HCSS SECURITY

Reimagining Deterrence: Towards Strategic (Dis)Suasion Design

Stephan De Spiegeleire, Khrystyna Holynska, Yar Batoh, Tim Sweijs

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Reimagining Deterrence

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Deterrence, in one sense, is simply the negative aspect of political power; it is the power to dissuade as opposed to the power to coerce or compel. One deters another party from doing something by the implicit or explicit threat of applying some sanction if the forbidden act is performed, or by the promise of a reward if the act is not performed. Thus conceived, deterrence does not have to depend on military force.

– Glenn H. Snyder (US political scientist, 20th century[1])

Whatever problem you are studying, back off and look at it in the large. Don't start with a small piece and work up; look at the total first and then break it down into its parts

– Robert McNamara (President of Ford Motor Company, US Secretary of Defense, President of the World Bank, 20th century)

On résiste à l'invasion des armées; on ne résiste pas à l'invasion des idées.

– Victor Hugo (French novelist, 19th century[2])

True strength is not bluster

– Aesop (Greek fabulist, 1st century BCE[3])

A good scientist has freed himself of concepts and keeps his mind open to what is

– Laozi (Chinese philosopher, 5th century BCE[4])

The most dangerous phrase ... is "We've always done it that way"

– Grace Murray Hopper (US computer scientist and Rear Admiral, 20th century[5])

"[The] theory of games ... distinguishes games of skill, games of chance, and games of strategy, the latter being those in which the best course of action for each player depends on what the other players do. The term is intended to focus on the interdependence of the adversaries' decisions and on their expectations about each other's behavior. This is not the military usage."

– Thomas Schelling (Economist and Nobel Prize Laureate, 20th century)[6]

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1 Snyder, "Deterrence: A Theoretical Introduction," 106.
2 Hugo, *Histoire d'un crime*, 592.
3 Avianus and Aesop, "De Vento et Sole [Of the Wind and the Son].", as translated by Walter Crane's limerick version of 1887 (Crane, *Baby's Own Aesop – Being the Fables Condensed in Rhyme with Portable Morals – Illustrated by Walter Crane.*). The same Latin verse ("Nullum praemissis vincere posse minis") is often translated as "Persuasion is often more effectual than force".
4 Lao Tzu and Stenudd, *Tao Te Ching*, Chapter 27.
5 Surden, "Privacy Laws May Usher in 'Defensive DP' [Data Processing]: Hopper," 9.
6 Schelling, "The Retarded Science of International Strategy," 108–9.

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Executive Summary

Deterrence is back on the international political agenda. The reappearance of geopolitical competition and great power brinkmanship has rekindled interest in the theory and practice of deterrence. Deterrence has also returned as a guiding concept in the strategic postures of major military powers. It is central to NATO's efforts to meet Russia's resurgence, it permeates Russia's military (and other) efforts to hold off what it sees as a revisionist West, it remains a cornerstone of US grand strategy under Trump, and it is part and parcel of the doctrines of emerging great powers like China and India. A new wave of academic writings on deterrence acknowledges that deterrence has become far more difficult to achieve in the current polycentric and still highly interconnected world, in which actors draw on a much broader portfolio of instruments of statecraft in the context of cross domain strategies. Authors therefore agree that effective deterrence requires the development of new concepts to tackle the fundamentally different challenges in today's security environment. Yet most of these authors by and large still position their recommendations within the classic deterrence framework as it emerged in the United States at the dawn of the First Cold War. This think piece argues that it is time to reimagine our approach to purposive strategic interaction in more creative and fundamental ways, and to design a broader strategic options portfolio that may offer our nations better value for money in achieving their strategic objectives. It proposes a new strategic framework to guide thinking about 'deterrence' – or, as we will argue, the more aptly termed 'dissuasion'; and it also demonstrates how this framework can be used to generate concrete solutions through strategic design. HCSS wants to emphasize that this report marks the first publication that is the result of an ongoing multi-year research effort and that will result in a deterrence 'triptych' over the next two years.

This report is structured around three main research efforts. The first effort (presented in Chapters 2 and 3) consisted of a ***broad survey of the literature*** about deterrence in the international security field but also in academic disciplines other than political science, including criminology, labor relations, public health, education, and religion. This surveying effort also includes an overview of what we present as the three broad main schools of thought on deterrence in the current policy community: true believers, skeptics and rejectionists. The second research effort essentially consists of a ***conceptualization*** (Chapter 4) of a more comprehensive conceptual framework – a taxonomy – for what we decided to term compliance-seeking efforts: the ways in which actor A can attempt to make other Actor B comply with Actor A's wishes.

The resulting taxonomy is in essence a broad multi-dimensional menu from which purposive actors – including nations and multinational coalitions – can pick and choose a portfolio that they feel comfortable with and that they think is promising in the exercise of what is often called statecraft. The third research effort then moves to the ***operationalization*** of such a conceptual framework: how can strategic planners(/designers) identify promising concrete actionable policy options (APOs – *who* could do *what to whom*) from this menu? This effort builds and reports on two workshops that HCSS conducted – one in The Hague and one in Kyiv, Ukraine – in October 2019. In each of these about 50 participants from different walks of life used four different future 'Russias' to come up with over 300 'dissuasive' APOs.

These three major research efforts yielded five important research findings about 'deterrence' and the uses our defense and security organizations may wish to make of it. These findings are based on an attempt to rationally analyze the pros and cons of various strategic policy options from an effects-based point of view ("does 'deterrence' actually help in achieving the strategic effects we wish to obtain?") and not on any moralistic judgments either in favor or against the use of any form of terror, even nuclear terror, for security and defense purposes.

First, we concur with many other scholars, analysts and pundits that the debate on deterrence, for better *and* for worse, is back. It is indeed an important *strategic function* that governments may want – and need – to re-explore with more rigor, creativity and in more detail, given the changed international security environment. But while we agree with the increased salience of international deterrence, we disagree with the still quite dominant knee-jerk reaction to fall back upon the tenets of the particular 'International Relations/Security'-version of deterrence theory as it emerged in the cauldron of the post-World War II era. We acknowledge and document in our literature review that a new wave of deterrence thinking is indeed emerging. That wave recognizes that deterrence has become more difficult in the current polycentric world, with many types of instabilities involving a wider array of state and non-state actors engaging each other in a multitude of ways across different domains in both cooperative and conflictual modes. But much effort is still being expended on figuring out whether the canonical (fear- and punishment-based) Cold War tenets of deterrence can be repurposed to deal with new issues such as terrorism, cyber-deterrence or hybrid deterrence. This report claims that we may need a far more fundamental and creative re-imagination of truly more multifaceted purposive strategic – including dissuasive – action.

Secondly, our research suggests that we have seen diminishing returns to the overall purposive instrumentalization of fear and terror across human endeavors and history. Because of our conviction that the concept behind deterrence deserves a far more fundamental re-think than it has received so far, we cast our research review nets

much more widely than usual – both by going much further back in time than most of our colleagues, *and* by looking at a far broader range of both theoretical and empirical inquiries into the theory and practice of deterrence. This report presents a meta-meta-analysis of different disciplines that have a) thought hard and deep about how useful it is to instrumentalize fear to achieve one's goals; and b) have amassed and teased out the findings from far richer datasets than the field of international relations/security has so far been able or willing to collate. This uniquely broad meta-analysis provides ample evidence that the strategic manipulation of fear in human existence has empirically declined fractally over time. We would even venture the hypothesis that at this juncture in time existential fear plays such a small role in people's everyday lives in most parts of the modern and (especially) postmodern world that it has become increasingly difficult – whether for better *or* for worse – to instrumentalize it successfully for any purposive reasons, including in the defense and security realm.

This hypothesis leads us to a ***third*** important finding which is that the most essential part of deterrence is not so much the instrument that is being used (the *means*), but the objectives (/*ends*) that are being pursued and the *ways* in which *means* are being harnessed to achieve that 'dissuasive' purpose. We argue that the very term 'deterrence' actually conflates two important but very different dimensions in one word: a) the 'what do we want to achieve?' principle (in the case of deterrence: to prevent somebody from doing something); and 2) the 'how do we want to achieve it?' (in the case of deterrence *stricto sensu*: through fear). Disentangling these two elements leads to a 2x2 matrix (Figure 1), in which deterrence finds itself in the bottom right cell.

This matrix illustrates two important points that we feel may also have implications for our nations' defense and security investment priorities. The first is that even if one's objective is to make another actor not do something, using 'sticks' (the use of fear and punishment or even just discouragement) is not the only 'way' in which that goal can be achieved. Thinking through what can be done to dissuade other actors from pursuing undesired courses of action through positive incentives (the top-right cell in the matrix) may deserve more attention that it currently receives.

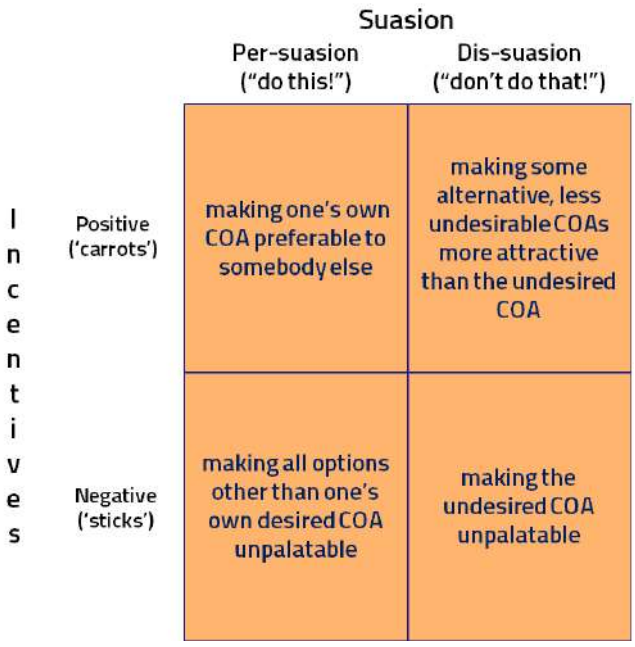

Figure 1: A 2x2 'suasion' matrix

But the second point is a broader one. Most of the defense and security literature maintains a dogged focus on framing efforts to achieve desired outcomes through 'suasion' campaigns (or maybe better – compliance-seeking effort) based primarily on incentivizing an opponent not to pursue a course of action (COA) that is deemed inimical to one's own, as opposed to incentivizing that same actor to pursue an alternative course of action that is less inimical or maybe even amicable to one's own (i.e. including the two left quadrants in the matrix). One may wonder whether that truly is the most intelligent (let alone cost-effective – especially in the long-term) approach to obtaining and sustaining our defense and security objectives.

Many of the earlier writings on deterrence in a defense context were actually acutely aware of the need to put deterrence within such broader effort space – in ways that many subsequent scholars and policy-makers often seem to have forgotten or underestimated. Our analysis of other walks of life that have struggled with this very same and very human conundrum suggests to us that the "taxonomic disorder and strategic confusion" surrounding the various ways in which international actors can make other international actors comply with their wishes is at least at big as the field in which that expression was first coined (communication/advertising research). Building on that literature, HCSS has started to inventorize and categorize the various types of 'compliance seeking efforts' that are used in (also international) purposive human interactions. Early exponents of that research effort are already visible in the way in which we coded the dissuasive 'actionable policy options' that were elicited from participants from various walks of life in the two 'design sessions' we conducted on this topic in two very different parts of Europe. So our third finding is that if our nations really want to discover more effective actionable 'compliance seeking' (including dissuasive, including deterrent) policy options, we may have to invest more creative efforts in the identification and operationalization of and experimentation with various compliance-seeking efforts that aim to dissuade actors from pursuing their own desired courses of action through both sticks and carrots and that do so in ways that diminish rather than increase the likelihood of even more destabilizing strategic mayhem.

Our ***fourth*** conclusion is that there may or may not still exist a significant amount of underexplored options to instrumentalize fear in order to achieve either positive or negative outcomes; or to not only use sticks but also carrots to achieve a dissuasive outcome – but that any analytical prioritization efforts along these lines should be based on a hard-nosed and well-founded balance of investment analysis that juxtaposes the various ways to achieve desired outcomes, and then decides which ones of these to include in a hopefully balanced options portfolio that provides excellent value for money and can subsequently still be recalibrated based on changing environments or new technological, sociological, identitary or other developments. The two key differences with our current planning constructs here would be a) not

to start from how we deter now (including the means we use for that), but to instead start from our strategic objectives – what we want to achieve; and b) to include costs in this analysis – financial costs, but also other costs through some 'better roughly right than precisely wrong' multi-criteria decision-making approaches. At this point, the design sessions we conducted merely identified various new elements of a possible dissuasion portfolio and stopped short of comparing these with each other based on a number of different criteria (including costs). We would submit that the richness of the findings we were able to generate that way still indicates that the same inclusive, participatory format could be used to not just come up with various policy options, but to also perform some inter-subjective, multi-criteria trade-off analysis across these various options.

This report's ***fifth*** and final insight is that a more 'designer'ish approach to strategic planning may offer great promise. The industrial age in many ways saw (linear) 'operational art devour strategy'. Strategic defense planning in the industrial age has tended to be quite linear (as opposed to rhizomatic); tactical-operational (as opposed to strategic); deterministic (as opposed to complex-adaptive); inward- and process-focused (as opposed to outward- and effect-based); closed Weberian-governmental (as opposed to comprehensive/open/'ecosystem'y); threat-based (as opposed to capability-based); platform- (or system-)centric (as opposed to – again – effect-based). As our societies are moving beyond the industrial age and are starting to radically 'reimagine' key policy areas such as health, education, crime, etc. – is it conceivable that defense and security might follow suit?

What do these five insights mean for the Dutch Defense and Security Organization (DSO) and what it should now do about deterrence? Some may have expected a report like this to culminate in a clarion call to a) put (even) more money into defense and security so that we can start deterring current and future opponents again; b) become more forthright on nuclear deterrence and the role that small and medium-sized force providers (can) play there; and c) explore how the Dutch DSO could apply familiar Cold War ideas about (mostly nuclear) deterrence to 'new' areas like cyber and/or hybrid deterrence. This report cautions against such – in our view probably overly simplistic and ill-guided but certainly premature – temptations. This report's research efforts essentially leave its authors agnostic about which concrete financial and/or capability choices are to be made. It suggests that we are not yet in a position to make considered judgment calls about this and would be well-advised to return to the proverbial drawing board to bring some more much needed clarity and sanity to this debate. Much along the lines of what a handful of strategic thinkers did after World War II at the dawn of the Cold War and the nuclear age.

We submit that this report does offer a number of – in our view – promising both conceptual and practical handles that may help in making some progress along these

lines. We therefore recommend a strategic rethink of the strategic function (dis)suasion in which a small and pragmatic defense and security organization, like the Dutch one, may be in a unique position to play a path-blazing role. And so, this think piece ends up with one principal recommendation to the Dutch DSO, in which deterrence is just one example – a *pars pro toto* – for a much broader and more fundamental exhortation. It is high time to start putting significantly more (and more sustained) creative applied design thinking into the strategic functions taxonomy that played such a prominent role in the 2011 Future Policy Survey. HCSS already tried to reanimate this debate by examining another strategic function that ended up being so important to our armed forces in the past two decades: stabilization. This report extends and expands that analytical effort by starting to reimagine the strategic function deterrence – or, as we would relabel it, dissuasion. Our main takeaway therefore is that there is ample room for a more comprehensive, inclusive and transparent mapping of the various (actionable) strategic policy options that a country like the Netherlands, in all of its agency manifestations, might identify in order to (also cost-)effectively perform various strategic functions – including dissuasion. Such a debate could end up in a strategic options space that the Dutch polity, economy and society could pragmatically pre-chew and strategically assess, could make choices from to craft its own dissuasion portfolio, and could then constantly recalibrate that portfolio based on new insights, technologies or changing circumstances.

This report's final thoughts go out to the unapologetically European inspiration behind this think piece. Current global thinking about dissuasion has been extraordinarily influenced by US thinking after World War II ('(rational) deterrence theory') and by the 'nuclear condition' that triggered this theory. Fear of being punished plays a critical role in this thinking. And yet our own European historical experience with 'deterrence' – the strategic manipulation of fear to prevent one's neighbors/opponents to behave in militarily unwanted ways – antedates the nuclear condition by a few centuries. It is precisely the painful recollections of the prohibitive costs, chronic instability and negative consequences of these (deadly real) experiences that Europe suffered prior to the two World Wars that have pushed our continent to break out of this vicious 'deterrence-*avant-la-lettre*' circle and to pursue radically and disruptively alternative portfolio options to overcome this perennial security dilemma in more sustainable ways.

