twice per revolution. If just one piece of debris from such a test collides with a satellite and causes a major fragmentation event, this could lead to additional events affecting all States, which could include further fragmentations, satellite failures, or service disruptions.'[102] It is not clear in how far such physical and non-physical secondary effects are relevant to a determination of a use of force as the effects are not direct; there are intermediate steps between the forcible act (the DA-ASAT test) and such effects, namely, the creation of debris and the collision of that debris with a satellite. Even if these secondary effects are legally relevant to an assessment of 'use of force', establishing causation between a DA-ASAT test and these secondary effects may be challenging and will only ever be possible with regard to trackable debris (noting that non-trackable debris poses just as great a risk, especially because it exists in far greater numbers and total surface area).

Gravity: As already noted,[103] the gravity threshold of a prohibited use of force is controversial. This is all the more relevant in outer space due to the range of intensity of uses of force which are possible in outer space, as well as the dual-use nature of many space objects which may entail significant secondary effects of an attack, as discussed above. In the 2019 Report of the UN Group of Governmental Experts on Further Practical Measures for the Prevention of an Arms Race in Outer Space ('GGE'), '[i]t was considered that threats exist on a continuum from low intensity, characterized by reversible and disruptive impacts, to high intensity, characterized by irreversible and destructive impacts.'[104] Damage or destruction to another State's satellite by the creation of debris would fall into the highest level of intensity as assessed by the GGE. The gravity of the secondary effects (if legally relevant, as discussed above) will vary depending on the function of the damaged space object and could potentially be very high. The ICRC has noted the 'potentially significant human cost for civilians on earth of the use of weapons in outer space'.[105]

Intent: As explained in Chapter Six, the text of article 2(4) and its *travaux préparatoires* do not indicate whether a 'use of force' must be motivated by a hostile intent or be intentional at all, in other words, whether mistaken or accidental uses of force also fall within the scope of the prohibition. However, emerging State practice gives early indications that only acts which deliberately cause damage to or interfere with space objects are likely to be perceived as a security threat and/or a use of force. Although none of the international efforts to define a 'use of force' in outer space have achieved consensus so far, it is notable that the draft treaty sponsored by Russia and China on the Prevention of the Placement of Weapons in Outer Space, the Threat or Use of Force against Outer Space Objects (PPWT) in 2008,[106] the revised definition in the 2014 Draft PPWT[107] and the 2019 Report of the GGE all share

[102] International Open Letter Re: Kinetic ASAT Test Ban Treaty', above n.84, 1.
[103] See Chapter Six.
[104] *Report of the Group of Governmental Experts on Further Practical Measures for the Prevention of an Arms Race in Outer Space*, UN Doc. A/74/77 (19 April 2019) ('GGE Report'), para. 35.
[105] ICRC Position Paper, above n.100, 4.
[106] Letter dated 2008/02/12 from the Permanent Representative of the Russian Federation and the Permanent Representative of China to the Conference on Disarmament addressed to the Secretary-General of the Conference transmitting the Russian and Chinese texts of the draft "Treaty on Prevention of the Placement of Weapons in Outer Space and of the Threat or Use of Force against Outer Space Objects (PPWT)" introduced by the Russian Federation and China, UN Doc CD/1839 (29 February 2008). Article 1(e): 'the "use of force" or "threat of force" mean any hostile actions against outer space objects including, inter alia, those aimed at their destruction, damage, temporarily or permanently injuring normal functioning, deliberate alteration of the parameters of their orbit, or the threat of these actions.'
[107] Article 1(d): 'the terms "use of force" or "threat of force" mean, respectively, any intended action to inflict damage to outer space object under the jurisdiction and/or control of other States, or clearly expressed in written, oral or any other form intention of such action. Actions subject to special agreements with those States

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reference to *intentional* acts.[108] The US criticism of the definition of 'use of force' in the 2008 draft PPWT notably did not criticise the requirement that the action be 'hostile'.[109] This approach is also supported by Canada's submission to the OEWG in May 2022, which distinguishes between irresponsible behaviours, such as actions leading to damage to the space environment (for example, debris creation), and actions which are security threats, such as '*deliberately* causing non-consensual interference' to space systems.[110] It therefore seems likely that States would consider intent as an essential element of a 'use of force' in outer space, whereas accidental, mistaken or recklessly caused damage will be perceived as irresponsible or unsafe behaviours.

