**Missile Defence Shields: Automated & Anticipatory Self-defence?**

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**Abstract**

In response to the escalating rhetoric and bellicose actions emanating from the Korean peninsula in April 2013, the United States deployed Patriot Missile Systems at its overseas military bases in danger of being struck by a North Korean missile launch.[[2]](#footnote-2) Japan took similar precautionary measures.[[3]](#footnote-3) A more permanent fixture and fitting in terms of Missile Defence Systems (MDS) is Israel’s Iron Dome Shield—designed to intercept rocket attacks by Hamas militants albeit more so for strategic benefit and less so for defending the civilian population.[[4]](#footnote-4) Both defence shields / systems, however, are designed for the same purpose—to intercept missile attacks during the ‘free flight’ phase (noting that this is specifically used in the ‘Ballistic Missile Defence context’). This article examines whether use of missile defence shields help support the existence of a wider right of anticipatory self-defence. The article also addresses the point at which an‘automated’ response takes place. Does such a response fall within the barometers of necessity and proportionality that govern a state’s lawful recourse to self-defence under international law?

1. **Introduction**

Discussions on the lawfulness of deploying Missile Defence Systems (be it Patriot batteries or Israel’s Iron Dome) are limited in nature,[[5]](#footnote-5) partly because the lawfulness of an inherently ‘defensive’ system is taken as a given and partly because strategic implications seem to override legal concerns.[[6]](#footnote-6) The purpose of this article is to deconstruct the way in which a ‘defensive response’ from a missile defence system falls within the existing framework of the laws governing self-defence while exploring two wider, and more significant, issues. First, could the use of MDS directly support the existence of the debatably controversial concept of ‘anticipatory self-defence’? Secondly, and more radically, what are the legal implications of deploying a MDS? Given that the very nature of a MDS is to ‘intercept’ an attack, such an action may take place before a state has suffered an actual ‘armed attack’—assuming that the interception takes place outside of the state with the territory of state in possession of MDS’s.[[7]](#footnote-7) Such an action arguably falls outside the traditional realm of Article 51 of the United Nations Charter and into the realm of anticipatory self-defence.[[8]](#footnote-8) Leaving aside the distinction between intercepting a ballistic missile in ‘free-flight phase’ and launching a defensive territorial strike against it in ‘boost phase’, the theoretical possibility remains that MDS evidences the existence of anticipatory self-defence.[[9]](#footnote-9)

1. *Ballistic Missile Basics[[10]](#footnote-10)*

Ballistic missiles are classified by their maximum range, which is a function of the missile’s engines (rockets) and the weight of the missile’s warhead. To add more distance to a missile’s range, rockets are stacked on top of each other in a configuration referred to as staging. There are four general classifications of ballistic missiles:

• **Short-range** ballistic missiles, traveling less than 1,000 kilometers (approximately 620 miles)

• **Medium-range** ballistic missiles, traveling between 1,000–3,000 kilometers (approximately 620–1860 miles)

* **Intermediate-range** ballistic missiles, traveling between 3,000–5,500 kilometers (approximately 1,860–3,410 miles)

• **Intercontinental** ballistic missiles (ICBMs), traveling more than 5,500 kilometers Short- and medium-range ballistic missiles are referred to as theater ballistic missiles, whereas ICBMs or long-range ballistic missiles are described as strategic ballistic missiles. The ABM Treaty prohibited the development of nationwide strategic defences, but permitted development of theatre missile defences.[[11]](#footnote-11)

1. *All Ballistic Missiles Have Three Stages of Flight:*

• The **boost phase** begins at launch and lasts until the rocket engines stop firing and pushing the missile away from Earth. Depending on the missile, this stage lasts between three and five minutes. During much of this time, the missile travels relatively slowly, although toward the end of this stage an ICBM can reach speeds of more than 24,000 kilometers per hour. The missile stays in one piece during this stage.

• The **midcourse phase** begins after the rockets finish firing and the missile is on a ballistic course toward its target. This is the longest stage of a missile’s flight, lasting up to twenty minutes for ICBMs. During the early part of the midcourse stage, the missile is still ascending toward its apogee, while during the latter part it is descending toward Earth. It is during this stage that the missile’s warhead(s), as well as any decoys, separate from the delivery vehicle.

• The **terminal phase** begins when the missile’s warhead re-enters the Earth’s atmosphere, and it continues until impact or detonation. This stage takes less than a minute for a strategic warhead, which can be traveling at speeds greater than 3,200 kilometers per hour.

Secondly, MDS raise the issue of ‘automated self-defence’.[[12]](#footnote-12) Clearly, the nature of missile defence means that the system may need to be in ‘automatic mode’. An incoming missile travelling at Mach 5 can be detected by the Patriot system at a range of 50 miles—an impossible feat for human beings.[[13]](#footnote-13) Although it is entirely theoretical, it does raise the interesting issue of the extent to which an automated system meets the cardinal requirements of ‘necessity’ and ‘proportionality’.[[14]](#footnote-14) There would seem to be the presumption that it would. How would one ‘test’ whether this would be the case? Must there be an element of human presence or participation in all instances of self-defence to assess whether the necessity and proportionality have been satisfied? It stands to reason that the closer a state is to suffering an armed attack the less it needs to do in order to satisfy the necessity element of last resort.[[15]](#footnote-15) Central to such a discussion is when can it be said that an armed attack has commenced? Logically, it may be at the point when the missile is launched. As Häußler notes, in the absence of intelligence one would need to make a trajectory calculation. However, if the intelligence confirms the missile is targeted at state X, state X is under an armed attack once launch is irreversibly put in motion.[[16]](#footnote-16)

No Attack Incoming Suffered AA

Necessity

1. Non forceful measures available Exhaustion of non forceful measures
2. Non forceful Reasonable ‘Unreasonable’ to expect a non-forceful response

The diagram illustrates that the closer a state is to suffering an armed attack, the easier it is to satisfy the necessity requirements. The further away a state is from suffering an armed attack the more a reasonable it is to expect a non-forceful response and for a state to exhaust non forceful options first.

*Figure 1.2* Necessity scale

However, can an automated system ever really comprehend the rather human concept of last resort? Häußler dimisses such a notion arguing instead that the system need not comprehend anything at all—the algorithm designed by the programmer must simply comply with Article 36 of the First Additional Protocol to the Geneva Conventions (a use *jus in bello* calculation).[[17]](#footnote-17) Technically speaking this is of course correct. Nevertheless, it is highly doubtful whether the algorithm could ever truly replicate every possible scenario which would fall within the concept of last resort. Part II will briefly place the MDS in their strategic context. Part III of the article will consider the right of self-defence under international law and the parameters that govern it. Part IV will specifically addressing whether MDS help support the existence of anticipatory self-defence. The lack of controversy surrounding MDS may prompt the following conclusions: a) that states accept that a form of anticipatory action is lawful, but b) perhaps only the imminent form. It is logical, therefore, to consider in this section whether the use of MDS has created a customary rule. Part V will go on to raise the conceptual possibility of automated self-defence. If a ‘machine’ is acting in self-defence, do the legal criteria disappear? If they remain, they are likely to be more difficult to apply—how can the machine tell if an armed attack is occurring? Consequently, how can a machine know if its response is necessary or proportionate and if the threat is imminent?

1. **STRATEGIC EFFECT**

The history and strategic debate surrounding missile defence systems has been well documented in strategic literature.[[18]](#footnote-18) By way of a brief historical overview (from a US perspective) the first incarnation of missile-defence was the anti-ballistic missile programmes of the 1960s.[[19]](#footnote-19) The 1980s saw the Strategic Defence Initiative of the Regan administration more commonly known as the ‘Star Wars’—designed to prevent the ‘Empire from striking back’ or at the very least, striking in the first place. During the 1990s, the ‘Revolutionary in Military Affairs’[[20]](#footnote-20) saw the US adopt ‘National Missile Defence’ as its defensive posture.[[21]](#footnote-21)Both the Bush and Obama administrations of the new millennia favoured (GMD) ground-based midcourse-defence designed at intercepting incoming ICBMS (intercontinental ballistic missiles capable of travelling at travel at a speed of 7km per second with the ability of deploying counter-measures against defensive shields).[[22]](#footnote-22) For the purposes of this article, the four main missile defence systems (PAC-3, THAAD, Aegis and GMD) will be considered.