The current international security environment – in the eyes of many analysts – seems to mandate a return to Cold War precepts of 'deterrence'. This report has advocated a different – in our view more European and more prudent – course of action. We wholeheartedly agree that Europe (/The Netherlands) needs to maintain the ability to obtain third powers' compliance with our own preferred courses of action across some high-level (hopefully thoroughly thought through and agreed) strategic option space. This imperative incontrovertibly also includes the ability to dissuade third powers

from pursuing options that Europe(/The Netherlands) deems either unacceptable or undesirable. But we have also stressed that any strategically prudent approach along these lines needs to first and foremost intelligently map and explore the entire strategic option space of various plausible and promising compliance-seeking efforts; needs to then identify an optimal portfolio from within that options space – taking into account the idiosyncrasies of both the compliance-seeker, but also the target-actor; and needs to then also take into consideration – as much as possible – the various (also complex-interactive) interactions that may emerge. We submit that a comprehensive re-imagining and re-design of the strategic function of 'dissuasion' (and not just 'deterrence') may usefully galvanize the Dutch defense and security ecosystem into designing a new strategic options portfolio that would give it a much better-grounded appreciation of the relative value-for-money propositions embedded in various strategic suasion options.

1. Introduction

Deterrence is back on the defense and security policy agenda. During the post-Cold War period, the concept seemed to increasingly being relegated to the dustbin of history. Over the past years, however, a dramatic increase in assertiveness by not just one but multiple great powers was followed by an uptick in great power competition – globally, but also in Europe. This inaugurated a renewed interest in nuclear weapons as the ultimate deterrent.[7] Behind the darkening geopolitical skies lurk spectres of both old and new nuclear *and* conventional first-strike instabilities due to the arrival of new domains (space, cyber, 'human') and instruments (hypersonic missiles, autonomous weapon systems).[8] In this tense world it can come as little surprise that thinking about deterrence is picking up steam again. If threats are up again, so goes the thinking, *deterring* those threats is once again acquiring paramount importance.

China, Russia and the United States are indeed putting increased emphasis on nuclear weapons in their doctrines and in their actual force postures. At the same time, what little the world had in terms of an arms control regime to constrain the most destabilizing aspects of the nuclear arms race – and arguably even of nuclear deterrence itself – is crumbling before our very eyes.[9] The dangerous arms-rattling between two other inimical nuclear powers – India and Pakistan – is also testing the faith of many believers in the infallibility of the theory of mutually assured destruction. The possession of nuclear weapons by leaders that are prone to extreme forms of braggadocio like North Korea's Kim Jong Un or even US President Donald Trump does not help to restore faith in what many saw as a stable Cold War (and early post-Cold War) balance of fear.[10] What would happen if the 75-year tradition of non-use of nuclear weapons were to be broken? All of these developments and questions are certainly rekindling interest in the concept of deterrence. This is less, but still the

7 De Spiegeleire, Holynska, and Sapolovych, *Things May Not Be as They Seem. Geo-Dynamic Trends in the International System*, De Spiegeleire, Sweijs, and Bekkers, "Strategische Monitor: Stilte Voor de Storm?"; see also Sweijs and Holstege, "Strategic Monitor 2018-2019: Interstate Military Competition in Today's World."

8 For an excellent overview of cutting-edge thinking on (nuclear) first strike (in)stability towards the end of the Cold War (and the importance of the 'human' factor), see Davis, "Studying First-Strike Stability with Knowledge-Based Models of Human Decision Making." "First-strike stability in a given situation is high if neither national leaders nor any other people in control of nuclear weapons see incentives or feel compulsions to launch large-scale nuclear attacks against any opponent homelands."

9 Reif, "As INF Treaty Falls, New START Teeters."; For some countervailing broader geodynamic trends, see De Spiegeleire, Holynska, and Sapolovych, *Things May Not Be as They Seem. Geo-Dynamic Trends in the International System*.

10 President Donald Trump famously threatened in August 2017 to rain "fire and fury like the world has never seen" (DeYoung and Wagner, "Trump Threatens 'Fire and Fury' in Response to North Korean Threats.") on North Korea, in response to that country's (including nuclear) provocations, alarming leaders and citizens around the world. Tannenwald, "How Strong Is the Nuclear Taboo Today?".

case even in non-nuclear European countries, whom the Russian military threat is nudging to take another look at the alleged reassuring role that nuclear deterrence plays in 'keeping the Russians out'.[11] Even in a country like the Netherlands, the still relatively timid discussions about the nuclear task of the NATO Alliance, and what it means for the (dual-capable) F-35s it acquired, is once again raising questions.

Contemporary deterrence, however, spans a much broader spectrum of challenges than *purely* nuclear or conventional deterrence. Changing security threats and opportunities are posing a host of new challenges to the concept of credible deterrence. The theory of deterrence, and especially, nuclear deterrence, was very much a child of the Cold War.[12] But the world has not stood still since the end of the Cold War. What does credible deterrence mean in the current security context, in which states not only acquire new conventional weapons, but also frequently deploy cyber, informational, and economic instruments in coercive campaigns? To answer this question, strategists and policymakers tend to hark back to old and what they believe to be time-tested concepts of deterrence. In an international security context – and we will see that there are other contexts that think differently about this – these principally consist of two types of deterrence: *deterrence through punishment* and *deterrence through denial*. *Deterrence through punishment* relies on the deterred party abstaining from certain circumscribed behavior because it fears the punishment that the deterrer will impose. The punishment is specified in a threat of the deterrer which is credible based on the belief of the deterred that the deterrer is both willing and capable to impose the promised punishment. *Deterrence through denial* depends on the belief of the deterred party that engaging in certain behavior will be prohibitively costly and will not succeed because the deterrer is able to deny it the benefits it seeks.[13] Put more simply: in deterrence through punishment, the deterrer admonishes the deterree not to proceed with a certain course of action, because it will lead to credible and disproportionate punishment afterwards (e.g. mutually assured (nuclear) destruction); in deterrence through denial, the deterrer tries to convince the deterree not to pursue a certain course of action, because it can be easily denied/blocked and therefore stands no chance of success anyway (e.g. a – (today) theoretically – impenetrable strategic nuclear defense shield[14]).

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11 Lord Hastings Lionel Ismay, NATO's first Secretary General, who famously commented that NATO's purpose was to *"keep the Soviet Union out, the Americans in, and the Germans down." NATO Leaders,* "Declassified: Lord Ismay, 1952 – 1957 – NATO."

12 For an interesting recent review of this history by a US Army War College academic, see Klinger, *Social Science and National Security Policy*, 59–102.

13 The list of scholarship here is long; for a number of important works that deconstruct the concept of deterrence and its constituent components, see Snyder, "Deterrence: A Theoretical Introduction"; George and Smoke, *Deterrence in American Foreign Policy*; Schelling, *The Strategy of Conflict*; Freedman and Ltd, *Evolution of Nuclear Strategy, Second Edition*; Mazarr et al., *What Deters and Why*; Mazarr, *Understanding Deterrence*.

14 A nice example of the (mostly unresolved) 'tensions' between these two 'types' of defense-and-security deterrence can be found back in the Cold War debates between those who argued that President Reagan's 'Star Wars' initiative was destabilizing because it undermined the 'assured second strike capability' that lied at the heart of mutually assured destruction (deterrence by punishment); and those who argued it was stabilizing, because it would 'deter' the Soviet Union from attacking the United States, because they would know these attacks were pointless anyway (deterrence by denial).

The use and utility of these two classic concepts, however, is coming under increased pressure from an assortment of structural of new developments. Classical deterrence insights from the Cold War are being questioned in a world in which hybrid strategies are the name of the game: states manipulate public information domains and use advanced persistent threats to attack each other's systems.[15] Such hybrid activities have thus far proven hard to deter. At the same time, long distance strike capabilities, in the form of cruise and ballistic missiles, including a new generation of MIRVs (multiple independently re-targetable reentry vehicles), proliferate to a growing number of actors rendering conventional and nuclear deterrence ever more complex. The vulnerability of nuclear control and command systems due to flawed cyber security is another source of concern further undermining trust in the reliability of second-strike capabilities.[16]

The notion that we need to update deterrence is certainly not revolutionary. For many years, deterrence strategists have been making this argument which by now is published in mainstream journals such as Foreign Affairs. Last year Andrew Krepinevich for instance argued that:

> "*Deterring aggression has become increasingly difficult, and it stands to become more difficult still, as a result of developments both technological and geopolitical... Policymakers must rethink their countries' deterrence strategies to account for changing conditions: the challenge of multipolarity, the introduction of advanced weaponry, and new knowledge about the psychology of decision-making.*" [17]

The importance of perception and psychology is similarly not new – it has been acknowledged to be crucial at least since the 1970s – but is receiving increasing attention. As Mike Mazarr, a scholar at the RAND Corporation, the place that was so central in the creation of the classic deterrence concepts in the 1950s and 1960s, points out in a 2018 RAND report:

> "*any strategy to prevent aggression must begin with an assessment of the interests, motives and imperatives of the potential aggressor including his theory of deterrence (including what it values and why).*"[18]

That same RAND study also correctly points out that deterrence is not a single binary node in a decision tree, but that it consists of a longer termed, often circuitous process of thinking and acting in which many decision points occur where the parties can be influenced to pursue one particular course of action as opposed to another one.

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15 Sweijs and Zilinck, "Cross Domain Deterrence and Hybrid Conflict (Under Review)."
16 Futter, "Cyber Threats and Nuclear Weapons: New Questions for Command and Control, Security and Strategy."
17 F. Krepinevich Jr., "The Eroding Balance of Terror. The Decline of Deterrence."
18 Mazarr et al., *What Deters and Why*.

Deterrence can play a role at any of those decision points, but it is highly unlikely to be the only course to be pursued at those points. It is argued that deterrence needs to be complemented with dissuasion which together should "be conceived primarily as an effort to shape the thinking of a potential aggressor."[19]

This line of thinking, interestingly, strays back directly to the work of the early deterrence theorist Glenn H. Snyder who defined deterrence as "the power to dissuade" which may be done by "the implicit or explicit threat of applying some sanction if the forbidden act is performed, *or by the promise of a reward if the act is not performed* [italics added by the authors]."[20] Snyder thus conceives of deterrence "as a process of influencing the enemy's intentions, whatever the circumstances."[21] This broader notion in turn already implies a more diverse range of instruments, both military and non-military, which can be used both as a stick and a carrot, both to compel and to deter, both to persuade and to dissuade.

In this think piece we will take our cue from this original and broader notion of deterrence and seek to reimagine deterrence in order to come up with an actionable strategic options space for policymakers in today's and tomorrow's world. Readers who expect an analysis of how the West should beef up its deterrent conventional, nuclear, hybrid, cyber, etc. capabilities vis-a-vis non-status-quo powers like Russia or China should therefore be forewarned that this piece offers nothing of the kind. This report is written from the point of view of a notional strategic planner who is trying to figure out, from a mostly blank sheet, what might be promising new ways to dissuade different actors in our contemporary security environment from pursuing certain undesirable – to them – courses of action. It does not start from extant deterrence strategies and capabilities; but instead starts from the strategic deterrent effect to be achieved. It is thus part of a broader strategic design effort around the strategic function 'deterrence'[22] that aims to inspire the formulation of high level Dutch foreign and security strategic options portfolio policies.[23] This report is also the first – more conceptual – publication in an HCSS triptych on deterrence, the second and third panels of which will be published in 2020.

As part of this first effort, we will first briefly take a critical look at the roots, definitions and the current state of deterrence thinking. We will then present what we see as a

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19 Mazarr et al.
20 Snyder, "Deterrence: A Theoretical Introduction," 106.
21 Snyder, 107.
22 The 'strategic functions' are a defense taxonomy that was first introduced in the French 'Livre blanc', and was then picked up in the last major bottom-up defense review in the Netherlands (Ministerie van Defensie, *Verkenningen. Houvast Voor de Krijgsmacht van de Toekomst*. in 2011. In this sense, this report is a follow-up to the report on the strategic function 'stabilization' that HCSS carried out in 2014. De Spiegeleire, Wijninga, and Sweijs, *Designing Future Stabilization Efforts*.
23 Strategic portfolio design tends to be thought about more in defense than in foreign policy circles. On the concept of strategic (portfolio) design, see De Spiegeleire, Wijninga, and Sweijs, *Designing Future Stabilization Efforts*; De Spiegeleire et al., *The Wheel of Fortune*.

gradual, long term and monotonic decline in the primacy of the strategic manipulation of – especially physical – fear in humans' purposive behavior. We will argue that a surprisingly wide range of relevant, evidence-based scholarship considering the role of deterrence in other domains such as criminology, education, psychology, as well as in other disciplines, emphasizes a marked shift from a more punishment-based deterrent approach to a broader (dis)suasion one. From there, we will present a 2x2 taxonomy (ends x ways) of deterrence and dissuasion, lay down a conceptual scheme to think about intelligently balancing efforts across all four cells in that matrix, and propose different policy examples to make the taxonomy more concrete. The next section of this report will present some initial findings from two design sessions held in October 2019 in Kyiv and The Hague in which broad groups of stakeholders tried to think through some concrete cases to identify a balanced portfolio with options along the deterrence-dissuasion spectrum vis-à-vis Russia. The report ends with five conclusions and one recommendation.

2. Deterrence

2.1 The Roots of Deterrence

Most of the international security literature on deterrence gives relatively short shrift to where the term actually comes from. When dealing with a concept – and before diving into the literature(s) on it – we generally find it useful to go back a few centuries (or in some cases millennia) in time to the roots of the word behind the concept. The word 'de-terrence' in English consists of two parts that go back to (at least) ancient Latin. The 'de'-prefix in 'de'-terrence – similarly to so many other common verbs like deflect, depart, detach, derail, deviate, defend etc. – connotes 'away from'. The '-terrence' part will for most people (accurately) trigger associations with the word 'terror', which derives from the Latin verb terrere "fill with fear, frighten", which in its turn descends from a Proto-Indo-European[24] root *tres- "to tremble" – Greek treëin "to tremble, be afraid," Lithuanian trišėti "to tremble, shiver," Old Church Slavonic treso "I shake."[25] Those two components – 1) to use 'fear' to 2) push somebody 'away from' a course of action she may want to pursue – do indeed appear to be two foundational definitional building blocks that we find back in all disciplines in which deterrence is a focus of theoretical and/or practical inquiry.[26] The underlying basic intuition behind the word "deterrence" that we explained based on etymology has an old intellectual (and physical) pedigree. In ancient Greece and Rome, for instance, corrective justice already contained within it not only a backwards-looking aspect ("righting a wrong" + some additional punishment for the wrongdoing), but also a forward-looking one: increasing the apportionment of punishment beyond mere proportional retribution was intended to send a 'deterrent' signal to possible future offendants.[27]

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24 The Proto-Indo-European language is the hypothetical reconstructed ancestral language of all current Indo-European languages (including the Germanic, Romance, Slavic, Indian, Iranian etc. language groups). It is thought to have been spoken until about the 5th millennium before Christ somewhere in the area between the Northern shores of the Black Sea over South Russia to the Northern shore of the Caspian Sea and to have started splitting up in different language groups by the 4th millennium BC. For more details, see Mallory and Adams, *The Oxford Introduction to Proto-Indo-European and the Proto-Indo-European World*.

25 Harper, "Terror | Origin and Meaning of Terror by Online Etymology Dictionary."

26 And in most languages – e.g. afschrikking in Dutch, Abschreckung in German, odstraszanie in Polish and similar variants in other Slavic languages), including устрашение in Russian; but not in all – e.g. dissuasion in French, disuasión in Spanish.

27 Fuhrmann and Wilkerson, "Punishment and Penalties, Greece and Rome." They point out that state punishment was even architecturally "deeply enmeshed in the central topography of Rome", as the places of (often spectacular and public physical and psychological – public flogging, branding, torture, immolation, and crucifixions; but also public humiliation) punishment became constant physical reminders of deterrence.