The difficulty is that a deliberate or hostile intent is difficult to discern in outer space. It may be difficult or impossible to verify if acts which cause damage to or endanger space objects are intentional, such as collision of space objects and the creation of space debris. Since the risks of space debris creation (and collision) from DA-ASAT tests are known, ASAT tests are at the very least reckless. One may well question whether deliberately ignoring the warnings of one's own scientists about the certainty of debris creation constitutes negligence or wilful blindness amounting to a deliberate act. However, in the absence of other evidence in a particular case, a DA-ASAT test is not likely to fulfil the element of an intention to damage or destroy other States' space objects.

Conclusion:

The elements of 'use of force' that are present are thus physical means, physical effects and a high gravity. The element which is missing in this hypothetical scenario is a hostile or deliberate intent. However, given the known dangers of space debris, deliberately creating debris which causes damage to another State's space object is unlikely to be seen as a mere accident or mistake, and at the very least as reckless. Does this combination of elements suffice to reach the threshold of a prohibited 'use of force'? Perhaps not. But if some of the elements are more heavily weighted in the scenario, such as secondary effects with a high gravity intensity (for example, if a satellite that carries out key military or civilian functions is destroyed by the debris) and the conduct evinces a particularly reckless or potentially hostile intent (for example, the ASAT test is unannounced and conducted at high altitude and there are pre-existing tensions between the State conducting the ASAT test and the State whose satellite is destroyed by the debris), then all of these elements in combination could meet the threshold. Thus, in certain circumstances, the creation of debris by a State conducting a direct-ascent kinetic ASAT test which then damages or destroys the space object of another State could constitute a prohibited 'use of force' in violation of article 2(4) of the UN Charter and customary international law. Due to the rapidly escalating militarisation of outer space, the grave and widespread potential effects of uses of force in this domain and uncertainty over how to define a prohibited 'use of force' in outer space (particularly with respect to non-kinetic attacks and attacks with temporary effects), the application of type theory to the use of

providing for actions, upon request, to discontinue uncontrolled flight of outer space objects under the jurisdiction and/or control of the requesting States shall not be regarded as use of force or threat of force.'

[108] GGE Report, above n.104, para. 32.

[109] *Letter Dated 19 August 2008 from the Permanent Representative of the United States of America Addressed to the Secretary-General of the Conference Transmitting Comments on the Draft Treaty on Prevention of the Placement of Weapons in Outer Space and of the Treaty or Use of Force Against Outer Space Objects (PPWT) as Contained in Document CD/1839 of 29 February 2008*, UN Doc. CD/1847 (26 August 2008), para. 5(i).

[110] Above n.101, 2-3, emphasis added.

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force in outer space acquires particular salience and demonstrates the potential utility of this framework.

Reflections

A key observation arising from the case studies in this chapter is the importance of the contextual element of 'international relations' for an act to fall within the scope of article 2(4) of the UN Charter and the implications this has for the significance of certain elements of a 'use of force', namely, object/target, gravity and intention. These three elements are relevant to the characterisation of an act as a 'use of force' and also contribute towards an assessment of whether the act meets the contextual requirement that the 'use of force' takes place in 'international relations'. This explains why the element of a hostile or coercive intent is present in each of the unlawful uses of force examined in this chapter; in the absence of a hostile or coercive intent, it is difficult to show that the contextual element of international relations is met and that the act falls within the scope of article 2(4). The relationship between intention and international relations is mutual, as an overtly hostile or coercive intent increases the likelihood that the act is in international relations and heightened tensions in the international relations of the two States concerned may signal a hostile intent behind a forcible act. As the examples in this chapter show, a hostile or coercive intention is not only relevant to the contextual element of 'international relations' but also to the determination of whether the act is a 'use of force'.