Pac-3 or Patriot Advanced Capability is a ground-based defence system primed to intercept the following threats: medium range ballistic missiles, cruise missile and aircraft.[[23]](#footnote-23) A missile command and control centre detects and tracks missile up to a range of 1000km.[[24]](#footnote-24) Theater high altitude area defence (THAAD) was originally conceived to intercept short and medium-range ballistic missiles in both the end of the mid course stage and in their terminal phase[[25]](#footnote-25) Under the Bush administration, the capability was tweaked to enable interception during the boost phase so that ballistic missiles could be shot down after launch.[[26]](#footnote-26) Range-wise THAAD focuses on destroying short, medium and intermediate ballistic missiles with ranges of less than 5,500km. [[27]](#footnote-27) THAAD is not limited to providing cover against a territorial attack against strategic installations, it can also provide logistical protection for troops. THAAD batteries consist of “of nine truck-mounted launchers each carrying 10 missile-launch containers, interceptor missiles, an air transportable X band radar with a range up to 1,000 kilometres, and a battle management, communications and intelligence system”.[[28]](#footnote-28)

Aegis is a ship-based defence platform designed at destroying warheads towards or at the end of the mid-course phase (inside the atmosphere during final descent) using a blast fragmentation warhead that explodes near its target.[[29]](#footnote-29) Its designation is to “detect and track ballistic missiles of any range, including ICBMs, and intercept short- and medium-range ballistic missiles . . . above the atmosphere . . . during their midcourse [ *sic* ] phase of flight”.[[30]](#footnote-30) Although capable of tracking ICBMS, they are not capable of “intercepting intercontinental ballistic missiles . . . or intercept ballistic missiles inside the atmosphere, during either their initial boost phase of flight or their final (terminal) phase of flight”.[[31]](#footnote-31) GMDs are ‘ground-based midcourse antimissiles’ designed to intercept exoatmospheric ICBMs.[[32]](#footnote-32)

1. **SELF-DEFENCE UNDER INTERNATIONAL LAW**

The right of self-defence under international law is an area that has attracted quite considerable academic scrutiny over the years.[[33]](#footnote-33) Traditionally and to this day, one of the main debates within the literature concerns the perennial question as to whether the present Charter regime (embodied under Article 51) overrides previous customary international law.[[34]](#footnote-34) Before delving into the realms of necessity and proportionality, it is important to re-enforce the default position regarding the use or the threat of the use of force under international law.

The prohibition contained in Article 2(4) against a state’s use of force is absolute. Some even argue that the prohibition has peremptory status—a violation of Article 2(4) is a violation of a *jus cogens* norm.[[35]](#footnote-35) Others disagree that this is a given.[[36]](#footnote-36) This distinction aside, the holistic reading of Article 2(4) alongside the corollary expectation of settling disputes peacefully contained in Article 2(3) remains inviolable.[[37]](#footnote-37) There are of course two permissible and well known exceptions: the use of force in self-defence and an authorisation of force by the United Nations Security Council acting under its Chapter VII powers. For the purpose of this article and indeed this overall discussion the focus is entirely on the first exception—self defence.

1. *Self-Defence as it stands today*

Green and Grimal note, the current regime regulating the lawful and permissible use of self-defence is an amalgamation of pre-Charter customary international law and the cornerstone provision of Article 51.[[38]](#footnote-38) The cardinal requirement under Article 51 for a state wishing to invoke the right of self-defence is that it must have suffered an ‘armed attack’ (or at the very least be faced with a sufficiently serious and imminent threat of suffering an armed attack).[[39]](#footnote-39) Article 51 remains silent as to the threshold of what constitutes an ‘armed attack’. However, ‘armed attack’ has since been interpreted by both the ICJ in the *Nicaragua* case[[40]](#footnote-40) and by commentators to mean “the most grave form of the use of force”—a qualitatively grave use of force—beyond a use of force simpliciter.[[41]](#footnote-41)

1. *Necessity, Proportionality and the Cessation of Force*

Once a state has suffered an armed attack, the lawfulness of its subsequent response is calibrated by the barometers of necessity and proportionality. Both have their origins deep within customary international law and were articulated in the now infamous correspondence between the then US Secretary of State Daniel Webster, and his British counterpart Lord Ashburton with regards to and forming part of the *Caroline* incident.[[42]](#footnote-42) Daniel Webster’s formulation required that in order for a state to lawfully invoke self-defence it would need to:

[S]how a necessity of self-defence, instant, overwhelming, leaving no choice of means, and no moment for deliberation. It will be for it to show, also, that . . . [it] did nothing unreasonable or excessive; since the act, justified by the necessity of self-defence, must be limited by that necessity, and kept clearly within it.

Distilled from this statement are the principles of necessity and proportionality—both of which are inextricably intertwined.[[43]](#footnote-43) The modern interpretation of necessity is two-fold: 1) the state has exhausted all non-forcible measures[[44]](#footnote-44) and 2) it would be wholly unreasonable to expect the responding state to attempt a non-forcible response.[[45]](#footnote-45) Both can be interpreted to mean that a ‘forceful response’ is a measure of last resort. Proportionality meanwhile dictates that the “force employed must not be excessive with regard to the goal of abating or repelling the attack”.[[46]](#footnote-46) Moreover, as Green and Grimal note, a state’s response need not mirror the initial attack numerically speaking. In other words, if state A fires 10 missiles at state B, state B is not obliged (under the concept of proportionality) to respond with a volley of 10 identikit missiles.[[47]](#footnote-47) The final and relatively straightforward requirement is that a state must ‘stand down’ as soon as the attacking state has ceased hostilities—self-defence against a non-attacking state is no longer deemed ‘necessary’. Breaches of the above principles would then take the ‘defending’ state from the realm of self-defence into the realm of reprisals.

1. *Anticipatory Self-Defence and Pre-emptive Self-Defence*

Despite the ICJ’s refusal to reject the possibility of anticipatory self-defence in the *Nicaragua Case*, anticipatory self-defence remains highly controversial amongst academics and states alike.[[48]](#footnote-48) The controversy hinges on the lawfulness of a forcible response against an imminent threat of force rather than an actual use of force.[[49]](#footnote-49) Would a state need to have suffered an ‘armed attack’ under the language of Article 51, or could it rely upon the customary position set out by the *Caroline* formula—enabling a state to lawfully use anticipatory force against an imminent threat?[[50]](#footnote-50) Debate also surrounds the terminology used by scholars.[[51]](#footnote-51) The position taken by this author both here and elsewhere is that anticipatory self-defence refers to action taken in response to an imminent threat; pre-emptive self-defence, meanwhile, is action taken against a latent and temporally remote threat.[[52]](#footnote-52) Anticipatory self-defence follows the wording of the *Caroline* formula—a state must respond to a threat which leaves “no moment for deliberation”.[[53]](#footnote-53)

In *Nicaragua,* the Court adopted the following position:

[I]n the circumstances of the dispute now before the Court, what is in issue is the purported exercise by the United States of a right of collective self-defence in response to an armed attack on another State. The possible lawfulness of a response to the imminent threat of an armed attack which has not yet taken place has not been raised.

As Gill concludes, the logical interpretation of the ICJ’s pronouncement is that for anticipatory action to be lawful it would have to taken against a threatened armed attack.[[54]](#footnote-54) State practice meanwhile appears to be predicated on the concept of imminence.[[55]](#footnote-55) In sum, the threat would need to be qualitatively grave (a threatened armed attack) and also imminent in order for self-defence to be lawfully invoked.[[56]](#footnote-56) Pre-emptive self-defence stretches the ‘elasticity’ of imminence to breaking point.[[57]](#footnote-57) Espoused by the ‘Bush Doctrine’ in the United State’s 2002 National Security Strategy, the United States effectively removed the imminence requirement—action would be taken against a latent threat that may or may not materialise at some indeterminate point in the future.[[58]](#footnote-58) According to the United States, such action would be lawful—a proposition rejection by states and scholars alike.[[59]](#footnote-59)

In terms of the necessity element (particularly in the nuclear context) if a state waits until it has actually suffered an ‘armed attack’, it is likely that it will no longer be in a position to defend itself. This is where Dinstein’s discussion of a hypothetical attack by American Forces against the Japanese fleet so as to prevent the attack on Pearl Harbour in December 1941 and his concept of interceptive self-defence are particularly helpful to this discussion.[[60]](#footnote-60) Within the modality of self-defence, Dinstein’s terminology of ‘interceptive self-defence’ fully encapsulates the essence of the role of a MDS—the “countering of an armed attack which is already in progress”.[[61]](#footnote-61)

 The *mere* target acquisition and ‘locking on’ by a fighter jet could constitute an armed attack (albeit in progress) and according to Dinstein, a “timely response” against the fighter jet would constitute interceptive self-defence.[[62]](#footnote-62) In the MDS realm this is akin to a missile programmed with a target package, whose launch is imminent and at which point interception by an MDS takes place. This argument will be revisited in Part V of this article. Much of Dinstein’s discussion of Pearl Harbour relies implicitly on imminence in terms of affecting the lawfulness of his hypothetical scenario.[[63]](#footnote-63) He envisages 3 types of hypothetical scenarios[[64]](#footnote-64):

1. The shooting down of a Japanese Type 99 Carrier Bomber just prior to it attacking Pearl Harbour. The Bomber would have left the carrier and would be inbound and poised to drop its ordnance. According to Dinstein, such an attack would be lawful—once the aircraft have been launched from the carrier, there can be no doubt that an armed attack is underway and that the other side has “committed itself to an armed attack in an ostensibly irrevocable way”.[[65]](#footnote-65)
2. The sinking of the Japanese Fleet prior to the launch of any aircraft poised to attack on the US’s Pacific Naval Base and Pearl Harbour. This is much more problematic and as Dinstein concedes, lawfulness would hinge on real time concrete data visibly demonstrating that Pearl Harbour would be subjected to an imminent attack; reminiscent perhaps of satisfying the ‘*Caroline* criteria’.
3. An attack by the US against the Japanese fleet prior to it setting sail or during war gaming manoeuvres. This is very much along the pre-emptive lines and as Dinstein rightly concludes, would be undeniably unlawful.