2.2 Mapping the Knowledge Landscape about 'Deterrence'

The literature – and therefore indirectly also our thinking – on deterrence in international relations has remained remarkably isolated from deep wellsprings of thinking and learning about the very same topic in other scientific disciplines. A broad search on deterrence in the largest (and newest) bibliometric database, *The Lens* (lens.org),[28] picks up 38,093 scholarly documents, that carry the text string 'deterren*' in either their title, abstract, keywords or field of study. The oldest one of these dates back to 1883 – dealing with "punishing the insane". When we break all of these documents down by academic subjects,[29] we see in Figure 2 that there are almost as many scholarly documents about deterrence in the field of 'law' as in political science and international relations. Also disciplines like medicine, biology or economics have over 1000 articles in which some form of deterrence plays an important role. What or who is being deterred differs widely in all of these fields: from deterring all types of human criminal behavior over efforts by existing businesses in a particular market to deter potential economic entrants from entering into those markets all the way to deterring mosquitoes from laying eggs or predators from attacking prey.

Figure 2: 'Deterrence' in different academic disciplines

Some might argue that deterring geopolitical entities from behaving in a particular way has nothing in common with deterring humans from committing crimes or with the practice of deterrence in the animal kingdom. We have found in previous research, however, that looking further afield for insights into how various (national

28 Lens, "The Lens – Free & Open Patent and Scholarly Search."
29 Based on ISSN (i.e. journal-level) descriptions in the crossref database.

and human) security challenges might be tackled differently from the way they are now can prove quite illuminating.[30]

A high-level analysis of the same bibliometric dataset that was used to generate Figure 2 also reveals how insular or self-absorbed the 'international relations'-treatment of deterrence is. Figure 3[31], which is based on the same bibliometric dataset containing 30k+ scholarly documents on deterrence and was generated by a powerful bibliometric software program called CiteSpace[32], suggests that the scholarly discussion on deterrence in the social sciences is less diversified than the debates on the same topic in the fields of ecology or biology.

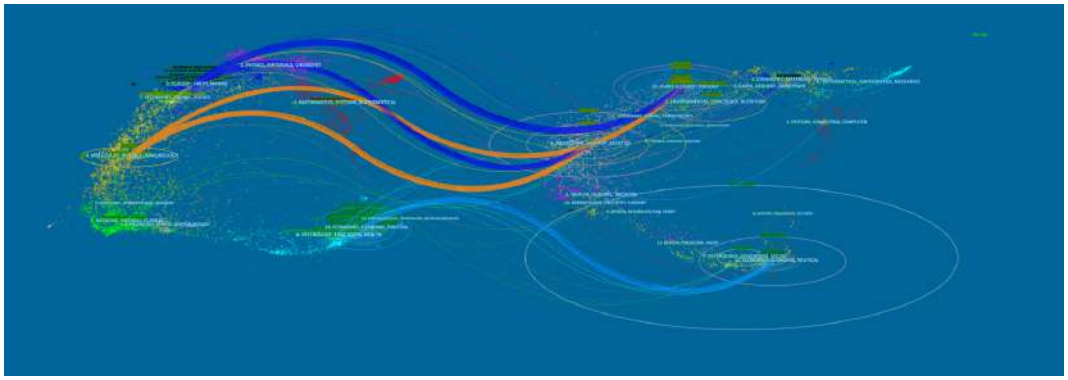

Figure 3: The insularity of social science treatments of deterrence

The following visual (Figure 4) shows a 'map' (a graph visualization) of the field based on what is known as a co-citation network. CiteSpace looks into the references that are cited in the articles in the datasets, and identifies those that were cited together at least a certain number of times, set by the analyst.[33] Then, top cited articles from each period are synthesized into a larger network, clustered and labeled. The links between the individual articles receive a color, depending on the time when they are co-cited together for the first time.[34] A brief look at the main substantive clusters (labeled by titles) within this broad corpus shows that there is an important legal cluster on the top left of this visual, a more medical one in the middle right, and then a number of more familiar (at least to us) international security clusters on the bottom. Our team is continuing to perform more deep-dives into these (text-based) datasets – in both unsupervised (as is the case in the visuals presented in this report), and supervised (where we are doing more detailed dissections of the different definitions of deterrence,

30 De Spiegeleire, Chivot, and Sweijs, "Reconceptualizing Security. Final Deliverable of Work Package 1.1 (Concepts of Security) of 'European Security Trends and Threats in Society' (ETTIS), a European Union Seventh Framework Programme Collaborative Research Project."

31 The left of this visual 'dual-map overlay' displays articles from academic disciplines that cite; the right articles from the same academic disciplines that are being cited. The lines that connect the two are color-coded to reflect the link between a citing article and a cited one. See Chen and Leydesdorff, "Patterns of Connections and Movements in Dual-Map Overlays."

32 Chen, *CiteSpace*.

33 In this case, we just used the default CiteSpace parameter of modified g index, which is scaled by k factor, set to 25.

34 Chen and Song, *Representing Scientific Knowledge*.

as well as of the different typologies of deterrence). Over the next two years, HCSS will also dig deeper into the differences between the 'Western', Russian and Chinese debates on these matters. But already at this stage, we would submit that this evidence suggests that there are rich opportunities for foreign, security and defense policy-makers – preferably together with other also non-official stakeholders – to find inspiration for potentially other deterrence/dissuasion options in these different fields.

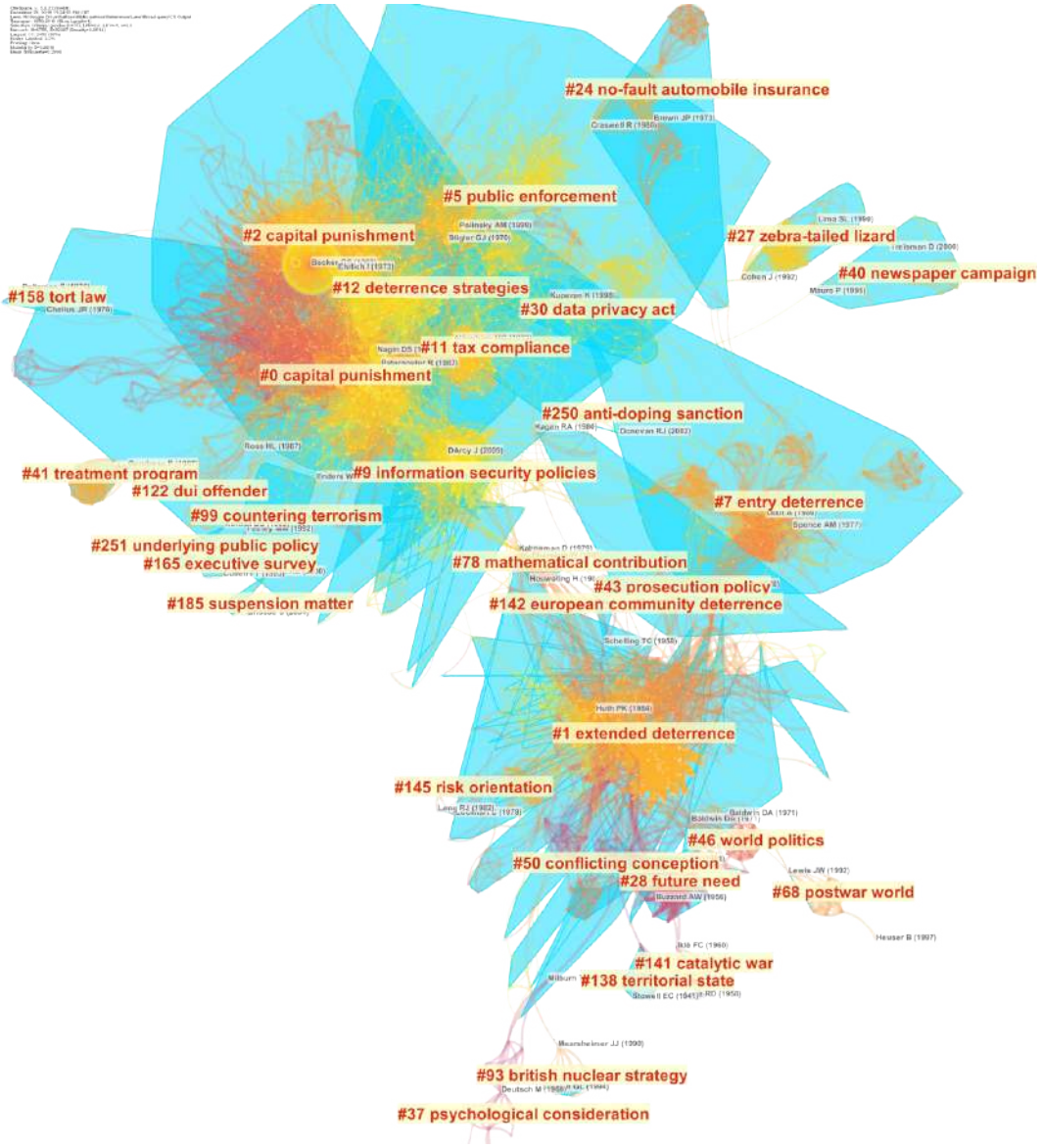

Figure 4: Clusters in the broader deterrence literature

We also took a closer bibliometric look at the more security- and defense-specific literature on deterrence. The next visual (Figure 5) representations of the deterrence knowledge domain are based on a dataset culled from Web of Science, a bibliometric database that is smaller than Lens.org, but also somewhat better curated. The query was developed in an iterative manner to maximize both precision and recall of the results. The following search query was applied to the titles, abstracts and author-provided keywords

of all articles in all databases[35] of the Web of Science Core Collection, containing 21,100 peer-reviewed scholarly publications in over 250 fields[36]: ((“conventional deterrence” OR “military deterrence” OR “nuclear deterrence” OR “hybrid deterrence”) OR (deterrence AND WMD)). This much more targeted query yielded 647 results from 1950 to 2019.

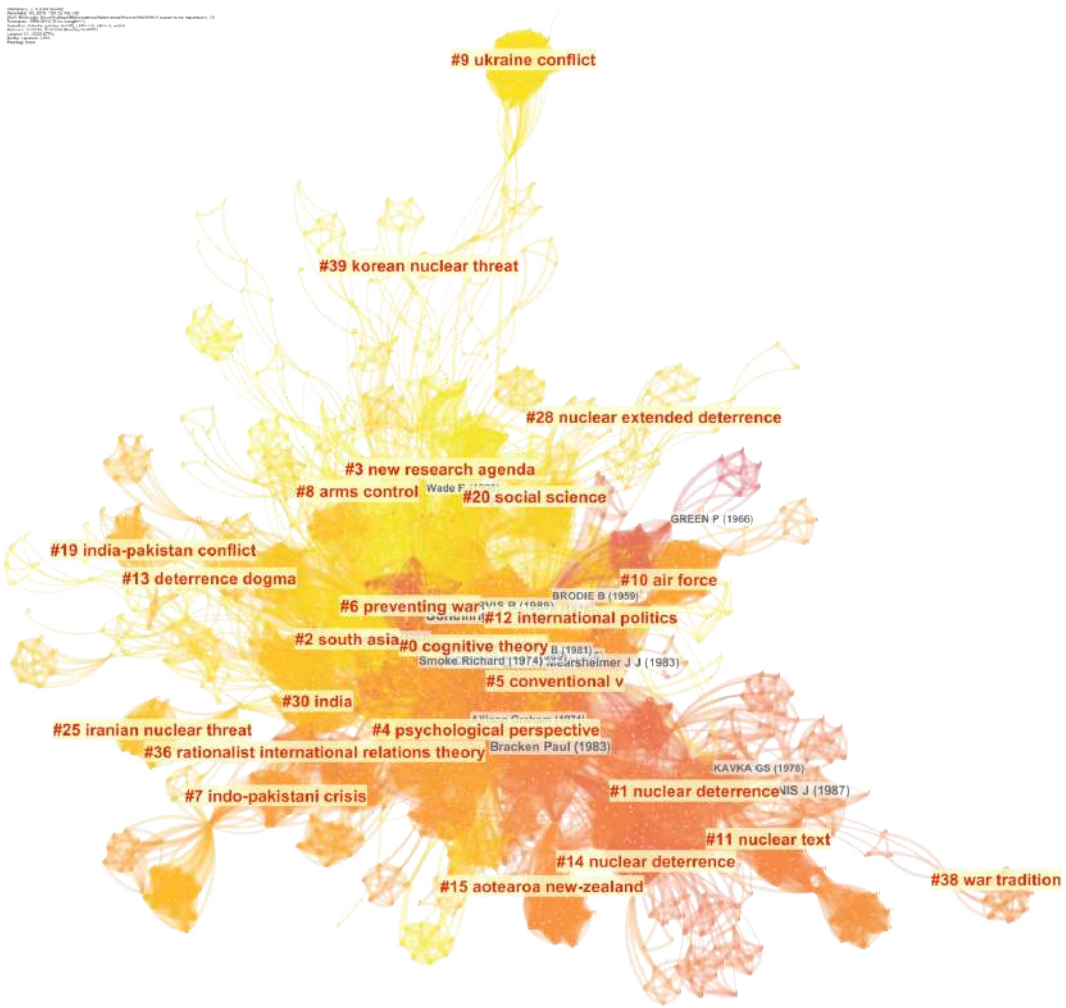

Figure 5: Clusters in the ‘international security’ deterrence literature

As in the previous visualization, the color of the clusters represents their age – with red ones being the ‘older’, and the yellow ones being the ‘younger’ ones. We observe that the literature on nuclear deterrence proper (towards the bottom-right) has an older pedigree than more recent clusters dealing with the Korean nuclear threat, the Ukraine conflict and the new research agenda (on top). This suggests a dynamic field with quite a few fresh offshoots that deserve closer (also multi-lingual) scrutiny.

CiteSpace also allows us to identify the citations that had the biggest ‘bursts’ in recent years (Figure 6). This citation burst analysis nicely illustrates how even these more

35 SCI-EXPANDED, SSCI, A&HCI, CPCI-S, CPCI-SSH, BKCI-S, BKCI-SSH, ESCI, CCR-EXPANDED, IC.
36 Clarivate Analytics, “Web of Science Core Collection.”

recent bursts still are exclusively limited to International Relations (IR) journals and mostly 'rediscover' older classics (e.g. Jervis, Mearsheimer, Powell, Sagan, etc.) instead of creating or discovering new ones – whether within IR or from other disciplines.

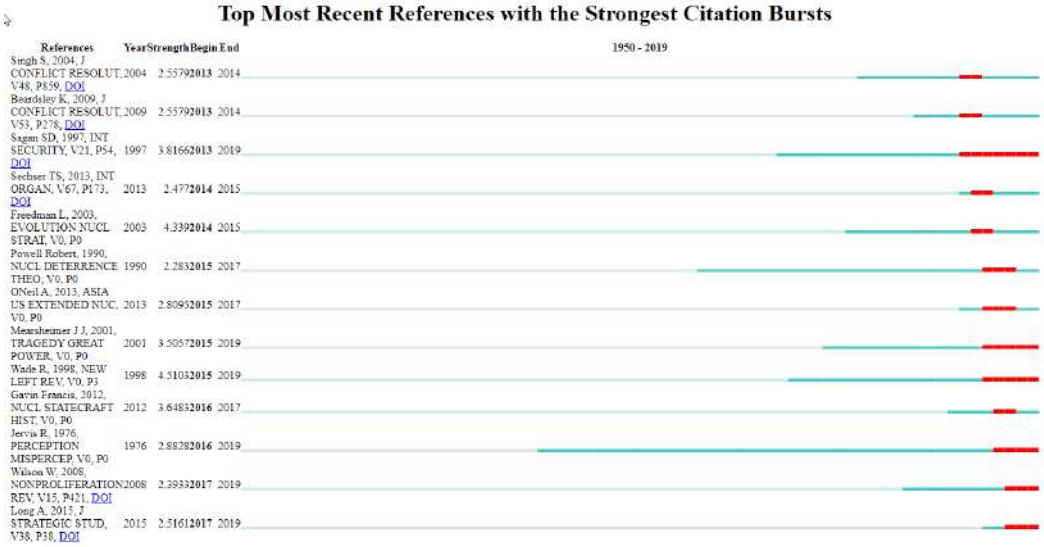

Figure 6: Recent citation bursts in the 'international security' deterrence literature

2.3 Four Waves of Deterrence Theory in International Relations

Automated algorithms applied to ever richer and better databases of – if not all, then at least – most of the published scholarly literature now allow us to generate the types of bird's-eye-views of knowledge landscapes that were presented in this report's previous section. Human inquiry into this policy topic, however, has also yielded a number of clusters that have found broad resonance in the epistemic community dealing with deterrence. One of those identifies four successive waves of thinking about deterrence in a defense and security context, which will be summarized in this section.