Similarly, the object/target of a forcible act and its gravity may indicate whether the act is in 'international relations' as well as being elements to weigh in assessing whether it is a 'use of force'. Unlike intention, the object or target of a use of force is not necessarily decisive, as a use of force can still be in international relations without a strong nexus between the target and another State (for example, in the Skripal incident discussed earlier in this chapter). International relations must definitely be present as a contextual element, whereas the object/target of the forcible act, its gravity and intention may be balanced with the other elements of means and effects to determine if it is a 'use of force'.

The examples analysed in this chapter illustrate how type theory can be applied to particular incidents to determine whether they are an unlawful 'use of force' in violation of article 2(4) of the UN Charter and customary international law. The utility of this approach is that it provides a framework for a systematic analysis of an incident to be able to assess whether it violates the prohibition of the use of force or not. The framework is helpful in breaking down the analysis of specific forcible incidents to be able to identify and weigh each element. Type theory is also useful for seeing how contextual elements shape whether an act is a prohibited use of force. This enables a meaningful discussion and debate about whether and why a particular incident is or is not a prohibited 'use of force'. In particular, the type theory framework is useful in borderline and novel cases, such as when the forcible act is at the low end of the gravity spectrum, there is a potentially applicable parallel legal framework (e.g. law enforcement), a kinetic weapon is not used (e.g. cyber operations) and in emerging military domains (e.g. outer space).

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Conclusion: A definition of prohibited force

Until now, it has often been implicitly assumed that the use of force is a concept, for which certain elements must always be present for the definition to be met. This has led to the rejection by scholars of particular elements as being relevant to the assessment of whether an act is a 'use of force' due to anomalous examples of 'use of force' which do not display that element.[111] The idea that a 'use of force' is a concept has been disproven in this work, by showing that for each element of a 'use of force', there are widely-accepted examples of unlawful 'use of force' which do not contain this element. Therefore, none of the elements of a 'use of force' – including physical means or physical effects – is strictly necessary for the definition to be met. This work has argued that rather than a concept, a 'use of force' is a type, characterised by a basket of elements which do not all have to be present and which must be weighed and balanced to determine whether the threshold for the definition is met and an act is an unlawful 'use of force' under article 2(4) of the UN Charter.

The following framework for an unlawful 'use of force' under article 2(4) in accordance with type theory is proposed:

A 'use of force' must take place within the context of the following fundamental requirements to fall within the scope of article 2(4):

- Two or more States (including that the object/target of the 'use of force' have a sufficient nexus to another State)
- International relations
- 'Against the territorial integrity or political independence of any state or in any other manner inconsistent with the Purposes of the United Nations'

The following (non-essential) elements of a 'use of force' must be identified and weighed up to determine whether an act meets the threshold of the definition of a 'use of force':

- Physical force
- Direct physical effects (which may possibly be temporary and/or potential)
- Object/target
- Gravity
- Coercive or hostile intent

Each of these elements is explained in greater detail in Part II of this monograph.

It is an interesting question whether these are formal legal criteria, or 'merely factors that influence States making use of force assessments'.[112] In so far as these criteria are supported by principles of treaty interpretation including the subsequent agreement and subsequent practice of States in their application of article 2(4) of the UN Charter[113] (the approach taken in this work), they are legal and not merely political criteria, although the distinction may be

[111] For example, Marco Roscini rejects directness as an element of 'use of force' on this basis. *Cyber Operations and the Use of Force in International Law* (Oxford University Press, 2014), 48.
[112] This is the approach taken by the *Tallinn Manual 2.0*, Commentary to rule 69, para. 9.
[113] *Vienna Convention on the Law of Treaties*, article 31(3)(b).