Therefore, a reasonable interpretation of interception in the Dinstein sense or ‘necessity’ would be along the *Caroline* incident lines.[[66]](#footnote-66) In practical terms, once the missiles are either in the ‘free flight phase’ or ideally at the ‘boost phase’ (although it is difficult to determine exact trajectory in this phase), any response would fall within the realm of necessity.  In other words, a state is acting anticipatorily—something that the Court in *Nicaragua* did not dismiss outright in paragraph 35 and, of course, if one accepts a more general right of anticipatory self-defence under international law.[[67]](#footnote-67) A response under those set of circumstances against a nuclear launch (boost phase or free flight) would arguably fall within the necessity requirement.

1. **EVALUATION**

Having examined in Part 3 the law governing self-defence, this section will assess whether the use and deployment of MDS supports the right of anticipatory self-defence and whether the deployment of such systems is in and of itself lawful. In many ways, both questions are inextricably linked and will, therefore, be dealt with together. By the nature of its design, there are only limited ways in which a defensive shield may operate (see Part 5)—it is for defensive purposes only—if the deployments of shields are lawful under international law, then so are their use.[[68]](#footnote-68) Such a ‘leap of faith’, however, still needs to be scrutinised. Equally, this author raises the controversial issue in Part 5 that, because MDS are automated, the ‘decisions’ they take may not fall within the well-trodden parameters of self-defence. Consequently, the way in which they operate may be called into question.

It is necessary to consider whether the use and existence of MDS may have created a customary international law rule in terms of their deployment. So, this may evidence that a limited form of anticipatory self-defence may be *undeniably* lawful. To this end, the analysis is structured as follows. Section A will briefly set out the requirements for the formation of a new customary rule. Having considered in Part 2 a brief overview of the different types of MDS, Section B will consider the reaction of both states and the international community to the deployment and use of MDS with a view to determining evidence in support of anticipatory self-defence. Although it is not a ‘legal test’, a lack of controversy surrounding MDS both in terms of the reaction of states may prompt the following overall conclusions: the deployment of MDS is lawful and that states accept that a form of anticipatory action is lawful albeit in an ‘imminent’ form.

1. *Customary International Law*

Much literature has been devoted to exploring the intricacies of customary international law and therefore this précis is deliberately brief—intending simply to provide an overview of the necessary requirements for the formation of a new customary rule.[[69]](#footnote-69) Article 38(b) of the ICJ Statute establishes custom as a recognised and accepted source of international law. Custom should “constitute evidence of a general practice as accepted by law” and this consists of two elements: state practice and *opinio juris*..[[70]](#footnote-70) With reference to both the *Libya v. Malta* case and the ICJ’s *Nuclear Weapons* Advisory Opinion, Shaw evidences the principle that the “substance of customary law must be looked for primarily in the actual practice and *opinio juris* of the states”.[[71]](#footnote-71) The ICJ’s recent *Jurisdictional Immunities* Case re-affirms this statement of customary methodology.[[72]](#footnote-72)

There are two parts to the principle: the objective actions of the states (state practice) and the subjective “belief by a state that behaved in a certain way and that it was under a legal obligation to act that way”.[[73]](#footnote-73) *Opinio juris* is roughly analogous to *mens rea*—a state has also to believe that its actions are accepted by law and, that it is under the obligation to function in that way. Although there remains ongoing debate about whether custom is capable of D’Amato’s concept of *dirrito spontaneo* (instant custom), the general approach is that there is no rigid time limit and this is particularly evident in areas such as space law.[[74]](#footnote-74) In the *Asylum Case[[75]](#footnote-75)* the Court affirmed that practice must be “in line with a consistent and uniform usage”.[[76]](#footnote-76)  Subsequent case law and jurisprudence from the ICJ developed the principle but remained within the confines of its position in the *Asylum Case*.[[77]](#footnote-77)  Both the *Anglo Norwegian Fisheries* *Case[[78]](#footnote-78)* and the *North Sea Continental Shelf Case[[79]](#footnote-79)* expressed the notion of uniformity and stated that it should be “extensive and virtually uniform in the sense of the provision invoked”.[[80]](#footnote-80)  Nevertheless, the ICJ took a less restrictive view in its judgement in the *Nicaragua Case*[[81]](#footnote-81) that the actual practice need not be “in absolutely rigorous conformity”.[[82]](#footnote-82)  The traditional view of *opinio juris* was set out in the *Lotus Case*, in which the Permanent Court of International Justice viewed “states will behave in a certain way because they are convinced it is binding upon them to do so”.[[83]](#footnote-83) However, as Shaw underlines, the value and merit of *opinio juris* depends on the theoretical approach taken.[[84]](#footnote-84) The difficulty surrounding *opinio juris* as raised by Byers, is the chronological paradox.[[85]](#footnote-85) States “creating new customary rules must believe that those rules already exist and that their practice therefore is in accordance with law”—which comes first?[[86]](#footnote-86) Equally, how can one possibly get into the ‘mindset’ of state? The way around this chronological paradox according to Byers is to infer *opinio juris* from state practice.[[87]](#footnote-87) The point here is that there was no guidance until 1996, and even so, it is ambiguous. It is difficult to say whether there is *opinio juris* before or even after.[[88]](#footnote-88)

1. *Analysis*

To clarify, the proposition asserted at the start of this article is that the deployment and use of MDS may help support the existence of a wider right of anticipatory self-defence. Because of the way an MDS operates, one could argue that a state is taking ‘anticipatory action’ via the MDS—a shot has been fired but not yet struck. Or under Dinstein’s classification, this could also constitute ‘interceptive self-defence’.[[89]](#footnote-89) Either way, one could conceivably argue that if international law takes the view that deployment and use of MDS is lawful, then it would bolster support for this *particular* form of anticipatory self-defence against its detractors.[[90]](#footnote-90) There is no suggestion that deployment alone violates the prohibition contained Article 2(4). The MDS is for defensive purposes only. However, one must also note the only noticeable objection to the deployment of such shields—voiced by Russia against the US’s proposed anti-ballistic missile shield in Poland.[[91]](#footnote-91) Although falling short of calling the proposed deployment as a threat of force in violation of Article 2(4), Russia did view the action as ‘threatening’.[[92]](#footnote-92)

The purpose of this section is to address the question posed at the start of Part 2—has the use and existence of MDS created a customary rule in terms of their deployment? This supports the idea that this conception of anticipatory self-defence is permitted and indeed lawful according to these parameters—noting that toleration is not the same as lawfulness. To this end, it will be necessary to consider instances when missile defence systems have been deployed and whether states objected (both in the customary sense and the ordinary meaning of the word). Particular attention will be devoted to Nimble Titan—“an unclassified, multi-national, ballistic missile defence (BMD) campaign of experimentation”.[[93]](#footnote-93)

The wide-ranging state participation in ‘Nimble Titan’ gives some credence to the approach of evidence of state practice and potential *opinio juris*.[[94]](#footnote-94) A substantial leap of faith could indicate that if states are prepared to participate in such an exercise, then ultimately, they would view their use as potentially lawful which would support the hypothesis in this article that anticipatory self-defence of this nature is permissible under international law. One could also note the fact that prior to the 2003 conflict, the Pentagon deployed PAC-3 batteries to 27 Middle East locations, including Israel, Bahrain, Jordan, Qatar, Saudi Arabia, and Kuwait.[[95]](#footnote-95) There is no objection on record of such deployment, indeed, for strategic reasons, those states would likely have welcomed additional protection. However, in the strict legal sense, in order to satisfy the test in *Nicaragua*, deploying states would need to ‘deploy’ MDS with strict the belief that this is permissible within the law governing the recourse to self-defence.[[96]](#footnote-96)

1. **AUTOMATED SELF-DEFENCE**

As noted in the introduction, the author wishes to introduce and explore the novel concept of automated self-defence as a means of explicating an action which, is ‘machine guided’, that is, devoid of human involvement and hence ‘automatic’. The programming of any machine (to this day at least) is undertaken by human beings. However, the cause for concern with regards to automated self-defence is that the ‘machine is calling the shots’ (sic)—the lack of human control is concerning for the application of these criteria. The purpose of this section is to explore in greater detail the threshold of response, that is to say, against which types of actions or threats are automated responses calibrated to? The format for analysis in this section is as follows: Part A will provide an overview in terms of threats of force. This is central to the argument because to unravel the nature of the automated response it is necessary to understand what the MDS is responding to in terms of its calibration. Is it a threat of force or an *actual* use of force? Part B will explore whether, and to what extent, the response by a MDS fits within the threshold of necessity and proportionality.