The meaning of deterrence was only explicitly formulated in the international relations and strategic studies literature after the Second World War, even if conflict actors implemented deterrent strategies for thousands of years before that. Deterrence by denial was for instance common among early sedentary polities in the Middle East in the 8th millennium B.C that built fortifications to convince their opponents that attacking them was simply not worth the cost.[37] The prevalence of deterrence by punishment relying on the threat of retaliation through the manipulation of fear is traced back to a couple of millennia later, with the invention and subsequent spread of writing.[38] One of the still widely cited (and lionized) *realist* analysts of international relations in the classical period, the Greek General and Historian Thucydides, listed a number of instances of deterrence

37 Cioffi-Revilla, "Origins and Age of Deterrence," 257.
38 Cioffi-Revilla, 249-254.

(and compellence) in his account of the Peloponnesian War between Athens and Sparta.[39] Western history provides ample example of conflict actors relying on deterrence in the service of national security, even if they did not explicitly called it so.[40] It was only in the wake of the nuclear weapon revolution that scholars and strategists started to conceptualize and formalize the notion of deterrence. Since then, a considerable body of work dedicated to what deterrence is and under what conditions it tends to be successful emerged, which is sometimes categorized in four waves of deterrence scholarship.[41] In the mid-1940s, immediately following the first use of the nuclear bomb, scholars started ruminating about its potential consequences for international peace and stability even though their writings seem to have had little impact at the time.[42]

About ten years later, in the context of an increasingly accelerating nuclear arms competition between the two superpowers of the day, strategists at RAND and Stanford University started developing formal theorems to describe the dynamics of that competition and to address the quandaries of its destructive potential. In so doing, the concept of deterrence became a central tenet of the efforts to not only defend national security but also control the horrors associated with nuclear war. As Bernard Brodie, nuclear strategist of the first hour, put it: "Thus far the chief purpose of our military establishment has been to win wars. From now on its chief purpose must be to avert them. It can have almost no other useful purpose."[43]

In this process many of the notions that became part and parcel of the strategic lexicon of the Cold War, and that we are still familiar with today, were coined such as *mutual assured destruction* (MAD), first and second strike instabilities, and vertical and horizontal escalation.[44] It was then too that the earlier discussed deterrence through punishment and deterrence through denial became central to deterrence theory that subsequently fed the foreign and security policies of both sides. In this process strategists devised different answers to question how to credibly threaten the use of nuclear weapons, looking to strike a proper balance between conventional and nuclear forces in the context of the Soviet threat from the one hand, and burgeoning defense budgets on the other. Nuclear postures evolved accordingly from massive retaliation in the 1950s to flexible response in the 1960s and 1970s (and from a strategy of total destruction to a more tailored, countervailing strategy in the service of general deterrence, in the 1980s).

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39 Thucydides, Strassler, and Crawley, *The Landmark Thucydides*. In what should be an ominous cautionary note to contemporary self-proclaimed realists, the US scholar Ned Lebow has pointed out that of the ten instances of deterrence and compellence he could find in the book, all (except for one partial exception) attempts "at these strategies fail[ed] and generally help[ed] to provoke the behavior they were meant to prevent". Lebow, "Thucydides and Deterrence," June 6, 2007.

40 Ibid. pp. 239-264. Fettweis, "Restraining Rome," 123–50., Clausewitz, *On War*, 180., Lebow, "Thucydides and Deterrence," June 6, 2007., Platias and Koliopoulos, *Thucydides on Strategy*., Sun-Tzu and Huang, *Sun-Tzu*, 27–28., Naroll, *Military Deterrence in History;*, Wolf, "When the Weak Attack the Strong."

41 Quinlan, "Deterrence and Deterrability," 11.

42 Jervis, "Deterrence Theory Revisited."

43 Dunn et al., *The Absolute Weapon*, 76.

44 Freedman and Ltd, *Evolution of Nuclear Strategy, Second Edition*.

In the *third wave* of deterrence scholarship from the late 1960s, early 1970s onwards, the formal logic concocted by game theorists started to be scrutinized both in individual case and larger n studies.[45] The hitherto dominant rational actor perspective was supplemented with attention to psychological and cognitive biases and characteristics of decision-making in groups, which again was a reflection of the two way-interaction between real world events (epitomized by the Cuban Missile Crisis) and the scholarly community.[46] A radically changed strategic landscape in the 1990s foreshadowed the emergence of the fourth wave in which the focus shifted to asymmetric deterrence and the question how terrorist groups can be deterred.[47]

More recently in the 2000s and the 2010s, scholars, similar to policymakers, have been grappling with how to shape deterrence in the context of an ever more complex world,[48] because of the greater number of actors (both great and emerging powers) with nuclear weapons in the Second Nuclear Age, who operate through old and new domains (e.g., space and cyber) using a greater variety of instruments and strategies (including those commonly referred to as hybrid), in a synergistic fashion.[49] This is giving birth to an assortment of work that offers a host of interesting insights for deterrence both in particular domains and across domains under the header of multi domain or cross domain deterrence. In *Cross-Domain Deterrence: Strategy in an Era of Complexity* Erik Gartzke and Jon R. Lindsay straightforwardly define cross domain deterrence as "the use of threats in one domain, or some combination of different threats, to prevent actions in another domain that would change the status quo."[50] In a study published in December 2019, HCSS has taken a more extensive look at the cross domain deterrence literature, analysed these insights more closely, and identified prerequisites for deterrence in a hybrid context.[51] Also the emerging new Artificial Intelligence dimension raises fascinating new questions for the theory and practice of deterrence.[52]

For the purpose of the current think piece, this necessarily brief survey highlights the fact that deterrence is and has always been a dynamic rather than a static concept, which has been adapted over time to deal with pressing contemporary strategic issues of the day. Changes in the security environment once again force us to rethink deterrence so to effectuate it in today's world.

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45 George and Smoke, *Deterrence in American Foreign Policy*; Snyder and Diesing, *Conflict Among Nations*.
46 Holsti, *Crisis, Escalation, War*., Jervis, "Deterrence and Perception.", Lebow and Stein, "Rational Deterrence Theory."
47 Knopf, "The Fourth Wave in Deterrence Research."
48 Paul, Morgan, and Wirtz, "An Introduction," 8.
49 For one of the early papers dedicated to this issue, see Lewis, "Cross-Domain Deterrence and Credible Threats."
50 Lindsay and Gartzke, "Cross-Domain Deterrence as a Practical Problem and a Theoretical Concept," 6.
51 See Sweijs and Zilinck, "Cross Domain Deterrence and Hybrid Conflict (Under Review)."
52 For an early analysis, see Wong et al., *Deterrence in the Age of Thinking Machines*. We note here that a broader exploration of AI for identifying sustainable defense and security solution may also require a broader strategic and effects-based – and (also) more positive – conceptualization along the lines sketched in our De Spiegeleire, Maas, and Sweijs, *Artificial Intelligence and the Future of Defense: Strategic Implications for a Small Force Provider*.

2.4 Deterrence in the Defense Debate Today

Throughout these different waves of theoretical musings on deterrence in a defense and security context, various more down-to-earth policy analysts have drawn starkly different policy implications from these debates. They can be broadly categorized in three groups, which we will label true believers, skeptics, and rejectionists.

The true believers essentially posit axiomatically that "deterrence has always worked, works, and will always work". Most of the true believers gravitate towards *nuclear* deterrence, with nuclear weapons being seen as the ultimate technology that was going to put an end to all wars. Some of them use rational choice (especially cost-benefit analysis) theory and game theory to explain the – in their view – unassailable logic of deterrence. Others used (and continue to use) the indeed accurate empirical evidence that nobody has dared starting a conventional attack against a nuclear weapon state. The most extreme of them (their number is very small and they tend to be limited to 'realist' theoretical scholars) even suggest that nuclear proliferation would make the world a safer place.[53] It is hard to ascertain whether the conviction of undaunted proponents of nuclear deterrence is fully genuine, or whether it was/is a myth that they deliberately created to bolster credible deterrence postures.[54] We also do not know much about how deeply felt the belief in nuclear deterrence amongst in the public at large.[55] But the deterrent 'faith' still lives on quite strongly in certain – often powerful – subcurrents of policy-making in various key countries of the world.

On the opposite side of the spectrum, we find a group of scholars and policy analysts (and citizens) that are vehemently opposed to nuclear deterrence and – to a markedly lesser extent – of other forms of deterrence. Also, this group comes in different flavors. Many abhor nuclear deterrence on principally moral grounds,[56] rejecting either any form of (negative) influencing more generally or more specifically the dangerous and potentially massive (nuclear winter, etc.) consequences of nuclear use. Others argue that even if deterrence may have a certain deductive plausibility and even appeal, its real-life implications are just too dangerous. One subgroup thinks this has always been the case and that mutually assured destruction has always deserved the acronym MAD – in their reading not primarily on moral grounds, but more based on a realistic assessment of the ensuing strategic incentives. Another subgroup argues that while MAD may have been plausible and acceptable in a stable bipolar system with (albeit differently) politically and technologically developed nuclear powers, this is no longer the case in our current-day unstable multipolar world where some politically and

53 Sagan and Waltz, *The Spread of Nuclear Weapons*.
54 Take for instance Bernard Brodie's stance and his argument that war between nuclear states would always go nuclear, and that saying otherwise would undermine the belief in deterrence. Brodie, "The Anatomy of Deterrence"; Brodie, "The Development of Nuclear Strategy"; Brodie, *Strategy in the Missile Age*.
55 Sagan and Waltz, *The Spread of Nuclear Weapons*.
56 Megoran, "It's Disgraceful That Nuclear Weapons Are Being Celebrated at Westminster Abbey."

technologically less developed countries (like the DPRK) have now also joined the nuclear club, with more poised to follow.[57] Some within this subgroup focus more on the changed political realities (multipolarity and the nature of certain newly nuclear regimes); others on a wider range of changes realities beyond mere politics.

A third group straddles the other two. Analysts who focus more on conventional deterrence (and there are almost 10 times fewer of them than their nuclear counterparts[58]) propound far less resolute claims about the effectiveness of deterrence, and the more recent writings on cyberdeterrence of 'hybrid threats' are far more circumspect in their claims about the utility of traditional forms of deterrence. But even many analysts who used to lean more towards accepting the logic of nuclear deterrence in a relatively stable bipolar international system have become more balanced in their views in the current more multipolar world. Arguments here include the increased uncertainty resulting from a larger number of nuclear weapon states, the return of 'big men' and of brinkmanship and what that might do to rational decision-making, the fraying of the Cold War nuclear arms regime, the danger of non-state actors acquiring and using nuclear weapons, the possible lack of socialization that took place between nuclear weapon states during the Cold War because of the much lower level of overall development of some of the new ones (like the DPRK).

We want to highlight that the arguments proposed by the three groups continue to be based on disappointingly weak empirical foundations both at the macro-, but especially at the meso- and micro-levels.[59] The scope of the current paper prohibits an extensive literature review of the overall record of success and failure of deterrence, but a majority of the representatives of the three groups subscribe to the view that the overall track record of deterrence as well as the causal mechanisms through which deterrence is effectuated require further examination.[60] This stands in stark contrast to some of the other non-defense-related policy areas, which have a much richer empirical evidence-base from which to draw conclusions. The next section of this report will take a closer look at those.

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57 Bracken, *The Second Nuclear Age*.

58 A search on The Lens on 'conventional deterrence' yields 208 scholarly results (only in the US (21), the UK (8), Australia (2), Canada (2) and China (2); mostly published in the 80s, with another 'peak' after Russia's invasion of Crimea in 2014); whereas a search on 'nuclear deterrence' reveals 1,830 results (with far more countries involved, and again peaks in the period of the 'Euromissile crisis' and the strategic arms control discussions in the mid-80s and early 90s, only to pick up some steam again in the 2010s).

59 Datasets on deterrence in international security have improved in recent years (Vipin Narang, "Replication Data for: Posturing for Peace?: The Sources and Deterrence Consequences of Regional Power Nuclear Postures"; Fuhrmann and Sechser, "Replication Data for: Signaling Alliance Commitments: Hand-Tying and Sunk Costs in Extended Nuclear Deterrence"; Allen Schmaltz and Robert Schub, "Replication Data for: Proactive Reputation Building and Entry Deterrence in International Conflicts"; Leeds and Johnson, "Replication Data for: Theory, Data, and Deterrence: A Response to Kenwick, Vasquez, and Powers"; Kenwick and Vasquez, "Replication Data for 'Defense Pacts and Deterrence: Caveat Emptor'"; Bak, "Alliance Proximity and Effectiveness of Extended Deterrence"; Huth, Gelpi, and Bennett, "Escalation of Great Power Disputes: Deterrence Versus Structural Realism, 1816-1984"; Puth Huth, "Replication Data for: Extended Deterrence and the Outbreak of War"; Johnson, Leeds, and Wu, "Capability, Credibility, and Extended General Deterrence."). But really fine-grained datasets that would cover all relevant aspects of all manifestations of international deterrence are probably still 5-10 years out (and contingent on continued improvements in natural language processing). .

60 For a recent review, see Mazarr et al., *What Deters and Why*.

3. Using Fear to Coerce – What Have We Learned? Where Do We Stand?

Defense is often thought of as an extraordinary type of human activity that operates within its own system of coordinates and therefore cannot and should not be compared to other 'civilian' endeavors. And yet the main protagonists in defense are the very same human beings that also engage in purposive behavior in other areas like education, the workplace, in their families, neighborhoods and societies, etc. We have seen that in its very essence, deterrence is about the strategic manipulation of fear in order to achieve desired effects – typically to make somebody refrain from pursuing their preferred course of action. We have also seen that the field of international relations, while it has refined parts of its thinking about deterrence over the course of what the literature now describes as four waves of deterrence theory, still by and large buys into the centrality and validity of that basic concept. This section of the paper re-widens the aperture of our analysis. It explores what we can learn from the ways in which humans have experienced and instrumentalized fear in various walks of life throughout their existence as a conscient species.[61] It then tries to ascertain where we stand with this today, and what the main takeaways are – also from the point of view of defense and security. The main thesis that will be developed and tested along the way is that fear has become much less central to the human experience, that this has lessened opportunities for manipulating that fear to achieve desired effects, that this realization already had major implications for how we interact with each other in various aspects of our lives, and that all of this may require us to also explore whether our defense efforts may have to be rethought along similar lines.

3.1 The Historic Decline of the Instrumentalization of Fear

Deterrence as a concept is obviously not unique to the fields of international relations and/or defense and security. To find some inspiration for how the concept of deterrence is currently viewed and practiced in other walks of life, we surveyed a

61 One of the seminal conceptualizers of Westerm post-World War II thinking on strategy and conflict, the economist and Nobel prize winner Thomas Schelling, was of the same conviction: "[T]here are several lines of inquiry for and empirical analysis that is not confined by specialized knowledge. One is to see whether comparable problems – problems that have similar underlying dynamic structures – arise in other walks of life, and whether some useful ideas can be identified in other areas that may have some applicability to this particular international problem. There may be some dimensions of the problem that we are missing, but that we shall become aware of as we study structurally similar situations in radically different contexts. " Schelling, "The Retarded Science of International Strategy."

number of meta-analyses on this topic in different disciplines. This section reports on our findings, which suggest that the instrumental use of fear and terror for coercive purposes has declined (almost) monotonically over time.

The fear of dying and of physical violence has been one of the most fundamental characteristics of everyday personal and public life for most of homo sapiens history. Ever since the cognitive revolution was sparked in her brain, homo sapiens could not have failed to ponder the precariousness of her condition. A better developed and more 'intelligent' sense of fear may even have been one of the most important drivers of her spectacular evolutionary success. Nature even hardwired her (as other complex vertebrates) with a special organ in her brain – the amygdala – to override any other more deliberate cognitive processes that might distract us from existential threats.[62] But once her brain's attention was prioritized on these threats through this hardwired fear instinct, she could still resort to her cognition to go beyond the 'run or fight' instinct and start coming up with ingenious stratagems to outsmart the various physical threats that surrounded her. The strategic manipulation of that hardwired fear must have emerged relatively quickly as one of the most 'natural' tactics behind humans' purposive behavior.[63] Before engaging in violence that could – and in homo sapiens' early days also did – often prove lethal to the initiator humans (and many other species) typically displayed and demonstrated force in the hope that might obviate such an outcome by deterring potential opponents.