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a fine one in practice. This is due to inherent connection between international law and political decision-making, which is recognised in the process of customary international law formation (through the requirements of State practice and *opinio juris*) as well as in principles of treaty interpretation (through the elements of subsequent agreement and subsequent practice of States). This close connection between international law and politics comes to the fore especially in matters close to the heart of State power, such as the prohibition of the use of force. However, in respect of the interpretation of the term ‘use of force’ in the UN Charter, a legal process of treaty interpretation applies and it has been the purpose of this work to apply this process to identify legal criteria for identifying an unlawful ‘use of force’ under international law.

A related question is how the process of applying type theory relates to the general process of treaty interpretation regarding subsequent agreement and subsequent practice. This work has used the latter to interpret article 2(4) in order to identify the elements of a ‘use of force’ and then proposed type theory to place those elements within a framework that can be applied to specific incidents to assess whether they constitute a prohibited use of force. Of course, the incidents being analysed may themselves contribute to subsequent practice under article 31(3) of the VCLT. The legal justification of the attacking State and the response of the victim State and international community are indeed relevant in assessing whether States regard the incident as a prohibited use of force and may contribute to subsequent practice in the interpretation of the treaty (and State practice and *opinio juris* regarding the scope of the customary rule). What type theory adds is criteria that States and scholars can use to themselves legally assess whether a particular act is a use of force and, importantly, to be able to articulate *why*.

Some may be sceptical of this framework, seeing it as artificial and not representing the process that States and legal scholars actually go through to determine whether a particular instance is a ‘use of force’ or not. But so far there is no generally shared framework or process for analysing potentially forcible incidents to determine if they fall within the scope of article 2(4) of the UN Charter or not. This theory is an attempt to develop such a language and shared framework and is offered as a potential tool of analysis. The alternative is a legal black box/ rule of thumb approach, as with the distinction some claim between art and pornography: ‘I know it when I see it’. The decision of whether or not to use potentially forcible measures, as well as how to respond to such measures (be it verbally or with other actions), have a real impact on the interpretation of this cornerstone provision, on international relations, but also on the ground, in terms of property and human life. For such a foundational rule of the international legal system, it is not satisfactory to apply vague, ad hoc standards. It is desirable to develop a language for talking about the use of force in concrete instances, if only to bring to light differences of opinion and method in interpreting and applying this term.

The identification of the elements of a prohibited ‘use of force’ and the proposal of type theory for the first time provides an analytical framework and shared language for analysing forcible incidents and assessing whether or not they meet the threshold for a ‘use of force’ between States under international law. Type theory sets out a systematic analytical framework that can be interrogated, debated, discussed and applied. Even if the particular elements, their relationship and their combined threshold is debated, at the very least, the benefit of type theory is that it provides a shared language and coherent framework for legal analysis and scholarly debate regarding the content of a prohibited ‘use of force’ between States under international law. The framework of type theory has the potential to facilitate

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clearer analysis of ‘uses of force’ between States. It is hoped that this clarity will in turn lead to greater compliance with the prohibition of the use of force between States in their international relations and contribute to our shared endeavour of international peace and security.

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Cover: Imbalanced World, 1996, Veronika Dell'Olio (photo: Miriam Aziz)

"Essential to our concept was the establishment of a connection to the work and objectives of the institute. In view of the diversity of the research tasks concerned, we have attempted to highlight an overarching idea that can be understood as the institute's mission. We see this as the ideal of peaceful relations between peoples on the basis of an internationally validated notion of justice.... The depicted sculpture...[symbolizes] an imbalanced world in which some peoples are oppressed while others lay claim to dominance and power. The honeycomb form of the circular disks denotes the [international] state structure. Glass parts ... [represent] the individual states .... [The division] of the figure ... into two parts [can] be interpreted as the separation of the earth into two unequal worlds. The scissors-shaped base, on the one hand, makes the gap between them clear, on the other hand, a converging movement of the disks is conceivable.... The sculpture [aims] at what is imagined – the possibility of the rapprochement of the two worlds." [transl. by S. Less]

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