1. *Threats of Force*

Before proceeding to define and consider threats of force, it is important to note the purpose for undertaking such a discussion and here, it is helpful to draw on Dinstein’s Pearl Harbour scenario by way of explanation—namely, scenarios 2 and 3. To recall, scenario 2 discussed the sinking of the Japanese Fleet prior to the launch of any aircraft poised to attack the US’s Pacific Naval Base and Pearl Harbour. Scenario 3 envisaged an attack by the US against the Japanese fleet prior to it setting sail or during war gaming manoeuvres. Taking a slightly more controversial line, one could argue that ‘interception’ to use Dinstein’s terminology; in both scenarios could also be predicated on a response to a ‘threatened armed attack’ and not an actual armed attack and thus in MDS terms may affect the way in which interception operates.

Conceivably, ‘interception’ in scenario 2 could be against an imminent grave threat of force rather than an ‘actual armed attack’—something Dinstein appears to implicitly allude to—there is no reference as in scenario 1 for the US “to regard the Japanese armed attack as having commenced”.[[97]](#footnote-97) Scenario 3 appears in threat terminology at least to be against a non-imminent and latent threat. Although it is important not to overplay this discussion vis-à-vis threats, in order to fully understand the lawfulness of action taken by MDS one must be mindful as to how threats operate in order to appreciate that interception against an non-imminent latent threat as opposed to an actual armed attack may yield very different results in terms of both necessity and proportionality.

Threats of force remain a nebulous concept under international law. They are prohibited but remain undefined by Article 2(4) of the United Nations Charter.[[98]](#footnote-98)

“All Members shall refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any state, or in any other manner inconsistent with the Purposes of the United Nations.”

The prohibition has also been restated in the form of soft law declarations: *1970 Declaration on the Principles of International Law Concerning Friendly elations and Cooperation Among States* and the *1987 Declaration on the Enhancement of the Effectiveness of the Principle of Refraining from the Threat or Use of Force in International Relations*.[[99]](#footnote-99)

Commentators have posited that a threat may take a different guise—not necessarily something said but also something done albeit the archetypal threat remains a coded warning / ultimatum—comply or else.[[100]](#footnote-100) For the purposes of this article, the typology of threat is limited—if one accepts that anticipatory self-defence is lawful, the threat being responded to in self-defence must be a threatened armed attack, and moreover, the threatened armed attack must be imminent—such as a missile launch.[[101]](#footnote-101) As Gill states: “There can be no doubt that an armed attack, or at any rate the threat of an armed attack, is an *absolute precondition* for the exercise of the right of self-defence”. [[102]](#footnote-102)

This article maintains that a full assessment of a threat of force cannot be conducted without reference to strategic considerations. Strategic considerations help explain the practical distinction between an empty threat—made by a state that does not possess the means of carrying it out (which may well violate Article 2(4) but is ‘tolerated’) and a threat that is all too ‘real’. The threatening state is militarily capable of carrying out its threat, and the threat itself is both unlawful under Article 2(4) and intolerable in the eyes of the international community. This author maintains that recourse to Schelling’s model set out in ‘Arms and Influence’ forms the basis of understanding the severity of a threat—particularly in terms of military appraisal, and helps clarify whether it is a grave threat of force.[[103]](#footnote-103) In order for the threat to be taken seriously, the threatening state must possess the capability in terms of military platforms and strike force to deliver the payload. A state needs to communicate its intention to its enemy that it will carry out the threat, and that threat must be credible. Within the context of MDS, the strategic considerations would appear to be met. Clearly, a state that would have fired a missile, would have ticked all of the relevant boxes.

In terms of assessing the lawfulness of a threat of force, the present test under international law is the one put forward by the ICJ in the *Nuclear Weapons* advisory opinion.[[104]](#footnote-104) Broadly-speaking, the test poses a retroactive test to the following hypothetical question. *If* the threat of force were carried out (in other words, if actual force and not threatened force were to be used), would it be lawful? If yes, then this would legitimise the prior threat. If not, if actual force would be deemed unlawful, then so would the threat that precedes it.

1. *Automated: Necessary and Proportionate?*



Source: http:www.airpower.at/news2010/0906\_bmd/BMD\_overview\_1000.jpg. The author proposes to use the strategic model above as a basis for the legal model below by way of analysis.[[105]](#footnote-105)



(*Figure 1.2* FG 2013 (c))

The above diagram is used to help theorise the point at which an automated response may take place and whether such a response would fall within the cardinal requirements of necessity and proportionality. Several primary observations need to be made noting Haussler’s distinction between (artillery) rockets and missiles and whether or not they are guided or un-guided.[[106]](#footnote-106) Mid course or ‘free flight phase’ denotes that a rocket or missile is not, or is no longer, guided at some point during its flight.[[107]](#footnote-107) There are also technological constraints as to when interception may take place—successful interception is more likely during the free flight or re-entry phases due to the time factor and speed of ballistic missiles. [[108]](#footnote-108)

By way of explanation, the curved arrow denotes the flight of a missile path from launch until impact. Within the diagram are 4 inextricably linked categories, which, are set out along a sliding scale. Parts 1 and 2 of the diagram set out the premise that during the boost phase, a state is faced with a more general threat of force—depending on geopolitical context and intelligence assessments this threat may or may not fall foul of Article 2(4) of the United Nations Charter. As the flight of the missile progresses, the severity of the threat increases. Once airborne (midcourse phase until re-entry phase), the proposition taken here is that a state is now faced with threatened armed attack constituting a ‘grave threat of force’. Until a missile reaches impact, the threat level posed is arguably still one of a threatened armed attack (of a grave use of force)—the missile has been fired, but it is only on impact that a state would have suffered an actual armed attack. Part 3 of the diagram attempts to intertwine the severity of threat with the idea of imminence. Potentially, at boost phase, a state is still facing a latent threat albeit on a very compressed scale. Part 4 of the diagram meanwhile suggests that until a missile is airborne, the necessity and proportionality criteria may not have been satisfied.

An automated response can take place against a missile in any of the ‘flight phases’. However, the argument put forward is that the closer the interception is to the boost phase the further away the necessity and proportionality criteria are from being fulfilled—noting, that this is of course on a micro-scale in terms of time frame. What becomes legally objectionable is any attempt at interception at the ‘boost phase’. At the boost phase, it is difficult to determine the missile’s target—the rocket engine missile is steered by technology built into the engines which, enables it to change course.[[109]](#footnote-109) Although one could derive this from flight data, interception is unlikely to meet the criteria, though the strategic effect is of course desirable.

It may be that MDS only fire against grave threats, when necessary, destroying the threat is proportionate and only in response to a an imminent threat—in other words, it may be that the very nature of MDS mean that they only ‘launch’ when all the criteria would be met anyway.   Against this legal concern, one obviously needs to also factor in all of the policy and strategic reasons for having MDS as a ‘necessary’ defence in the modern world. This of course presumes that necessity, proportionality and imminence are, or could be easily be uncontrovertibly discerned. [[110]](#footnote-110)

1. **CONCLUSION**

This article has sought to introduce two unique discussions within the realm of self-defence: the use of missile defence shields as supporting a broader right of anticipatory self-defence and whether an automated response would fall within the existing framework. By way of overall conclusion, this author maintains the approach that the widespread use of MDS would broadly support anticipatory self-defence albeit under limited use. Equally, there is certainly concern that automated missile interception might not ever fall within the existing parameters of self-defence. Moreover, the reliance in technology raises the age-old debate in strategic literature as to whether technology (system of systems) can overcome ‘friction’—the fact it probably cannot suggests that interception may stray off both the legal and strategic course.