Most 21st century humans are only dimly aware of the outsized role that existential fear and terror and the constant reminder of human evolutionary frailty must have played in the lives of our ancestors throughout our species' history – until really only a few decades/centuries ago. For most of its existence homo sapiens was a relatively weak 'naked ape' that found itself far removed from the op of the food chain,[64] meaning that it formed an easy prey for all sorts of much larger and much more powerful predators. For many lower-level organisms, this subordinate position in the food chain may not trigger many sentiments of conscious fear, but at the latest after homo sapiens underwent her cognitive revolution (some 70,000 years ago) the realization that her life was in constant jeopardy must have started playing an ever more dominant role in her daily life. Given the constant and outsized role that fear for the elements (fire, inclement weather – but also disease, etc.) as well as for various predators played in humans' own everyday experience, it stands to reason to assume that the instrumental

62 Adolphs, "The Biology of Fear."

63 This is also not only the case for homo sapiens. Many other animals evolutionarily developed a wide array of morphological, physiological and behavioral adaptations to scare off predators. Displays designed to intimidate a predator are sometimes referred to as deimatic or dymantic (from the Greek for 'frighten'). Barnard, *Animal Behavior* pp. 392-402. Examples include inflating the body, raising quills, showing teeth, secreting liquids, making sounds, social aggregation ('mobbing') etc. We should note that we did not find an elegant taxonomy of these deterrent mechanisms in the biological literature either.

64 Morris, *The Naked Ape*. See also Harari, *Sapiens*, 2014.

use of that fear must also have also played a significant role in the arsenal of tactics that she used to survive and thrive.

Over the next few millennia, homo sapiens ascended to the top of the animal kingdom's food chain. There is a growing consensus that two elements played a key role in this: 1) the cognitive skills that allowed her to craft lethal tools that compensated for her physical frailty; but especially 2) her unique ability to leverage these cognitive abilities to form social relationships and share accumulated knowledge beyond close kinship relations.[65] The underlying form of *force* that enabled her evolutionary ascendance consisted much less of brute force physical technologies than of more subtle and cunning individual and – especially – social cognitive technologies. As Michael Harré observes "we are successful because we can form long-lasting relationships with many others in diverse and flexible ways, and that this, combined with our native intelligence, explains why homo sapiens came to dominate the planet."[66] There is little historical evidence left that would document the changing – we would submit declining – role of fear in this ascendancy.[67] By the time of the Industrial Age, the physical fear for the elements, for animal predators and even for human killers may have subsided, but fear still played an important role in a human's everyday life. Fear continued to be instrumentalized in everyday settings through multiple layers of oppression due to various historical power disparities that modern-day citizens in the developed world stand little chance of fully comprehending. The fear of children for their father, the fear of laborers for their overmen, the constant fear of numerous superstitions, the fear of social control over displaying atypical forms of behavior – many of these forms still persist in some way or another, but it is hard to compare the hashtag Me-Too movement to those more historical forms of oppression.

Deterrence in today's world is much less salient. In many ways the view is now widely discredited that getting one's way requires violence. Today the adjectives effective, legitimate, fair, moderate and humane, are much more widely acknowledged to lead to desired outcomes than violence. It is instructive to look at the decline of the instrumental use of the fear of punishment in areas that are closer to home. In all of these settings the role of fear based on superior physical or other force was not completely eradicated, but it did still start playing too much smaller role in the repertory of applied means. While this overview is not intended to be exhaustive or in-depth, it does provide insights into the changing relationship between deterrence and the effects it is intended to stimulate.

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65 Including the ability to develop and draw on an innate Theory of Mind, which is the ability to attribute mental states (e.g. beliefs and desires) to other people in order to predict their behavior. Cf. Seyfarth and Cheney, "Affiliation, Empathy, and the Origins of Theory of Mind."; Devaine, Hollard, and Daunizeau, "Theory of Mind."

66 Harré, "Social Network Size Linked to Brain Size"; Powell et al., "Orbital Prefrontal Cortex Volume Correlates with Social Cognitive Competence." Similar evolutionary advantages also accrued to other marginally more intelligent (and not only 'stronger') species at lower ranks of the food chain.

67 Even though much of the early symbolic art that has survived seems related to some of these 'existential' fears.

3.1.1 In the Family

Our current view of family life has been greatly influenced by the advent of the Industrial Age, in which the more extended or clan family unit that dominated family life for most of homo sapiens' existence was replaced with the smaller and more intimate (and uniquely child-centric) nuclear family unit.[68] In the extended family, the quasi-imperial *pater familias* (the senior male in the family in the Latin version of the concept) was the towering authority figure. He ruled over his family with equal parts *autoritas* and *imperio* (plus – one would hope – some modica of love and trust), with the latter being based to a significant extent on the threat of violence – both within the extended family unit (through *'le droit de correction'*[69]) and outside of it (honor-based violence including killing[70]). Instilling fear including of corporal punishment used to be a standard feature of patriarchal and hierarchical nuclear families.[71]

In more recent decades, the image in more developed societies of the father as a distant disciplinarian patriarch has been replaced by that of an economic provider, moral tutor and overall counselor interacting with the rest of the family in more informal, playful and warmly affectionate ways.[72] Neither fear – of (physical) violence – nor its purposive manipulation have disappeared, but their centrality in changing family units clearly seems to have diminished.

3.1.2 In Education

Even just a few decades ago, spanking children was standard behavior by parents and teachers all over the world. Today it is increasingly recognized as abusive and is even illegal in many parts of the world. Numerous meta-analyses of the literature have shown

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68 And much more than that since for most of homo sapiens' existence, kinship really was the overwhelmingly dominant social organizing principle, only to be overtaken to a large extent by other principles (and therefore markers) like profession, socio-economic 'class', ethnicity (/nationality), educational attainment, political affiliation, religion, etc. All of these other markers probably also contributed to the diminishing returns to 'terror' within this more 'exclusive' kinship group.

69 Interesting to note that this notion that was enshrined in law in many countries, started disappearing in France after WWI (Schnapper, "La Correction Paternelle et Le Mouvement Des Idées Au Dix-Neuvième Siècle (1789-1935)."), alongside the declining belief in the utility of war ("Plus jamais ça!").

70 Government of Canada, "Historical Context – Preliminary Examination of so-Called Honour Killings in Canada.": "In [better documented] Ancient Roman times, the senior male within a household retained the right to kill a related woman if she was engaged in pre-marital or extra-marital relations (Gardner, *Women in Roman Law and Society*.) According to Blackstone, the Roman law justified homicide "when committed in defence of the chastity either of oneself or relations"(Blackstone, *Commentaries on the Laws of England*, 181.)".

71 For a good overview of how and where violence was (and is) used against children, see Pinheiro, *Report of the Independent Expert for the United Nations Study on Violence Against Children*. A 2018 authoritative meta-analysis of meta-analyses meta-analyses, experiments, and quasi-experiments (Gershoff et al., "The Strength of the Causal Evidence Against Physical Punishment of Children and Its Implications for Parents, Psychologists, and Policymakers.") in the journal of the American Psychological Association found that "the preponderance of evidence links physical punishment with detrimental child outcomes. There is no evidence that physical punishment is effective at improving child behavior or at reducing other negative outcomes for children. The research linking physical punishment with harm to children is, with only a few exceptions, consistent and unidirectional, and it has been replicated across a range of study designs and methods, thereby increasing the validity of causal inference… The message to parents, psychologists, and policymakers is clear—it is time to end the debate about physical punishment and to end this outdated parenting practice."

72 For an elegant overview of this transition, see Rotundo, "American Fatherhood A Historical Perspective."

that there is little evidence that corporal punishment works. Even if it may achieve the short-term goal of preventing a child from doing something a parent or teacher does not want, it is not effective in achieving the longer-term goals of increasing children's moral internalization and decreasing their aggressive and antisocial behavior.[73] On top of that, there is significant evidence of a number of other unintended (and again – longer-term) consequences including impaired mental health, the erosion of the relationship with the child, and adult aggression and antisocial behavior.

3.1.3 On the Workfloor

Much the same historical dynamic and trend also applies to the workfloor. In the Middle Ages, most people labored living near subsistence levels in a violent political-economic system in which feudal lords wielded near-absolute power over their underlings. Violence, however, increasingly came to be seen as being counterproductive – also to generate private value to the owners of capital. Adam Smith, for instance, talked about a violence trap[74]: "When people find themselves every moment in danger of being robbed of all they possess, they have no motive to be industrious. There could be little accumulation of stock, because the indolent, which would be the greatest number, would live upon the industrious, and spend whatever they produced. Nothing can be more an obstacle to the progress of opulence."[75] Also in the Industrial Age, fear and its (ab)use remained pervasive fixtures in most people's work environment – fear of injury, disease or death through dangerous machinery and unsafe working conditions in sweatshops, steel and textile factories,[76] but also of bullying behavior throughout companies' corporate ladders.

As in the other areas surveyed here, fear and its manipulation have not disappeared from today's workplace.[77] But the fear of physical violence has, at least again in the developed world, been largely replaced by more subtle fears of losing a job or status, making less money, sexual harassment, – as well as by elements like stress, etc. All of these can be and are still being manipulated to achieve certain goals. Deterrence still remains a standard tool in the suasion portfolio of management teams, but in an entirely transformed way and at much lower levels.

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73 Heilmann, Kelly, and Watt, "Equally Protected?"; Gershoff, "More Harm than Good"; Gershoff, "Corporal Punishment by Parents and Associated Child Behaviors and Experiences"; Larzelere and Kuhn, "Comparing Child Outcomes of Physical Punishment and Alternative Disciplinary Tactics."

74 Weingast, "Adam Smith's Theory of Violence and the Political Economics of Development."

75 Smith, *Delphi Complete Works of Adam Smith*.

76 "A number of studies have lately looked at industrial health and safety from several different perspectives, all of them emphasizing the centrality of danger and mishap… If many men ultimately escaped accidental injuries and death, the fear and threat of such happenings were inescapable and hung over everyone working on the line". McEvoy, "Working Environments."

77 For a recent overview of the literature, see Zoghbi Manrique de Lara, "Fear in Organizations." A widely cited article about whether positive or negative reinforcement work better in the workplace found was that the highest performing teams held a positive-to-negative feedback ratio of 5.6 (i.e. or 5.6 compliments for every negative one. The lowest performing teams held a ratio of 0.36 or 3 negative comments for every positive one. Losada and Heaphy, "The Role of Positivity and Connectivity in the Performance of Business Teams."

3.1.4 In Medicine

One of the tasks of medical doctors is to persuade their patients not to behave in various types of potentially health-threatening behaviors. A relatively recent overview of the different tactics that physicians use in real life[78] did include 'fear' as one of 13 compliance-gaining strategies. Most readers of at least a certain age will undoubtedly have experienced firsthand how the general demeanor of physicians towards their patients has changed quite dramatically over the past few decades. Not unlike some of the previous discussions in this section about fathers, teachers and bosses, they too have transitioned from a stern, distant, clinical authority figure, to a closer, motivational, more human and explaining person of confidence that even use human touches like humor[79] or bonhomie to try and induce changed behavior in his patients. One interesting finding from this study was that physicians were reluctant to admit that they often "strategically use fear in their messages to patients as a way of gaining compliance."

3.1.5 In Public Health

Public health is another area where the pros and cons of using fear to dissuade the public from engaging in privately and/or publicly harmful behavior have been carefully scrutinized. Smoking serves as an interesting example. Policy makers and courts across the developed world have by now by and large agreed that deterrence is the main course of action that should be pursued for this publicly highly visible health issue. First, in an attempt at deterrence through denial, the costs of cigarettes are raised through the imposition of taxes, at the same time as smoking is progressively outlawed in public places (in some parts of Santa Monica, one can not even smoke on the streets). Moreover, the stark (now also pictorial) warnings that have to be displayed on all cigarette packages in advanced countries provide a clear illustration of how much support deterrence as a *way* to achieve the *end* still enjoys. It is unclear, based on the literature, whether this is based on evidence of the impact on actual smoking behavior as opposed to perceived effectiveness – an interesting caveat for this one publicly still very popular example of deterrence from across all examples we looked at. The focus of the analytical discussion on smoking here has therefore not been on the *ways* but on the precise *means* to deter, with most meta-analyses concurring that pictorial warnings on cigarette pack elicited greater fear-oriented reactions than text-only warnings, as intended.[80] We want to add that more recent research suggests that more subtle forms of dissuasion – like making the cigarettes themselves less attractive through color or form – may actually show more promise that the extremely explicit

78 Riswod and Tyler, "Physicians' Use of Compliance Gaining."
79 A strategy that is widely reported to be extremely effective.
80 Noar et al., "Pictorial Cigarette Pack Warnings."

pictorial warning labels on packages that are currently used.[81] More generally speaking, however, the broader overall trend in public health seems to move away from distant, stern doctor or the finger-wagging public policy maker or judge to a more empathetic health professional with a more granular better understanding of the patient's actual health and lifestyle record, working together with other key health ecosystem partners like health insurance systems and companies or sports associations[82] and using more subtle, more targeted and – presumably – more effective influencing efforts.

3.1.6 In Religion (and Superstition)

One of the pervasive aspects of deep-seated fear that our ancestors lived with day in/day out, that profoundly affected the way they looked at the world and behaved in it, and that people in most of the developed world today may have a hard time fully grasping was the fear of transgressing various metaphysical precepts that had been instilled in most humans for the past few millennia.[83] In many religions, this fear included both a hard deterrent element to religion ("if you do something seriously wrong, you will incur the wrath of your God and you will burn in 'hell'") but also a softer one in the guise of myriad commands/precepts that had to be followed – such as eating or not eating certain foods during particular periods, rituals that had to be observed, activities or behaviors that were either forbidden or mandated, etc. All of these led to almost impossibly long lists, whereby the fear that one might not know or might misinterpret some of the items on the list had to be added to it. In most societies – even in Western Europe until only a few decades ago – these religious fears were also augmented by various fears that were inspired by various superstitious beliefs that brought 'bad luck'.[84]

In general, the overall trend is that these fear-driven precepts have been mollified over the centuries in most religions that were particularly imbued with this idea. Even in the Judeo-Christian bible, for example, the principle of "an eye for an eye" from the old testament was no longer as self-evident when the New Testament was written down about 1000 years later. Today, the actual impact of these precepts on the interpretive frameworks and behaviors of people varies across religions and geographical regions, but their influence has abated significantly in many of them. That is the case today for most Christian communities, as well as in more liberal Judaism and in the new version of Islam that is emerging in (some – mostly West-European) communities.

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81 Gallopel-Morvan, Droulers, and Pantin-Sohier, "Dissuasive Cigarettes."

82 Witte and Allen, "A Meta-Analysis of Fear Appeals"; Ruiter et al., "Sixty Years of Fear Appeal Research"; Tannenbaum et al., "Appealing to Fear"; Peters et al., "Threatening Communication"; Bayer and Fairchild, "Means, Ends and the Ethics of Fear-Based Public Health Campaigns."

83 This was at least the case since the period when homo sapiens reached a level of development where some more codified and organized views on religion and philosophy started emerging independently in different parts of the world at about the same time (from the 8th to the 3rd century BC). See Harari, *Sapiens*, 2014; Morris, *Why The West Rules – For Now*.

84 For some examples: "Never let a black cat cross your path", "Never walk under a ladder", "Cover your mouth when you yawn, or you may allow a demon to enter or your soul to escape". For interesting overviews of the rise and fall of superstition in Europe, see Cameron, *Enchanted Europe*.

3.1.7 In the Criminal Justice System

The final two walks of life that we are looking into bring us closer to the field of defense and security. The first of those deals with the criminal justice system which, like most (but not all) other areas, has seen the role of certain (hard) forms of deterrence being replaced by softer ones that are now generally acknowledged to also be more effective in terms of achieving the same goals of reducing recidivism and increasing former offenders' continued contributions to their societies. One of the most visible examples of this trend is related to the death penalty. The – often gory – history of corporal and capital punishments stretches back to the beginning of civilization.[85] The torturous cruelty involved in these forms of punishments declined dramatically in favor of ones that were considered to be more humane (like the guillotine during the French Revolution, or death by lethal injection in the United States). Today, the death penalty has been abolished by all developed democratic countries barring the United States.

Speaking more generally, empirical research in criminology on the effectiveness of deterrence increasingly suggests there is little – if any – evidence that deterrence has a major impact on reducing violent crime.[86] This literature also contains many other potentially stimulating ideas that could also be applied to defense: certainty and celerity (swiftness) of formal sanctions have a bigger impact than their severity; the only way of deterrence that actually appears to be effective in reducing violent crime is focused deterrence[87]; and, maybe most importantly, that other policies that are not related to the criminal justice system (like the economy) have more impact on crime rates than the ones that do. It is important to point out that the declining use of – especially blanket and harsh – deterrence in the criminal justice system has not been accompanied by an increase in (especially violent) crime, but very much the opposite.