1. University of Buckingham, United Kingdom. The author would like to thank Dr James A. Green, Dr Robert Barnidge Jr and Dr Ulf Häußler for their invaluable help and comments during the drafting of this article. The author would also like to express sincerest gratitude to Mr Audu Samuel Ibrahim and Ms Kiranpreet Gremal for all her helpful assistance. [↑](#footnote-ref-1)
2. Jonathan Marcus, “North Korea threats: US to move missile defences to Guam” *BBC News Asia* (London, 4 April 2013) <<http://www.bbc.co.uk/news/world-us-canada-22021832>> accessed 23 September 2013. [↑](#footnote-ref-2)
3. Noting of course, that Japan does not have overseas military bases. For further details, please see News Wire, “Patriot Missiles installed in Tokyo on N.Korea Threat*”* *France 24 International News* (9 April 2013) <<http://www.france24.com/en/20130409-japan-patriot-missiles-tokyo-defend-north-korean-attack-usa?ns_campaign=editorial&ns_source=RSS_public&ns_mchannel=RSS&ns_fee=0&ns_linkname=20130409_japan_patriot_missiles_tokyo_defend_north>> accessed on 23 September 2013. [↑](#footnote-ref-3)
4. On this specific point *See* RT News, “Iron Dome Cannot Protect Civilians- Israeli Commander" *RT News* ( 9 April 2013) <<http://rt.com/news/israel-war-civilians-risk-142/>> accessed 23 September 2013. For more detail on Iron Dome generally, Ben Barry, ‘Iron Dome: A Double-edged Shield?’ *IISS Voices* (London, 23 November 2012) <

<http://iissvoicesblog.wordpress.com/2012/11/23/iron-dome-a-double-edged-shield/>> accessed on 23 November 2013 and Alex Spillius, “Iron Dome Shield restricts Israeli Casualties” *The Telegraph* (London, 15 November 2012) *<*<http://www.telegraph.co.uk/news/worldnews/middleeast/israel/9681241/Iron-Dome-shield-restricts-Israeli-casualties.html>.> accessed on 23 November 2013. Commentary suggests that priority would be given to the protection of ‘strategic targets’. [↑](#footnote-ref-4)
5. National Defence University, RUSI, *U.S. Missile Defence Agency* <http://www.state.gov/t/avc/c51299.htm> [↑](#footnote-ref-5)
6. However, see UN General Assembly Human Rights Council, *Report of the Special Rapporteur on Extrajudicial, Summary or Arbitrary Execution Christof Heyns’* UN Special Rapporteur Christof Heyns (A/HRC/23/47, 9 April 2013) <<http://www.ohchr.org/Documents/HRBodies/HRCouncil/RegularSession/Session23/A-HRC-23-47_en.pdf>> accessed 23 November 2013. The importance of military intelligence within this debate, is one which I leave others to consider see Häußler paper forthcoming. To strategists—there is no shortage of strategic literature on either. Lora Saalman, “China's Evolution on Ballistic Missile Defence” [*Carnegie Endowment for International Peace*](http://carnegieendowment.org/) *Proliferation Analysis* (Washington, 23 August 2012)  *<*[http://carnegieendowment.org/2012/08/23/china-s-evolution-on-ballistic-missile-defence/dkpj](http://carnegieendowment.org/2012/08/23/china-s-evolution-on-ballistic-missile-defense/dkpj)> accessed 23 November 2013> accessed on 26 November 2013. [↑](#footnote-ref-6)
7. This is in essence a first strike scenario and admittedly, one could potentially explore this discussion beyond first strike scenarios. However, doing so, may conflate arguments regarding necessity and proportionality in terms of responses to a ‘cumulative armed attack’ and therefore this article will remain confined to first strike scenarios. It becomes increasingly difficult to pinpoint necessity and proportionality in terms of automaticity if the discussion goes beyond a single launch. For example, one of the justifications for US action post 9/11 based on self-defence was justified under the concept of a ‘cumulative armed attack’. For further literature on this area see Andrew Garwood-Gowers, “Self-Defence Against Terrorism in the Post-9/11 World*”* (2004) 4 (2) Queensland University of Technology Law and Justice Journal; Markus Krajewski, “Preventive Use of Force and Military Actions against Non- State Actors: Revisiting the Right of Self-defence in Insecure Times” (2005) 5 Baltic Yearbook of International Law <<http://www.uni-potsdam.de/jpkrajewski/Publications/PreventiveUse.pdf>> accessed 23 November 2013. The other point to note, and I am grateful to Ulf Häußler for this, is whether ‘outside a state’s territory’ would cover outer space. If yes, his argument is that such action is no longer ‘anticipatory’ because it is outside a state’s territorial sovereignty. Technically, this may be correct. However, if one supports a right of anticipatory self-defence in the nuclear age then one would have to dismiss such an objection. See infra Part III for a discussion on anticipatory self-defence. [↑](#footnote-ref-7)
8. *See* *infra* Part III for a complete discussion on this issue. [↑](#footnote-ref-8)
9. *See* *infra* at Part III for explanation. [↑](#footnote-ref-9)
10. N.B. JCSL to contact Arms Control Today to seek permission for reproduction July/August 2002): 31–34 (It has been reproduced once see Richard Dean Burns, ‘The Missile Defence Systems of George W. Bush: A Critical Assessment’ (Praeger Security International, 2009) (Burns). [↑](#footnote-ref-10)
11. Treaty Between the United States of America and the Union of Soviet Socialist Republics on the Limitation of Anti Ballistics Missile Systems 1972 <<http://www.state.gov/t/avc/trty/101888.htm>> accessed 23 November 2013. [↑](#footnote-ref-11)
12. The author has chosen this terminology to encapsulate the notion that such action is ‘machine guided’— because it is devoid of human involvement it is therefore automated. [↑](#footnote-ref-12)
13. *See* primarily Nick Brown, Defence & Security Intelligence and Analysis: IHS Jane’s, *New Patriot Baseline Passes Testing*, <http://www.janes.com/products/janes/defence-security-report.aspx?ID=1065966476> and

Kable Intelligence, “Patriot Missile Long-Range Air-Defence System, United States of America” (Army Technology) <<http://www.army-technology.com/projects/patriot/>> accessed 26 November 2013 and

Marshall Brain, “How Patriot Missiles Work” (How Stuff Work)*<*<http://www.howstuffworks.com/patriot-missile.htm>> accessed on 26 November 2013. [↑](#footnote-ref-13)
14. This assessment will be confined to discussions surrounding self-defence rather than exploring international humanitarian law. [↑](#footnote-ref-14)
15. *See* *infra* Part II for a complete discussion on this issue. [↑](#footnote-ref-15)
16. Ulf HauBler ‘International Law, Nuclear Energy, and Nuclear Weapons*’* (Nuclear Weapons, Non-Proliferation and Contemporary International Law ‘Round Table 3’, London, February 2013). [↑](#footnote-ref-16)
17. Häußler paper forthcoming. See also Justin McClelland, ‘The Review of weapons in accordance with Article 36 of Additional Protocol I’ (2003) International Review of the Red Cross No. 850 *<*<http://www.icrc.org/eng/assets/files/other/irrc_850_mcclelland.pdf>> accessed on November 26 2013. [↑](#footnote-ref-17)
18. For a useful overview see for example, Columba Peoples, ‘Justifying Ballistic Missile Defence- Technology, Security and Culture’ (2009) Cambridge studies in International Relations Chapter 2 and Mark Berhow, *US Strategic and Defensive Missile Systems 1950-2004* (Osprey Publishers, 2005) Generally Richard Dean Burns, *The Missile Defence Systems of George W. Bush: A Critical Assessment (*Praeger Security International, 2010*)* chapter 2 and George M. Siouris, *Missile Guidance and Control Systems* (Springer, 1st Edition, 2004) generally. As Peoples notes the key debate “was based on the issue of whether or not technological development could be utilised to enhance security policy in the realm of nuclear weapons, and the extent to which (defensive) technology specifically could provide a ‘fix’ for the policy problems of the Cold War. The key point argued is that ABM supporters of different backgrounds sought to espouse a broadly instrumentalist viewpoint based on a shared assumption that ABM technology could be an instrument to achieve the positive ends of nuclear security”. On more general points surrounding strategy see Lawrence Freedman, *The Evolution of Nuclear Strategy* (Trinity Press, 3rd edn, 2003) and Colin S Gray, *Weapons Don’t Make War: Policy, Strategy and Military Technology* (University Press of Kansas, 1993). Thomas Schelling, *Arms and Influence* (New Haven: Yale University Press, 1st edn, 1966). Thomas Schelling, *Arms and Influence* (New Haven: Yale University Press, 1966). [↑](#footnote-ref-18)
19. Ibid(Introduction). [↑](#footnote-ref-19)
20. In strategic literature the term denotes “a military technical revolution”—a new more efficient way of waging war see Eliot A. Cohen, ‘A Revolution in Warfare’ (1996) Foreign Affair <[http://www.foreignaffairs.com/articles/51841/eliot-a-cohen/a-revolution-in-warfare#](http://www.foreignaffairs.com/articles/51841/eliot-a-cohen/a-revolution-in-warfare)> accessed on 26 November 2013, although Williamson Murray, ‘Thinking About Revolutions in Military Affairs’ (1997)JFQ Summer 69 <[http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA354177](http://www.dtic.mil/cgi-bin/GetTRDoc?AD=ADA354177" \t "_blank)> (accessed on 26 November 2013) rejects the idea that the ‘revolution’ is merely technical citing two arguments in support of his approach. First, instances where inferior technology has prevailed and secondly, the notion that a revolution in military affairs can be conceptual—“In the breakthrough on the Meuse, for example, the German advantage was a combined arms doctrine resting on a thorough and realistic appraisal of the last war. Their opponents had not developed such a doctrine”. Williamson concedes that nuclear weapons may be the *only* revolution based entirely on technology. RMAs, at least according to Williamson take time to develop and overlap there is no wholesale replacement. [↑](#footnote-ref-20)
21. Burns (n10) p 2. [↑](#footnote-ref-21)
22. Ibid 1. [↑](#footnote-ref-22)
23. Ibid 1. For further detail see the additional sources cited by Burns See also Wade Boese, ‘PAC-3 Production to Continue Despite Program Shortcomings’ (Arms Control Today, 18 July–Aug. 2002) < <http://www.armscontrol.org/act/2002_07-08/pac3jul_aug02>> accessed 26 November 2013; Paul Richter, ‘In Event of War, Patriots Won’t Be on Front Line’ *Los Angeles Times* (Los Angeles, 2 November, 2002); Wade Boese, ‘Patriot Scorecard Mixed; PAC-3 Use Limited’(2003) Arms Control Today 33: Charles Piller, ‘Vaunted Patriot Missile Has a ‘Friendly Fire’ failing*’* *Los Angeles Times* (Los Angeles, 21 April, 2003): Wade Boese, ‘Army Report Details Patriot Record in Iraq War’ (Arms Control Today, 30–31 November 2003):; also see, Victoria Samson, *American Missile Defence,* (Prager, 1st Edition, 2010) 98–110. [↑](#footnote-ref-23)
24. Burns (n10) p 104. [↑](#footnote-ref-24)
25. Ibid p 113. [↑](#footnote-ref-25)
26. Ibid. [↑](#footnote-ref-26)
27. Ibid p 122. [↑](#footnote-ref-27)
28. #  Ibid 113 the following sources US General Accounting Office, *Missile Defence: THAAD Restructure Addresses Problems But LimitsEarly Capability* (Report GAO/NSIAD, June 1999) 1–3, 99-142.US General Accounting Office, *Defence Acquisitions: Assessments of Selected Weapon Programs* (Report GAO-08-467SP, March 2008) 163–164; US General Accounting Office, *Defence Acquisitions: Assessments of Selected Weapon Programs* (Report GAO-09-326SP, March 2009)55–56; see Army-Technology, Kable Intelligence, ‘*Terminal High-Altitude Area Defence, United States of America’* (Army Technology) < www.army-technology.com/projects/thaad/>accessed 26 November 2013.