3.1.8 In Policing

Our final example takes us away from the courts to what is in many ways the closest analogy to the world of defense: the world of the enforcers of these domestic laws. Also here, we see that thinking on the effectiveness of the manipulation of fear has changed quite dramatically – certainly in the developed world, but also – as recent police responses to demonstrations in Hong Kong and Moscow has shown – in more

85 Reggio, "History of the Death Penalty."

86 "In spite of its central importance, and the very high expectation we have that legal punishment and criminal justice policies can inhibit crime, we do not have very solid and credible empirical evidence that deterrence through the imposition of criminal sanctions works very wel." Paternoster, "How Much Do We Really Know about Criminal Deterrence Centennial Symposium." See also Chalfin and McCrary, "Criminal Deterrence."

87 "The aim of focused deterrence strategies is to change offender behavior by understanding underlying crime-producing dynamics and conditions that sustain recurring crime problems and by implementing an appropriately focused blended strategy of law enforcement, community mobilization, and social service actions." Braga, Weisburd, and Turchan, "Focused Deterrence Strategies and Crime Control."

authoritarian ones.[88] A 2017 comprehensive overview of 140 crime prevention and rehabilitation programs that various studies have shown to be effective or promising contains only 11 programs in the sentencing and deterrence category, with some softer ones scoring well in terms of average effect size but with the harsher ones (like drug court) scoring lower.[89] Here too – the broader underlying trend has been away from demonstrable but distant manipulation of fear through distance, sternness and displays of physical violence (guns, batons, etc.) towards more sophisticated forms of community policing and towards more intensive use of technology (some of which also with deterrent overtones such as deterrence through transparency).

3.2 Main Takeaways

Our survey of a number of historical but also more recent developments in how fear is experienced and instrumentalized to achieve desired effects in multiple – and very different – walks of life shows some remarkable similarities.

First of all, we found that over time, fear seems to have started playing a much less dominant – and different – role in humans' lives. Concomitantly, and secondly, the instrumentalization of that fear in others in order to achieve one's goals appears to have been increasingly at least supplemented and, in some cases, even mostly supplanted by other non-fear based strategies. Thirdly, we observed that humans started widening their horizons in all of these areas – both in a temporal sense and in a societal sense. The vestigial urge to immediately strike back and punish an offender whenever some injustice was deemed to have been perpetrated has increasingly made place for a more considered recognition that these recurrent and reciprocal tit-for-tat retaliations imposed significant long-term costs on the justice-seeker as well. At the same time, the repeated interactions with various others across different cleavages made humans realize that today's enemy (perpetrator, criminal, bully, etc.) may become tomorrow's ally. Fourth, in most of these areas we also notice a growing recognition of the negative first and n-order effects of a fundamental deterrent posture on people's mentalities and behaviors. To give but one example: high incarceration rates are increasingly seen as not only not being an effective deterrent that lowers crime rates, but at even radicalizing criminals – leading to more and worse recidivism.

The international security literature has, by and large, mostly focused on the positive impact of (even elevated) deterrence costs in the expected utility calculations of

88 For some evidence on how current authoritarian regimes employ far less violence against the public than their predecessors, see Guriev and Treisman, "Informational Autocrats."
89 Weisburd, Farrington, and Gill, "What Works in Crime Prevention and Rehabilitation."

potential aggressors.[90] The main argument here has been that nuclear deterrence might be expensive, but that the cost is worth it. We already pointed out that one of the empirical overviews of international deterrence came to the conclusion that deterrence often ends up provoking the very behavior it is intended to prevent.[91] But the non-defense literature has identified at least three types of costs to deterrence beyond the already quite prohibitive direct costs of nuclear (let alone conventional) deterrence. The first one refers to the *surveillance costs* (the need to constantly monitor whether the threatening efforts are adequate), which are bound to be quite high, especially if the intended action is to be performed over a substantial period of time. Secondly, *implementation costs* may very well turn out to be much higher than expected, depending on the nature of contingent sanctions. And thirdly and finally, the literature suggests that some of the most significant costs are incurred with respect to the long-term relationship and trust between the actors – which, also in international relations, is far from trivial.[92]

Having said all of this, we still have to point out, fifthly and finally, that deterrence is still very much seen as a viable strategic portfolio option – even if that option has typically been a) operationalized in different (less crude and more focused) ways; and b) downgraded in favor of other non-fear based strategic portfolio options.

90 Although it is striking that the actual direct cost of nuclear deterrence in the two most prominent 'direct' nuclear weapon holders in Europe seems often to be underestimated. For instance, replacing the four nuclear submarines of the United Kingdom was estimated by the MoD to cost £31 billion (only in terms of design and manufacture – Mills and Dempsey, "The Cost of the UK's Strategic Nuclear Deterrent."), but it has been calculated to possibly cost up to £172 billion by 2070 (Nicholls, "Britain's Nuclear Deterrent to Cost Five Times More Than Official Mod Estimate, Says New Report.").

91 Lebow, "Thucydides and Deterrence," June 6, 2007.

92 "Several authors have commented on the role of coercion in magnifying conflict Bucklin, "A Theory of Channel Control"; Cadotte and Stern, "A Process Model of Interorganization Relations in Marketing Channels"; Kotter, "Power, Dependence, and Effective Management"; Stern and Gorman, "Conflict in Distribution Channels"; Ravin and Kruglanski, *Conflict and Power, in the Structure of Conflict, Paul Swingle*; French, Raven, and Cartwright, "The Bases of Social Power"; Stern and Gorman, "Conflict in Distribution Channels." Threats are also likely to substantially reduce, if not destroy, the future effectiveness of other influence strategies, such as information exchange and recommendations which are based on mutual trust (Raven and Kruglanski, "Conflict and Power"; Baldwin, "The Power of Positive Sanctions."). Finally, threats serve to reduce the net economic benefits received by the target. This, together with the negative psychological impact of threats, will reduce the target's dependence on the source and increase its probability of leaving the relationship (French, Raven, and Cartwright, "The Bases of Social Power"; Bacharach and Lawler, *Power and Politics in Organizations*.)."Frazier and Summers, "Interfirm Influence Strategies and Their Application within Distribution Channels."

4. An Aggiornamento: From Deterrence to Dissuasion?

Deterrence is usually qualified as a strategy, which, especially in military circles, is then typically projected onto the well-known conceptual 'ends-ways-means' triad (for an example, see Figure 7).[93] But so where and how does 'deterrence' really fit in this triad?

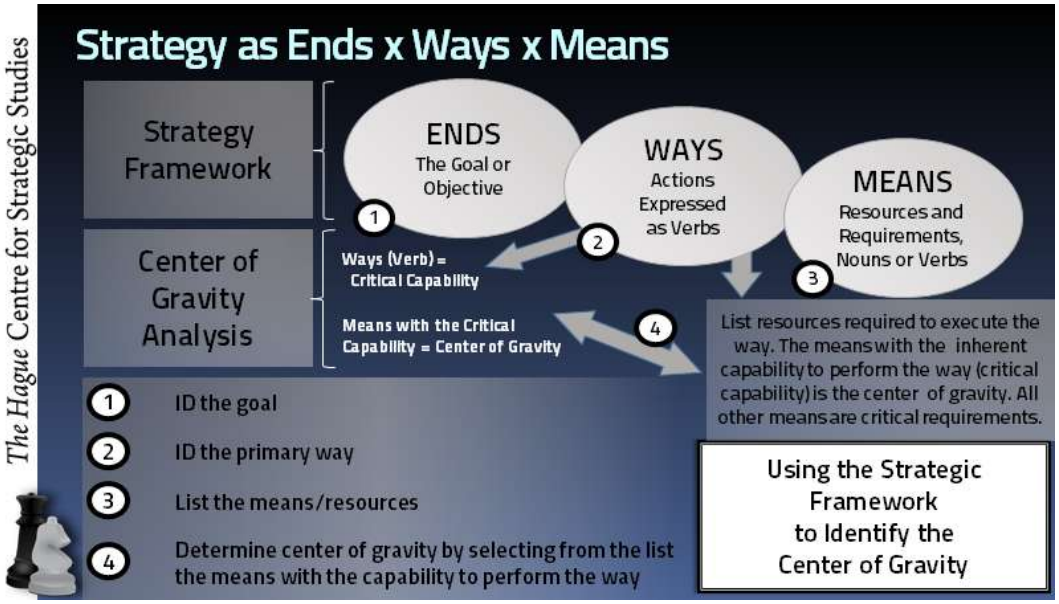

Figure 7: One visualization of the ends-ways-means framework in a defense planning context.[94]

This chapter starts out with an exploration of various high-level comprehensive defense and security taxonomies (like the Dutch 'strategic (defense and security) functions') in which 'deterrence' can be positioned. It then turns its attention to 'deterrence' *stricto sensu* and how our thinking on that strategic function might be reconceptualized.

93 Lykke, "U.S. Army War College Guide to Strategy." This formulaic model, which is now also widely used in non-defense-related contexts, has been the object of quite some criticism. See Meiser, "Ends + Ways + Means = (Bad) Strategy"; Miller et al., "On Strategy as Ends, Ways, and Means"; Davis et al., *Priority Challenges for Social and Behavioral Research and Its Modeling*., as well as the 'design' movement (see below, Chapter 5).

94 Eikmeier, "A Logical Method for Center-of-Gravity Analysis."

4.1 Towards a Comprehensive Defense and Security Taxonomy

Military and civilian professionals working in our defense and security organizations have put considerable (and impressive) thinking power into first conceptualizing and operationalizing and then also actuating at least some of the 'ways' and 'means' parts of this triad.[95] To give but one example, they have built a number of – in some cases quite detailed – taxonomies[96] that structure and help guide defense and security efforts[97] at the tactical and operational levels. One of the probably best well-known examples in the military realm is the United States Department of Defense's (US DoD) *Universal Joint Task List* (UJTL), a nearly 1400-page long multi-level 'menu' of tasks expressed in a common language, which serves as the foundation for joint operations planning across the range of military and interagency operations and also supports the US DoD in conducting joint force development, readiness reporting, experimentation, joint training and education, and lessons learned."[98] Similar task lists are also used – typically in more modest ways – by NATO, the European Defense Agency and a few other nations (such as the other members of the so-called five-eyes (FVEY) group: Australia, Canada, New Zealand, and the UK) – not only for international 'defense', but also for homeland security purposes. Some of these lists do contain a strategic taxonomic level as well (with the US one in our assessment again being the most wide-ranging and interesting one), but it is clear that these task lists are much more driven 'bottom-up' by the lower tactical/operational layers than by the strategic layer.[99]

HCSS has always wondered what a more strategy-/'top-down'-driven 'comprehensive' (i.e not purely military) taxonomy would look like – one that would be driven less by what nations have been doing in the recent past and more by what they may want to achieve strategically ('ends') in the present and the future and by the strategic-functional requirements ('needs') that derive from that. Not necessarily because we suspect such a taxonomy would be better than the current more bottom-up ones, but because we are sincerely interested in finding out whether it might reveal some other possible (balance of) investment opportunities or mismatches.[100] Prior to the last major

95 This report focuses mostly on the 'ways' part of this triad, but we do want to emphasize that the – in our assessment – even more important 'ends' part arguably finds itself in even more "taxonomic disorder and strategic confusion" (Kellermann and Cole, "Classifying Compliance Gaining Messages.") than the 'ways' part. HCSS is eager to delve deeper into that – even more 'political' layer in future research endeavors.

96 For more on the pros and cons of various defense taxonomies, see De Spiegeleire, "Capability Taxonomies Can Kill."

97 For a background on this concept which we have conceptualized as the higher-level 'umbrella' concept for (currently – but in our view not always usefully – much more central) lower-level concepts such as missions or operations, see De Spiegeleire, Wijninga, and Sweijs, *Designing Future Stabilization Efforts*, 12–13.

98 United States and Joint Chiefs of Staff, *Universal Joint Task List*.

99 On this issue, see De Spiegeleire, "Putting the European Defence Agency's Generic Military Task List in a Broader Context: Taxonomy Schemes in Defence Planning. ECAPAG Project for the European Defence Agency"; De Spiegeleire, "Capability Taxonomies Can Kill."

100 As DRDC's Ben Taylor pointed out to us in this context: "It is much better suited as a basis for "why are we here and what should we be doing?" type of analysis than the "traditional" war fighting functional capability constructs. These are designed to support the balance of investment decisions between operational equipment capital projects, which presume that you are investing to have the ability to fight." Taylor, "Strategic vs. Operational/Tactical Constructs," January 25, 2020.

Dutch bottom-up[101] and interdepartmental defense review, HCSS surveyed a number of efforts at conceptualizing defense and security efforts at the strategic level.[102] We highlighted the French strategic taxonomy of the 'strategic functions', that surfaced at the time of the French Livre Blanc in 2008 (under President Sarkozy) as one of the most elegant attempts – to the best of our knowledge – to provide some coherent structure to strategic guidance for defense planning.[103] In our analysis of various existing taxonomies at that time, we were struck by the clearly more strategy-driven 'top-down' nature of this taxonomy as compared to what we saw as the more 'bottom-up' nature of the US UJTL, and the various other NATO and FVEY taxonomies that were clearly influenced by it. The – in origin – French strategic functions thus found their way into the Dutch Future Policy Survey as the primary structuring device to think through possible future Dutch 'defense profiles', which were defined as different (analytically supported – not in the least by the French taxonomy – but also politically informed) combinations of strategic functions.[104]

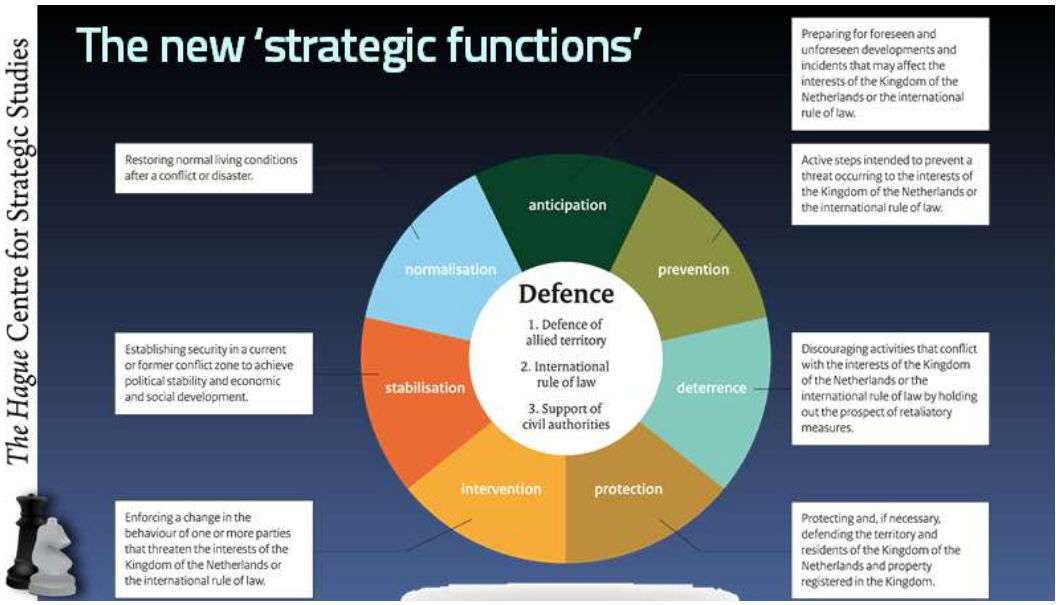

Figure 8: The Dutch Strategic Functions

101 We use this term here in analogy to the 1993 US 'bottom-up defense review' that was executed by US Defense Secretary Les Aspin under the Clinton Administration. See Larson, Orletsky, and Leuschner, "The Bottom-up Review: Redefining Post-Cold War Strategy and Forces."

102 De Spiegeleire et al., *Outputsteering II – Phase II Points of Interest*; De Spiegeleire et al., *Closing the Loop. Towards Strategic Defence Management*.

103 We have to acknowledge that we did not find any evidence that this French strategic taxonomy played any demonstrable role in the 'heart' of French defense planning (which remains regrettably closed to other – even European – counterparts).

104 The 'strategic functions' are a defense taxonomy that was – to the best of our knowledge – first introduced in the French 'Livre blanc' and was then picked up in the last major bottom-up defense review in the Netherlands (Ministerie van Defensie, *Verkenningen. Houvast Voor de Krijgsmacht van de Toekomst*. in 2011, based on a recommendation made in a preparatory HCSS benchmark study on how different countries (and one non-defense but also mostly-operations-driven international organization – the World Food Program) 'do' strategic planning De Spiegeleire et al., *Closing the Loop. Towards Strategic Defence Management*; De Spiegeleire et al., *Outputsteering II – Phase II Points of Interest*, 66.

It is easy to understand how this high-level strategic taxonomy came about. At the end of the Cold War, the main focus of all North-Atlantic defense and security organizations was on territorial defense. The changing strategic security environment, however, stared putting much more of a premium on peace support operations – first relatively close to European homelands (as in the Balkans), but then also further a field (as in the now infamous – but still relevant – 'Greater Middle East'). Suddenly, 'intervention', 'stabilization' and 'normalization' in third countries became very much the central focus of the (expeditionary) efforts made by most after the end of the Cold War. 'Stabilization', for instance, was – certainly in Europe – a politically hotly debated strategic function[105] as some countries were reluctant to acquire, deploy and sustain (financially *and* politically) quite costly 'first in' capabilities that would send their militaries in harm's way at the most dangerous moment in a conflict's life cycle. Some political forces preferred focusing on the presumably less dangerous (and costly) 'mopping up' stage of a conflict – the strategic function 'normalization'. Other political forces were opposed to what they qualified as foreign adventurism, and instead advocated sticking predominantly to homeland security efforts with at most only protective 'pin-prick' international military efforts if and only if direct national interests were directly at stake: the strategic function 'protection'. The strategic functions of anticipation and prevention proved far less controversial, but they – unfortunately – never received even close to the amount of detailed and (interdepartmentally) actionable follow-up that they probably deserved. The 'left-over' strategic function of deterrence was always recognized to legitimately belong in this list, but its overwhelmingly 'nuclear' – and for allegedly[106] five NATO members indirectly nuclear – nature made it much harder to debate. And what was never really part of this debate was the quality and plausibility of this high-level strategic taxonomy in and of itself: are these seven (or in the French case, five) strategic functions really the defense and security functions our nations and societies feel that their taxpayers' money should go towards? Are there others? Is it fair to have three categories for – in essence – expeditionary warfare, and only one for defense(/protection – think NATO's Article V, for instance) and for prevention – each of which can also easily be broken down in a number of functions the same way that 'intervention' is in the Dutch taxonomy? Or do the stabilization and intervention functions also apply in the homeland?

In search for answers to these and other similar questions (all of which really pertain to the 'ways' component of the strategic 'ends-ways-means'- triad), HCSS is in the process of inventorizing and analyzing various similar taxonomic efforts outside of the defense and security world. We all know from our everyday lives that we use various verbs to express the types of efforts that we expend to affect other people's behavior: influence, persuade, encourage, nudge, urge, coerce, force, advice, cajole, seduce, entice, induce,

105 For more details on this, see De Spiegeleire, Wijninga, and Sweijs, *Designing Future Stabilization Efforts*.
106 Andreasen et al., "Building a Safe, Secure, and Credible NATO Nuclear Posture."

convince, discourage, recommend, dissuade and many more. Deter is indubitably one of those action verbs. These verbs express the kinds of efforts that we engage in and are exposed to every single moment we interact with other human beings. We all intuit that all these terms differ from each other – sometimes slightly, sometimes significantly – along a number of different dimensions. But what is the higher-level 'neutral' term that would encompass all these types of purposive efforts? What are those different dimensions along which all these action verbs can be positioned? This taxonomic research effort is still ongoing, and we are not yet in a position to report confident findings. But we have found out that the richest taxonomies of these types of purposive efforts are not found in political science (and a fortiori in the international relations literature[107]), but in the psychology and (broadly speaking) advertising literatures.

The – so far – most attractive higher-level term that we have come across as were looking for a top-level label for the entire taxonomy is probably 'compliance-seeking efforts'.[108] This trigram seems to include all of the key elements that we are trying to capture here and does so in an elegant and useful way. It starts with an actor who wishes or desires something, implying purposive agency or in rational choice terms – a 'utility function'. In strategically interactive terms, what that agent wants is to make third parties comply with her wishes and/or desires – the second (compliance seeking) component in the trigram. It is – in our view encouragingly – unclear in what exact way she wants to do so: it could, for instance, be in positive ways (through 'carrots') or negative ways (through 'sticks'). The third (equally satisfyingly 'broad' or 'neutral') part of that trigram is the noun 'efforts'. The literatures we surveyed often used labels such as 'strategies' or 'tactics' or 'techniques' for this notion. Our own predilection here would be to avoid these terms because to some they may already prejudge the level at which or the mode in which the action should ensue. The fourth and final advantage of this term, in our view, is that it is not one of the verbs it attempts to structure. Other terms that are sometimes – either explicitly or implicitly – used for this higher-level taxonomic label like 'influence' or 'coercion' or even 'suasion' suffer from this problem. To some, putting coercion on top intuitively already suggests a 'hard' approach to compliance-seeking, making 'influence' an inelegant lower-level taxonomic element. To others, the inverse applies to influence as the top-level label: they would argue that 'coercion' does not fit in a taxonomy that the more subtle label influence on top. A broad definition like 'compliance-seeking efforts' (CSEs) is also attractive because it a) has already been used as the top-level taxonomic label in a number of very closely examined 'walks of life'

107 There are, to be sure, some discussions of issues related to different ways of 'influencing', but none of them have yielded a comprehensive framework of the sort we are working towards now. Paul Davis is probably the contemporary author whose analogous efforts are the most akin to ours. Davis et al., "Analytic Issues and Factors Affecting Deterrence and Assurance."

108 This terms at least has the major merit that is not one of the oft (ab)used words we tend to use, most of which most people have already pigeon-holed ("we should be forceful"; or "the only 'compliance seeking efforts' that work are physical/material ones; or "the only way to be strategically successful is to seize the initiative/ to act preemptively"; or "we should be intelligent") – often in various (very different) ways.

where these types of efforts materialize; b) focuses the user's attention on what is to be achieved (compliance) as opposed to the effort itself (as the other main contenders like influence, coercion or suasion do); and c) is also eminently applicable to the types of strategic interactions that we observe every day in the international security arena.

Having selected 'compliance-seeking efforts' (CSEs)' as the top-level label for our overall taxonomy, the question remains as to which taxonomic principles would allow us to pigeon-hole all the different verbs – including deter – we use all the time to make a third party do or not do something in a multi-dimensional graph-like visualization. We already mentioned that we have not yet completed our research on this, but we have – so far – already identified a number of (about fourteen) taxonomic principles that – we hope – will allow us to adduce some more conceptual clarity to this debate.

Principle	Explanation	1	3	5
Goal similarity	Are both sides' goals (/'utility functions') aligned or not?	Diametrically opposed		Closely aligned
Material vs verbal	Do the efforts require mostly material or mostly verbal efforts?	Entirely material		Entirely verbal
Atoms vs bits	If the efforts are non-verbal, are they more atom-based or bit-based?	Entirely atoms-based		Entirely bits-based
Logos vs Pathos vs Ethos	If the efforts are verbal, are they more based on logos (rationality), pathos (emotions) or ethos (morality)?	Entirely rational	Entirely pathos	Entirely morality-based
Main effort	Who is expected to make the main effort	Entirely the seeker		Entirely the target
Carrots vs sticks	Are the efforts based more on punishment on on rewards	Only carrots		Only sticks
Perception-altering	Are the efforts more based on altering perception ("it's good for you too") or not ("just do it!")	Entirely perception altering		No perception altering required
Positive vs negative	Are the efforts aimed at making the target DO something, or NOT do something?	Positive		Negative
Coercive intensity	How much coercion is required?	Very high		Very low
Coalition	Is the effort to be made by the seeker alone or with others?	With a very large coalition		Alone
Direct vs indirect	Will the seeker make most of the effort, or somebody else?	Entirely indirect		Entirely indirect
Overt vs covert	Does the seeker want to be known or not?	Entirely overt		Entirely covert
Slow vs quick	Are the efforts supposed to be incremental over time or massive and fast	Very long-term		Very short-term
Before-during-after	Are the efforts intended to occur before the target does something, in response to something, or does it not matter?	Response	Simultaneous	Preemptive

Table 1: Taxonomic principles of compliance-seeking efforts

We are currently expanding this list based on 5 parallel research efforts: 1) an in-depth analysis of various high-level ontologies/taxonomies such as ResearchCyC[109], Wordnet synsets[110], SUMO[111], Verbnet[112], Babelnet[113], etc.) 2) our overview of more specific compliance-seeking taxonomies in other disciplines; 3) our coding of the actionable policy options for dealing with different future Russias; 4) our more 'natural language processing' (NLP)-based efforts to explore our both English and Russian text corpora of (mostly) academic and military writings on deterrence in both supervised and unsupervised ways; and 5) our own additional contributions. Readers of this report who might be interested in joining us on any of these efforts are warmly invited to reach out to us.

What good will taxonomies do us?

Some of our readers might wonder what possible practical use such abstract taxonomies might have. Have our defense and security organizations (or our nations at large) not been doing perfectly fine without such intricate constructs? There are different (even reasonable) points of view as to how successful various national strategic efforts – including the alliances of which the Netherlands is an active member – have been over the past few decades. We would submit it is fair to argue that the results we have been able to achieve in various major defense and security efforts in geographical locations places as far apart as the Caribbean part of the Kingdom over the Balkans and the Middle East (especially Iraq, Libya and Syria) all the way to Afghanistan – at least raise suspicions as to whether we have really found the optimal balance across all different compliance-seeking options we have at our disposal. And whether a more considered planning (or more on design, see Chapter 5 – Towards Suasion Design) effort that would first structure the strategic option space and then apply strategic value-for-money trade-off analyses across it might not be of benefit.

Let us provide an example by looking at the Russian case study. Western nations (and their coalitions) have a number of 'ends' they want to achieve with respect to the Russian Federation. Some of these include dissuading Russia from pursuing courses of actions that they may deem undesirable (e.g. invading the Baltics; become overly militaristic; distorting history; collapsing chaotically; opt for environmental policies that may also harm its neighbors; etc.). The question that lies at the heart of this report is how we could possibly find out which efforts we could usefully engage in to achieve those (in this case negative) objectives.

109 Matuszek et al., "An Introduction to the Syntax and Content of Cyc."
110 Princeton University, "WordNet | A Lexical Database for English."
111 Pease, "The Suggested Upper Merged Ontology (SUMO)."
112 University of Colorado Boulder, "VerbNet: A Computational Lexical Resource for Verbs."
113 Navigli, "Babelnet | the Largest Multilingual Encyclopedic Dictionary and Semantic Network."

This question is intrinsically a 'comprehensive' one. Reducing it to a merely military one risks not paying due attention to other – both military but also non-military – compliance-seeking options that might prove promising and possibly even superior value-for-money.

The question then becomes how we can first identify (and then package, and sequence, etc.) the various strategic – and thus comprehensive – 'compliance-seeking' efforts we may want to engage in. If this question is even raised, it is typically in a crisis situation (as opposed to before one) and is more often than not answered by bureaucratic and political consensus-seeking processes and procedures that build on the (typically presentist or recentist) option space that are present in participants' minds.[114] The main idea behind our (Dutch) strategic design efforts is to start thinking more seriously about the available CSE-option space and the portfolio choices nations and/or coalitions may wish to invest in – and then also use if and when it is necessary. This does require some mapping of that broader option space, which is what this section of the report tries to do.

4.2 Unpacking 'De-terrence' – A 2x2 taxonomy

Let us now return our attention to the strategic function 'deterrence' that is the main subject of this report, and to how it fits in the broader compliance-seeking efforts option space that was sketched in the previous section. In essence, the term deterrence conflates – and in many ways also confounds – a particular strategic objective ('ends') and a certain way to pursue that objective ('ways'). The 'end' in this case is to inhibit another actor from doing something she would like to do, whereas the 'way' is by strategically manipulating terror (/fear). In terms of the taxonomic principles of the previous section, it uses both the 'negative-positive' taxonomic principle – and on that one it uses the 'negative' option; as well as on the 'carrots vs. stick' taxonomic principle – where it selects the 'sticks' option. The actual means are not specified, but they can be kinetic – both conventional and nuclear -, non-kinetic, or hybrid.

The word deterrence connotes a negative objective (making somebody not do something) combined with a negative way of making that happen (through a negative incentive – punishment). As we have seen in Chapter 3, in surprisingly many areas of private and public life, this negative approach has been at least complemented – and in some cases even substituted – by other, more positive, ways of achieving one's goals. In order to increase the likelihood that a potential criminal does not commit a

114 Even the 'empirical evidence' that is used then is limited to the few endlessly – and often superficially – regurgitated simplistic historical schemes such as Munich, Obama's 'red lines' on Syria, etc.

certain crime, for instance, our polities and societies still use elements of deterrence through a penal code that still specifies which crimes will be punished through which types of sentences. These punishments have, even just over the past few centuries, mollified from a wide portfolio of genuinely cruel corporeal practices in the Middle Ages, to ever more humane forms of physical punishment in the Modern Age (with the death penalty as a modern-day physical remnant of this more physical variant) to a situation where most countries have moved to non-corporeal forms of negative incentives like incarceration and a much broader range of positive incentives. We would therefore like to propose another way of framing these strategic options. Rather than just focusing on negative ends and negative ways we suggest widening the option space by looking more broadly at the term *suasion*. As a slightly more subtle noun than *coercion*[115] yet also somewhat stronger concept than mere *influencing*, it has an interesting etymology. It goes back to the Old French noun *suasion* (XIVth century), which in turn came from the Latin verb *suadere* – "to urge, incite, promote, advise, persuade," literally "to recommend as good". All of these in turn descend from a Proto-Indo-European root *swād-, meaning "sweet, pleasant". Words for "sweet" in Indo-European languages typically are used in other meanings as well as well and in general for "pleasing", referring to the ultimate ambition behind suasion: making a third party feel that a certain course of action is pleasing, enticing.[116]

This suasive capability – the ability to sway a third party – can take two basic forms. One form entails the ability to make somebody not pursue an intended course of action. This is what the Nobel Prize laureate Thomas Schelling called deterrence,[117] and that we would propose to re-label *dissuasion* and to disassociate from the ways part of the term. The second form refers to making somebody do something that she would not want to do out of their own volition. This is what Schelling called *compellence* and that we would propose to re-label as *persuasion*. We thus obtain both dissuasive and persuasive elements of suasion.[118]

There is a second conceptual dimension to all of this which refers not to *what* is to be achieved but to *how* – the means that are employed to get there. Also here at least two options are conceivable. One of those involves positive incentives (carrots), the other one calls for negative ones (sticks). These two dimensions – what do we want to achieve in a third party and how can we achieve it – lead to a 2-by-2 matrix with four different cells, all of which can be populated with a number of concrete capability,

115 Harper, "Coerce | Origin and Meaning of Coerce by Online Etymology Dictionary."
116 Refer to hard vs soft (/smart) power. Nye etc. "As a country, we're not as young -- and perhaps not as innocent -- as we were when Roosevelt was President. Yet we are still heirs to a noble struggle for freedom. And now we must summon all of our might and moral suasion to meet the challenges of a new age." (Obama, "Remarks by the President in Address to the Nation on the Way Forward in Afghanistan and Pakistan.")
117 Schelling, *Arms and Influence*.
118 For a similar train of thinking, see also Mazarr et al., *What Deters and Why*; Mazarr, *Understanding Deterrence*; Mallory, *New Challenges in Cross-Domain Deterrence*.

policy, concepts and or ecosystem options. The top left cell is about making one's own preferred course of action (COA) preferable to somebody else. The bottom left is about making all options other than the desired COA to be unpalatable. The bottom right is about making the threatening COA unpalatable. The top right is about making some alternative, less threatening COAs, more attractive than the threatening COA. The top left and bottom right are about changing the target's perception about one COA. The bottom left and top right are about changing the perception of many (or even all) COAs. That may be why those two are problematic to describe and rationalize.[119]

Nations considering foreign and security policies investments would ideally explore all 4 cells in this matrix in search for the ones that provide the greatest (security) value for (security) money. In the multiple sessions where we experimented with this matrix we have found that people do tend to find the concept itself appealing, that they agreed with the axis labels, but that they (and – admittedly also we ourselves) had difficulties with the cell labels themselves. We therefore present 3 alternative visualizations of our 2x2 matrix – one with the more conceptual description of the 4 cells that we also offered in the previous paragraph (Figure 9). A second one where the quadrants have been filled in with illustrative action verbs (Figure 10) – whereby we want to stress that a) these verbs are far from exhaustive; and b) that there are still differences between these verbs that we should be able to plot once our full CSE-taxonomy is completed. And then finally we offer a more simplified matrix where we just pick one label for each cell (Figure 11).