 [↑](#footnote-ref-28)
29. Ibid p 113. [↑](#footnote-ref-29)
30. Ibid p 123. [↑](#footnote-ref-30)
31. Ibid p 124 Burns cites the following additional sources Wade Boese, ‘Navy Theater Missile Defence Test Successful’, (Arms Control Today, 29March 2002) < <http://www.armscontrol.org/act/2002_03/ntmdmarch02>> accessed on 26 November 2013; Wade Boese, ‘Sea-Based Missile Defence Scores Second StraightHit’ (Arms Control Today,19 July–August 2002)< <http://www.armscontrol.org/act/2002_07-08/seajul_aug02>> accessed 26 November 2013; David Wright, ‘An Analysis of the 25 January Test of the Aegis-LEAP Intercept for the Navy Theater Wide’ (2002) Union of Concerned Scientists Working Paper 3 March 2002 < <http://www.ucsusa.org/assets/documents/nwgs/leap.pdf>> accessed 26 November 2013. [↑](#footnote-ref-31)
32. Burns (n10) cites the following additional sources BMDO link, “Missile Defence Test Successful,” Dec. 4, 2001, at www.bmdobmdolink; Center for Defence Information, “Flight Tests For Ground-Based Midcourse Defence (GMD) System,” Updated Dec. 22, 2008 by Victoria Samson, [www.cdi.org](http://www.cdi.org). [↑](#footnote-ref-32)
33. See, for example, David A. Sadoff, ‘Striking a Sensible Balance on the Legality of Defensive First Strikes’ (2009) 42 Vand. J. Transnat'l L.; James A. Green, ‘Fluctuating evidentiary standards for self-defence in the International Court of Justice*’* (2009) 163 International & Comparative Law Quarterly; Muhammad Iqbal & Sulman Hassan, 'Armed and Ready' (2008) 158 New Law Journal; James A. Green, ‘Docking the Caroline: Understanding the Relevance of the Formula in Contemporary Customary International Law concerning Self-Defence’ (2006) 14 Cardozo J. Int'l & Comp. L.; Sean D. Murphy, ‘Doctrine of Preemptive Self-Defence, The Symposium: Brave New World: U.S. Responses to the Rise in International Crime’ (2005) 50 Vill. L. Rev.; Mark L. Rockefeller, ‘Imminent Threat Requirement for the Use of Preemptive Military*’* (2004) 33 Denver Journal of International Law & Policy; *See* generally Stanimir A. Alexandrov, *Self-Defence Against the Use of Force in International Law*  (Kluwer Law International, 1st Edition, 1996); Derek W Bowett, *Self-Defence in International Law*  (Manchester University Press, 1958); Tom Ruys, *'Armed attack' and Article 51 of the UN Charter : evolutions in customary law and practice*  (Cambridge University Press, 2010); James A Green, *The International Court of Justice and Self-Defence in International Law* (Hart Publishing 2009). Judith Gardam, *Necessity, Proportionality and the Use of Force by States* (Cambridge University Press, 2004); James A. Green & Francis Grimal, 'The Threat of Force as an Action in Self-Defence under International Law'(2011) 44 Vand. J. Transnat'l L. (Green & Grimal) [↑](#footnote-ref-33)
34. *See* *infra* note 48 and also generally Christine D Gray, *International Law and the Use of Force* (Oxford University Press 3rd ed. 2008) (Gray). The ICJ in Military and Paramilitary Activities in and Against Nicaragua (Nicar. v. U.S.), 1986 I.C.J. 14, ¶ 191 suggests that this is not necessarily the case. [↑](#footnote-ref-34)
35. Alexander Orakhelashvili, *Peremptory norms in international law*  (Oxford University Press, 2006). [↑](#footnote-ref-35)
36. James A. Green, 'Questioning the Peremptory Status of the Prohibition of the Use of Force*'* (2010) 32 Mich. J. Int'l L. [↑](#footnote-ref-36)
37. Noting, that Treaties are interpreted according to the 1969 Vienna Convention on the Law of Treaties (VCLT). See also G. I. Tunkin, *Theory of International Law* (Wildy, Simmons and Hill, 2003) p 141. [↑](#footnote-ref-37)
38. Green & Grimal (n33) at p 299. [↑](#footnote-ref-38)
39. D. W. Greig, Self-Defence and the Security Council: What Does Article 51 Require § 40 (1991). N.B. Article 51 of the United Nations Charter remains silent as to imminence. [↑](#footnote-ref-39)
40. Military and Paramilitary Activities in and Against Nicaragua (Nicar. v. U.S.), 1986 I.C.J. 14, ¶ 191 [↑](#footnote-ref-40)
41. Green & Grimal (n33) p 30, Avra Constantinou, *The Right of Self-Defence Under Customary International Law and Article 51 of the United Nations Charter* (University of Nottingham, 2007) (Constantinou) [↑](#footnote-ref-41)
42. Letter from Daniel Webster to Henry S. Fox (Apr. 24, 1841), in 29 British and Foreign State Papers (1841–42), 1129–39 (1857). [↑](#footnote-ref-42)
43. Green & Grimal (n33) and *See* generally James A Green, ‘Docking the Caroline: Understanding the Relevance of the Formula in Contemporary Customary International Law concerning Self-Defence’ (2006) 14 Cardozo J. Int'l & Comp. L. [↑](#footnote-ref-43)
44. Ibid. [↑](#footnote-ref-44)
45. Ibid p 301. [↑](#footnote-ref-45)
46. Constantinou (n41) pp 159-161, Gamal Moursi Badr, 'Exculpatory Effect of Self-Defence in State Responsibility*'* (1980) 10 Ga. J. Int'l & Comp. L. David Kretzmer, 'Killing of Suspected Terrorists: Extra Judicial Executions or Legitimate Means of Defence?' (2005) 16 EUR. J. INT’L L. [↑](#footnote-ref-46)
47. Green & Grimal (n33) 301 and also Judge Higgins’s Dissenting Opinion, in Advisory Opinion *Legality of the Threat or Use of Nuclear Weapons*, 226 I.C.J 583 para.5 (1996). See also generally, **David Kretzmer,**
*‘*The Inherent Right to Self-Defence and Proportionality in Jus Ad Bellum’ (2013) 24 EUR. J. INT’L L. [↑](#footnote-ref-47)
48. Military and Paramilitary Activities in and Against Nicaragua (Nicar. v. U.S.), 1986 I.C.J. 14, ¶ 35 Green & Grimal (n33) p 287 at footnote 2: Maogoto gives a useful overview of the main arguments concerning this issue and provides a survey of the vast literature. Jackson N. Maogoto, *Battling Terrorism: Legal Perspectives On The Use Of Force And The War On Terror* (Ashgate Publishers, 1st Edition, 2005) 111–149; see also Christine Gray, ‘The US National Security Strategy and the New “Bush Doctrine” on Pre-emptive Self-Defence’ (2002) 1 Chinese J. Int’l L. 437, 438 (describing the “radical new doctrine of international law on the use of force”); Christopher (Greenwood) *,* ‘International Law and the Pre-Emptive Use of Force: Afghanistan, Al-Qaida, and Iraq’ (2003) 4 San Diego Int’l L.J. 7, 8 (noting that some commentators have called for amendment to the UN Charter); Christian M. Henderson, ‘The 2006 National Security Strategy of the United States: The Pre-Emptive Use of Force and the Persistent Advocate’ (2007) 15 Tulsa J. Comp. & Int’l L. 1, 2 (characterizing the 2006 reassertion of the doctrine of pre-emptive military action as “surprising”); Abraham D. Sofaer, ‘On the Necessity of Pre-Emption’ (2003) 14 Eur. J. Int’l L. 209, 210 (noting that traditional deterrence is ineffective against terrorists); see generally Miriam Sapiro, ‘Iraq: The Shifting Sands of Pre-Emptive Self-Defence’ (2003) 97 Am. J. Int’l L. 599 (Sapiro) (arguing that the United States should refine its position on the preemptive use of force). [↑](#footnote-ref-48)
49. Ibid. [↑](#footnote-ref-49)
50. Green. n(33) pp 463-73. [↑](#footnote-ref-50)
51. Gray. n(34) pp 211-212. [↑](#footnote-ref-51)
52. Green & Grimal (n33) See Constantine Antonopoulos, ‘Force by Armed Groups as Armed Attack and the Broadening of Self-Defence’, (2008) 55 Neth. Int’l L. Rev. 159, 172; and Niaz A. Shah, ‘Self-Defence, Anticipatory Self-Defence and Pre-Emption: International Law’s Response to Terrorism’ (2007) 12 J. Conflict & Security L. 95, 111. (Shah). [↑](#footnote-ref-52)
53. Nicaragua v. U.S., 1986 I.C.J. 14, ¶ 191 [↑](#footnote-ref-53)
54. Terry D. Gill, ‘The Law of Armed Attack in the Context of the Nicaragua Case' (1988) 1 Hague Y.B. Int’l L. 30, 35. [↑](#footnote-ref-54)
55. Green & Grimal (n33) 105. The best example of this followed the 1981 Israeli attack upon the Iraqi Osiraq nuclear reactor, after which Israel explicitly justified its action as anticipatory self-defence. See U.N. SCOR, 36th Sess., 2288th mtg. ¶¶ 79–84, U.N. Doc. S/PV.2288 (June 19, 1981) (“Israel had full legal justification to exercise its inherent right of self-defence . . ..”); Gray (n34) at 115. In doing so, Israel itself argued that the danger posed by the Iraqi reactor was imminent. See U.N. SCOR, 36th Sess., 2280th mtg. ¶ 102, U.N. Doc. S/PV.2280 (June 12, 1981) (“We [Israel] waited until the eleventh hour after the diplomatic clock had run out . . ..”). States almost universally condemned the action, but, notably, most states did so on the basis that the threat to Israel was, contrary to what Israel had claimed, not imminent. See, e.g., U.N. SCOR, 36th Sess., 2288th mtg. ¶¶ 28–30, U.N. Doc. S/PV.2288, (June 19, 1981) (noting that while Israel may have legitimately felt threatened, there were still non-military solutions available); U.N. SCOR, 36th Sess., 2284th mtg. ¶¶ 44–47, 11 U.N. Doc S/PV.2284 (June 16, 1981) (“Today the Israelis attack Baghdad for having a nuclear reactor centre that was described by the . . . IAEA . . . as ‘peaceful nuclear facilities.’”); U.N. SCOR, 36th Sess., 2283d mtg. ¶¶ 53–56, U.N. Doc. S/PV.2283 (June 15, 1981) (referring to the air raid on Iraq’s capital as an “unprovoked” act of terrorism). Of course, a number of other states argued that the action was unlawful because self-defence against a threat is unlawful per se; for example, the Soviet Union referred to such actions as “the law of the jungle.” [↑](#footnote-ref-55)
56. See Shah (n 52) 101–04, 111–19 (describing the gravity and immediacy of the threat required to justify self-defence under international law). [↑](#footnote-ref-56)
57. I am grateful to Robert Barnidge Jr. for the following observation. John Brennan during his tenure as Obama’s homeland security advisor argued that practice also supports a more flexible understanding of imminence. [↑](#footnote-ref-57)
58. The United States stated that it would resort to the pre-emptive use of force “even if uncertainty remains as to the time and place of the enemy’s attack.” THE NATIONAL SECURITY STRATEGY OF THE UNITED STATES OF AMERICA, available at <http://www.state.gov/documents/organization/63562.pdf> (2002). This position was restated, essentially unmodified in 2005 and 2006. See THE NATIONAL SECURITY STRATEGY OF THE UNITED STATES OF AMERICA 18, 23, <http://www.presidentialrhetoric.com/speeches/nss2006.pdf> (2006); U.S. DEP’T OF DEFENCE, THE NATIONAL DEFENCE STRATEGY OF THE UNITED STATES OF AMERICA, 9–12, [http://www.defencelink.mil/news/Apr2005/d20050408strategy.pdf](http://www.defenselink.mil/news/Apr2005/d20050408strategy.pdf) (2005) [↑](#footnote-ref-58)
59. Green & Grimal (n33). See, for example, the categorical rejection of the notion of pre-emptive attack by the Non-Aligned Movement in the declaration that emerged from the Fourteenth Summit of Heads of State or Government of the Non-Aligned Movement. Non-Aligned Movement, Final Rep. Covering the 14th Conference of Heads of States or Governments of the Non-Aligned Movement, ¶ 22.5 available at <http://www.cubanoal.cu/ingles/index>. (July 30, 2008), See, e.g., Tarcisio Gazzini, *The Changing Rules on the Use of Force in International Law*, (Juris Publishing, 2005) 174, 238 (“State practice is neither quantitatively nor qualitatively consistent enough to affirm the existence of a right to anticipatory self-defence, a development that would stretch beyond recognition the notion of self-defence itself.”); Greenwood (n 48) 12–16 (“[T]he right of anticipatory self-defence is confined to instances where the armed attack is imminent.”); Sapiro (n 48) 599–603 (“Although the law can be interpreted to permit defensive action in the face of an imminent threat, it is difficult—and dangerous—to stretch it farther.”). [↑](#footnote-ref-59)
60. I am grateful to the anonymous reviewer for JCSL for the helpful suggestion of Dinstein’s discussion. See Yoram Dinstein, *War Agression and Self-Defence* (Cambridge University Press, 5th Edition, 2012) pp 203-204. A similar discussion / example has also been used by Cassese regarding Anticipatory action. As Cassese writes, the rationale is a strong meta-legal argument to prevent in McDougall’s words a state becoming a ‘sitting duck’ to impending military attacks. Cassese provides the hypothetical scenario of the US Pacific Fleet sinking the Japanese carrier en-route to Pearl Harbour in 1941 as an example. See Antonio Cassese, *International Law* (Oxford University Press, Oxford 2nd Edition 2005) p 308. [↑](#footnote-ref-60)
61. Ibid. p 204 [↑](#footnote-ref-61)
62. Ibid. [↑](#footnote-ref-62)
63. Ibid p 204. [↑](#footnote-ref-63)
64. Ibid. [↑](#footnote-ref-64)
65. Ibid. [↑](#footnote-ref-65)
66. *See* *Above,* Part III. [↑](#footnote-ref-66)
67. *See* for example, Constantine Antonopolos, 'Force by Armed Groups as Armed Attack and the Broadening of Self-Defence' (2008) 55 Neth. Int’l L. Rev. [↑](#footnote-ref-67)
68. Noting the crossover between *Jus ad Bellum and Jus in Bello*. Discussion will centre on the former and not the latter. [↑](#footnote-ref-68)
69. For a detailed discussion on customary international law, please see M Akehurst, *‘*The Hierarchy of the Sources of International Law*’* (1974-75) 47 *B.Y.B.I.L.*, 273; M Akehurst, ‘Custom as a Source of International Law’ (1977) 47 *B.Y.B.I.L.*1; Maarten Bos, ‘The Identification of Custom in International Law’ (1982)25 *G.Y.B.I.L.*9; B. Cheng*,* *'*United Nations Resolutions *on* Outer Space*: "*Instant*"* International*.* Customary Law? (1965) 5 Indian JIL23; Anthony D’Amato*,* ‘Trashing customary international law’ (1987) 81 A.J.I.L.,101, Gennade Mikhalovich Danilenko, ‘The Theory of International Customary Law’ (1988) 31 *G.Y.B.I.L.*, 9; Olufemi Elias, ‘The Nature of the Subjective Element in Customary International Law’ (1995) 44 *I.C.L.Q.*, 501; Jorg Kammerhofer, ‘Uncertainty in the Formal Sources of International Law: Customary International Law and Some of its Problems*’* (2004) 15 (3) Eur J Int Law *523*; M.H. Mendelson, ‘The subjective element in customary international law’ (1995) 66 B.Y.B.I.L., 177. See also, the International Law Association, Formation of Customary (General) International Law (Seminal Report, 1984 – 2000) <<http://www.ila-hq.org/en/committees/index.cfm/cid/30>> accessed on November 26, 2013. [↑](#footnote-ref-69)
70. See Malcolm Shaw, *International Law* (Cambridge University Press, 6th Edition, 2008). (Shaw) [↑](#footnote-ref-70)
71. Ibid. [↑](#footnote-ref-71)
72. ###  Jurisdictional Immunities of the State (Germany v. Italy), 2010 I.C.J. (Order of July 6) And for further commentary, see Francois Broudreault, ‘Identifying Conflicts of Norms: The ICJ Approach in the Case of the Jurisdictional Immunities of the State (Germany & Italy: Greece Intervening)’ (2012) 25 Leiden Journal of International Issue 4, 1003 – 1012.

 [↑](#footnote-ref-72)
73. Ibid. [↑](#footnote-ref-73)
74. Ibid p 76. [↑](#footnote-ref-74)
75. ICJ Reports, 17 ILR 29-72, 266 (1950) [↑](#footnote-ref-75)
76. Shaw (n 64) p 76. [↑](#footnote-ref-76)
77. ICJ Reports, 17 ILR 29-72, 266 (1950) [↑](#footnote-ref-77)
78. ICJ Reports, 18 ILR 86, 116 (1951) [↑](#footnote-ref-78)
79. ICJ Reports, 41 ILR 29, 43 (1969) [↑](#footnote-ref-79)
80. Shaw (n 64) p 77. [↑](#footnote-ref-80)
81. ICJ Reports, 76 ILR 349 14 (1986). [↑](#footnote-ref-81)
82. Shaw (n 64) p 77. [↑](#footnote-ref-82)
83. See also the *North Sea Continental Shelf case*.(Federal Republic of Germany v Denmark and the Netherlands), I.C.J. Rep. 1969, p 3. [↑](#footnote-ref-83)
84. Ibid. p 75. See for example the tension within the positivist school the approach taken by Kelsen. [↑](#footnote-ref-84)
85. Michael Byers, *Custom, Power and the Power of Rules* : *International Relations and Customary International Law* (Cambridge University Press, 1st Edition, 1999). [↑](#footnote-ref-85)
86. Ibid p 130. [↑](#footnote-ref-86)
87. Ibid. [↑](#footnote-ref-87)
88. See also Michael Glennon, ‘How International Rules Die’ (2005) Georgetown Law Journal 93, pp 939-991. [↑](#footnote-ref-88)
89. Yoram Dinstein, *War Agression and Self-Defence* (Cambridge University Press, 5th Edition, 2012) p 203. [↑](#footnote-ref-89)
90. See for example Ian Brownlie, *International Law and the Use of Force by States* (Oxford University Press. 1963). P 264. Noting however that although Brownlie is insistent that Article 51 “would seem to preclude preventive action…action could only be used in exceptional cases”—‘exceptional cases’ would seemingly leave the door ajar. [↑](#footnote-ref-90)
91. See Francis Grimal, *Threats of Force: International Law and Strategy*  (Routledge, 2012) Chapter 7. Noting Wilkening’s observation that the objection hinged more upon the notion that such a defensive shield may interfere with Russia’s own detection system: on this, see Burns (n 10) p 64. [↑](#footnote-ref-91)
92. Ibid. [↑](#footnote-ref-92)
93. Mike Derrick, ‘Nimble Titan- Shaping Future Missile Defence’(RUSI Publications, 2012) <<http://www.rusi.org/downloads/assets/Derrick_-_web.pdf>> [↑](#footnote-ref-93)
94. Participating states include Australia, Canada, Czech Republic, Denmark, Germany, Italy, Japan, South Korea, the Netherlands, Poland, Spain and the United Kingdom with NATO also participating: see above note [↑](#footnote-ref-94)
95. Burns (n 10) p 110. [↑](#footnote-ref-95)
96. See The ICJ in Military and Paramilitary Activities in and Against Nicaragua (Nicar. v. U.S.), 1986 I.C.J. 14, ¶ 186. I am grateful to the anonymous reviewer for JCSL for this helpful rephrasing. [↑](#footnote-ref-96)
97. Yoram Dinstein, *War Agression and Self-Defence* (Cambridge University Press, 5th Edition, 2012) p 203. [↑](#footnote-ref-97)
98. U.N. Charter art. 2, para. 4. See Green & Grimal (n33); See also Dino Kritsiotis, ‘Close Encounters of a Sovereign Kind’ (2009) 20 European Journal of International Law. It is generally accepted that the prohibition of the use of force is also universally binding under customary international law. See, e.g., Michael Bothe, ‘Terrorism and the Legality of Pre-Emptive Force’ (2003) 14 EUR. J. INT’L L. 227, 228 (“[T]he prohibition of the use offorce is a valid norm of customary international law . . . .”); Hermann Mosler, ‘The International Society as a Legal Community’ (1974) 140 Ecueil De Cours 1, 283. Whether this is also true for the prohibition of the threat of force is debatable given the lack of clear articulation of the prohibition in state practice. However, for the suggestion that the prohibition does exist in custom, see Nicholas Stürchler, *The Threat of Force in International Law* (Cambridge Press, 2007) pp 92–126. It is also generally agreed in the literature that the prohibition of the use of force is a jus cogensnorms (a peremptory norm of international law from which no derogation is possible). See, e.g., Alexander Orakhelashvili, *Peremptory Norms In International Law* (OUP, 2006) 50 (“The prohibition of the use of force by States undoubtedly forms part of jus cogens.”). Some scholars have taken this further and argued that the prohibition of the threat of force is similarly a jus cogens norm. See, e.g., STÜRCHLER, *id* at 63 (“It is . . . safe to conclude that article 2(4) of the UN Charter is jus cogens as a whole, without distinction to be made between the threat of force and the actual use of force.”). However, the peremptory status of the prohibition of the use of force is in fact debatable, and the prohibition of the threat of force is certainly not peremptory. See generally James A. Green, ‘Questioning the Peremptory Status of the Prohibition of the Use of Force’ (2011) 32 Mich. J. Int’l L. 215 (regarding the peremptory status of the prohibition of the use of force); id.at 225–29 (specifically regarding the peremptory status of the prohibition of the threat of force). [↑](#footnote-ref-98)
99. Declaration on the Enhancement of the Effectiveness of the Principle of Refraining from the Threat or Use of Force in International Relations, G.A. Res. 42/22, U.N. Doc. A/42/22/766 (Nov. 18, 1987) [hereinafter Use of Force Declaration]. [↑](#footnote-ref-99)
100. See Francis Grimal, *Threats of Force: International Law and Strategy*  (Routledge, 2012). Chapter 2—approaches range from categorisation and placing threats on a scale ranging from the innocuous to the extreme to examining the very purpose of the threat. For example, can non-verbal actions such as engaging in military exercises near another state’s border fall within the remit of 2(4)? Or, is 2(4) solely concerned with verbal ultimata demanding compliance? [↑](#footnote-ref-100)
101. Green & Grimal (n33). [↑](#footnote-ref-101)
102. T.D. Gill, *The Law of Armed Attack in the Context of the Nicaragua Case,* (1988)1 HYIL 30, 35(1988) [↑](#footnote-ref-102)
103. See *above* note 94. [↑](#footnote-ref-103)
104. Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, 1996 I.C.J. 226, ¶ 47 Ian Brownlie, *International Law and the Use of Force by States* (Oxford University Press. 1963). *See the Introduction and Grimal Above 85 note Chapters 2 and 4.*  [↑](#footnote-ref-104)
105. For additional commentary, please consult <http://www.ihlresearch.org/amw/about-project>. [↑](#footnote-ref-105)
106. See presentation round table Above [↑](#footnote-ref-106)
107. Free flight phase" was normally used specifically for ballistic missiles, namely in order to differentiate between the boost, free flight, and re-entry phases. [↑](#footnote-ref-107)
108. I am grateful to Ulf Häußler for this point. [↑](#footnote-ref-108)
109. Ibid. Noting that this may differ depending on geographical location nd the proximity of the MDS to launch platforms. [↑](#footnote-ref-109)
110. I am grateful to Robert Barnidge Jr. for this observation. [↑](#footnote-ref-110)