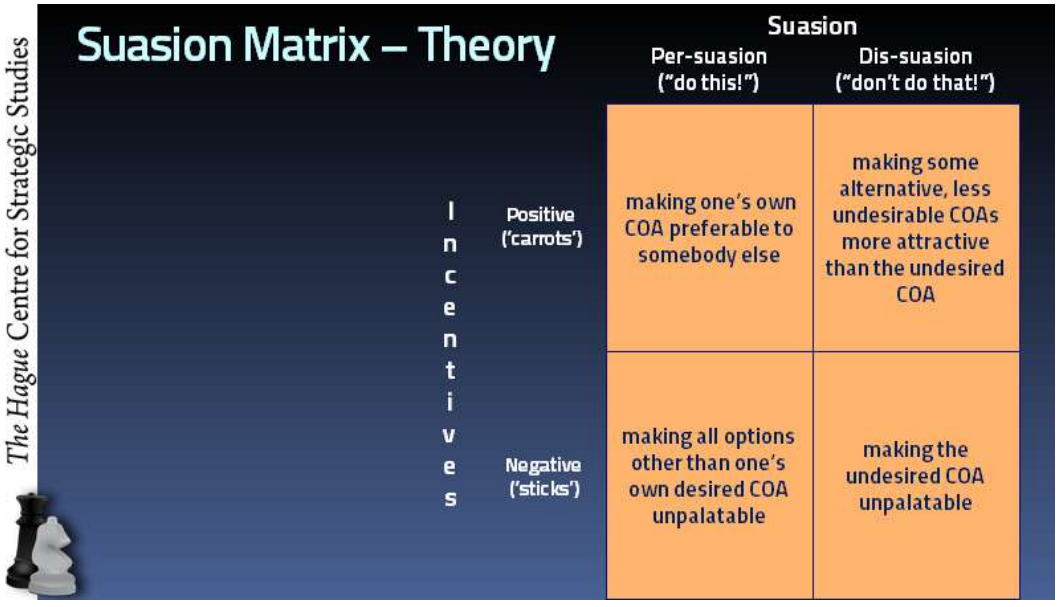

Figure 9: A 2x2 suasion taxonomy – conceptual

119 The authors are grateful to Dr. Ben Taylor from DRDC (Canadian Defence Research and Development Canada) for this formulation.

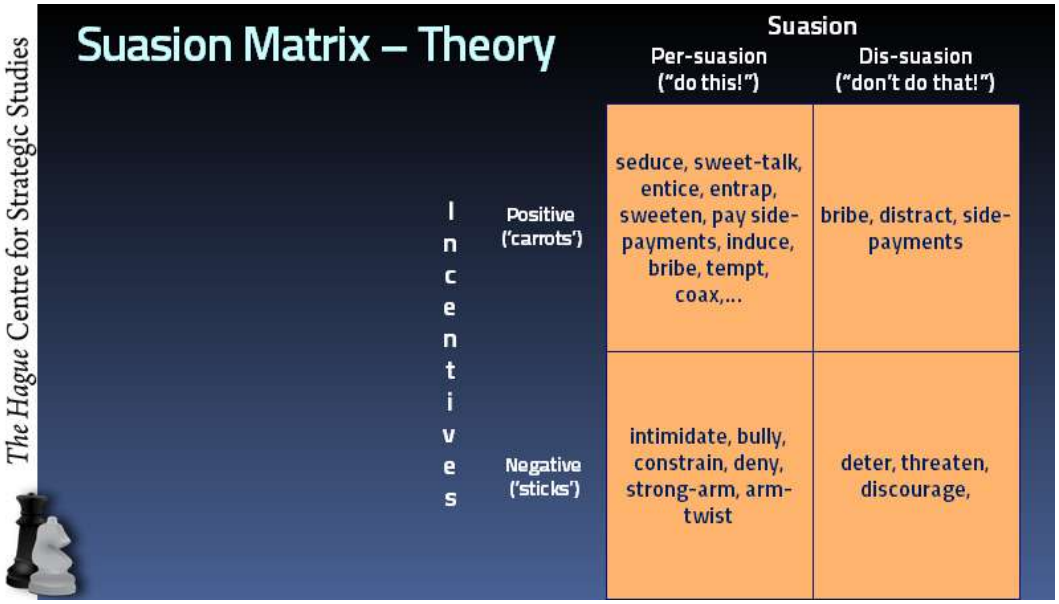

Figure 10: A 2x2 suasion taxonomy – action verbs

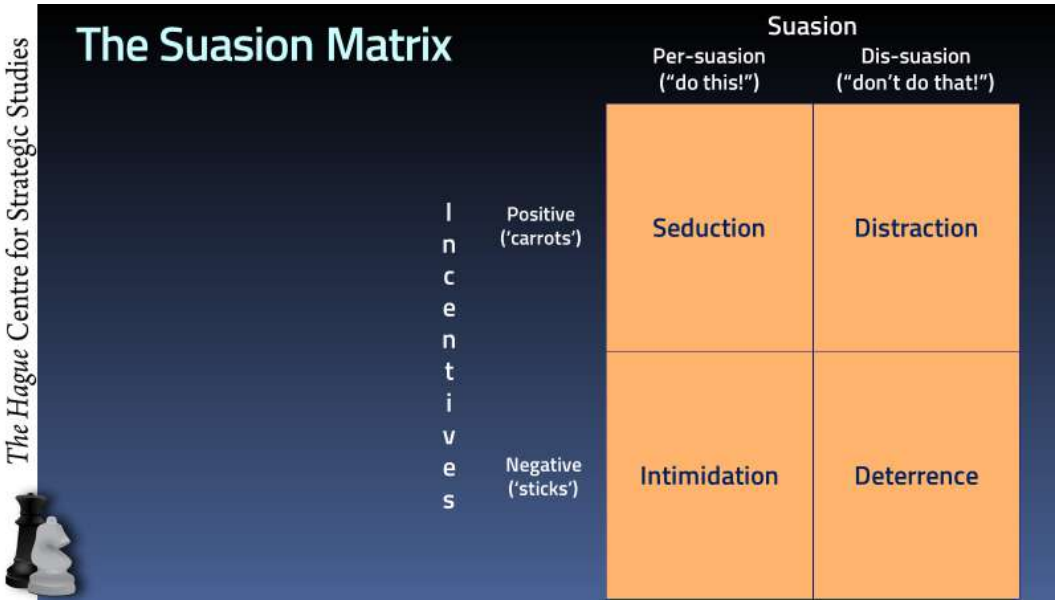

Figure 11: A 2x2 suasion taxonomy – simplified

The deterrence cell in this matrix therefore combines a dissuasive purpose with negative means. That same dissuasive purpose can, however, also be combined with positive means. The target to be dissuaded from one course of action could, for instance, be distracted by a dissuader who might fashion another course of action that may be more amenable to the target or more alluring. One example of such a tactic in the cyber world, for instance, is the so-called honeypot approach, whereby a potential cyber-attacker is lured to a seemingly attractive, but also more innocuous target.

Based on current defense and security policy (financial) priorities, the official (notional) current suasion portfolio towards third parties that are identified as possible adversaries probably look something like Figure 12. Military deterrence absorbs the lion's share of the scarce public resources that most liberal democracies are willing to contribute to the supply of security solutions. A number of activities, like military-to-military initiatives, can probably be positioned in the seduction quadrant of this matrix, and we have seen (in our opinion even more modest) occasional efforts by Western allies to apply positive dissuasive incentives (e.g. Iran and the lifting of economic sanctions). But by and large, the portfolio is heavily skewed towards the bottom right quadrant.

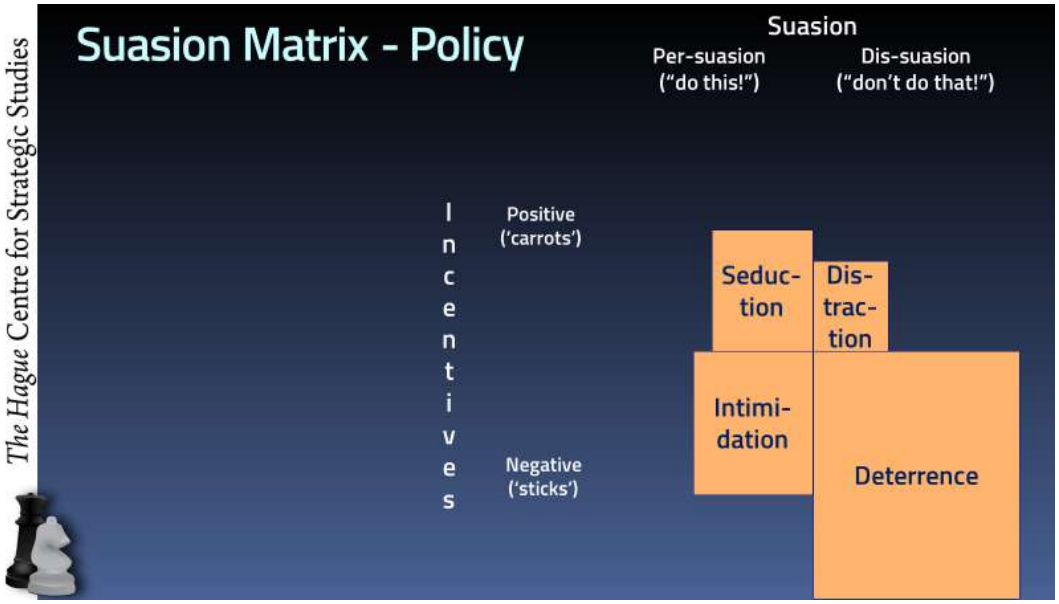

Figure 12: A 2x2 suasion taxonomy: what 'policy' suggests

If we look at the desired provision of sustainable security solutions from a demand-side point of view ("what does the international security environment require?") and not – as we usually do – from a supply-side point of view ("what can 'we' do about it"), we should also acknowledge the enormous contributions that Western (and increasingly also non-Western) private actors are making in swaying global societies. This impact ranges from the silver screen, where the US and European movie industries continue to inject images of Western standards of living, ways of interacting with each other, etc. into the deepest fibers of global societies; over the various disruptive (especially internet) technologies that are transforming global education, energy, finance, health, mobility, etc.; all the way to possible deeper identity changes that may be sweeping younger generations across the globe.

Looking at the suasion matrix from such a more ecosystem-point of view, the relative weight – and also, we would submit, real impact – of Western positive suasion probably trumps any purposive official negative suasion options, however prominent these may look in SIPRI or IISS overviews of military expenditures and capabilities (Figure 13).

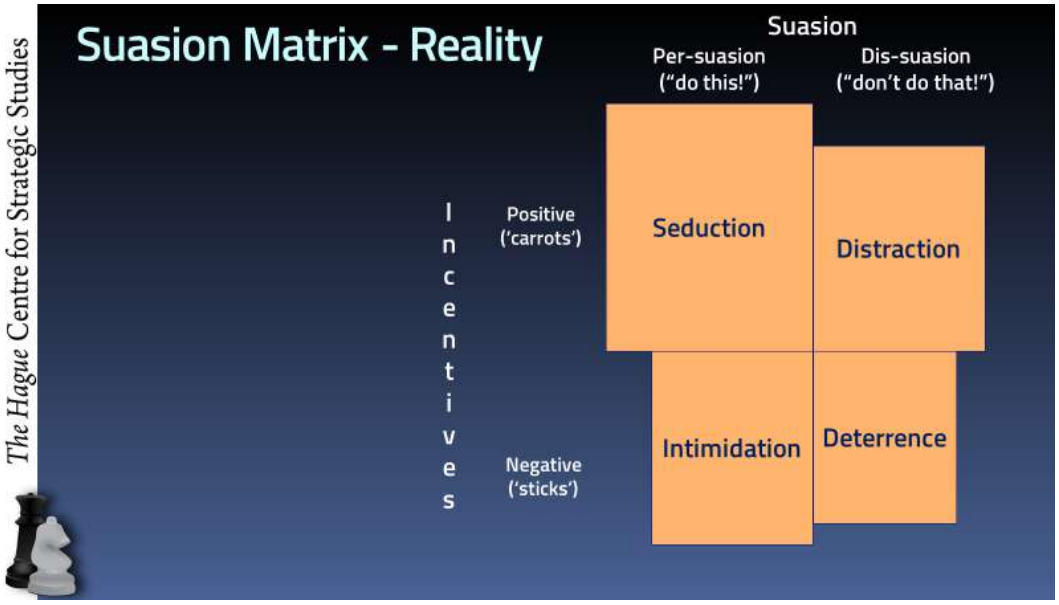

Figure 13: A 2x2 suasion taxonomy: what 'reality' suggests

4.3 Multi-Level Suasion

We have, so far, focused on the two dimensions that were visualized in the 2-by-2 matrices. It may be worth adding, however, that one can also imagine a third dimension, representing the level at which suasion is applied – at the systemic, the state, the societal or the individual level. The current discussion on deterrence essentially represents one cell in this three-dimensional cube: the one where states use negative inducements to dissuade other states. Strategic suasion option design would explore and experiment with all cells in the cube. The point of this paper is not to offer an exhaustive analysis of all conceivable options. What we will still do in the remainder of this paper (see Chapter 5. Towards Suasion Design), however, is to illustrate some arguably underexplored cells throughout this cube. In doing so, we will also bring in some other of the definitional and typological building blocks our literature review unearthed.

4.3.1 The Systemic Level

Already today, the international community has endowed itself with some – admittedly extremely rudimentary – elements of dissuasion. Chapter VII of the UN Charter, for instance, provides the international community, in the guise of the United Nations Security Council, with the legal basis to issue a political mandate to carry out military operations to enforce the peace. Needless to say, this is, in essence, a reactive measure to be activated after the peace has already been breached. It could, however, also be seen to possibly also affect the calculus of a potential aggressor. The hurdles in obtaining such a mandate in the current (highly politicized) institutional structure are so high, however, that hardly a potential aggressor would (or has) include(d)

such calculations in their deliberations about whether or not to proceed with – for instance – international military aggression.

In previous work, HCSS has already floated the idea of what we dubbed Chapter 'VI-and-a-Quarter' efforts whereby the international community, in the guise of the United Nations, could – once the situation starts escalating and crosses a certain threshold – step up its panoptic surveillance of the key state parties involved in the dispute. This alarm threshold could possibly even predefined. The avalanche of new datasets combined with machine-learning tools is providing us with far superior monitoring capabilities than even just a few years ago.[120] These same technologies could be used to create a scale that could be compared to the various scales for homeland security that have become widespread in various developed countries, and whereby a scaling up of the threat level to a certain pre-defined (and agreed upon) threshold would trigger a new set of close monitoring responses.

The main idea here would be to use radical transparency as a deterrent to make sure that if aggression is committed, it will immediately, publicly and irrevocably be documented – also for possible use in subsequent possible international criminal proceedings and/or other (including) military interventions sanctioned by the international community. Current-day so-called Chapter 'VI-and-a-Half' operations presuppose the deployment of actual military force, meaning that the threshold to trigger them is extremely high. For these types of deterrent transparency operations, the threshold would presumably lie significantly lower – as only (possibly military, preferably civilian) Intelligence, Surveillance, and Reconnaissance (ISR) assets would be (publicly) activated and deployed in theater to make sure that transgressions would not go unnoticed. This would still imply, that the concealment of attribution of the application of military (or para-military) force – like the infamous polite green men involved in the Russian annexation of Crimea in March 2014 – would leave absolutely no ambiguity; or also that ongoing war crimes or crimes against humanity could no longer be concealed from the court of international public opinion.

4.3.2 The State Level

States that are currently branded as opponents or – more recently and more euphemistically – as countries of concern are often immediately put in the deterrence-cell of the afore-mentioned cube. Our defense- and security organizations then typically redouble their efforts to find ways to thwart and/or rebuff any possible future military aggression. That is precisely what is also happening these days with respect to Russia, for which a variety of conventional, nuclear and hybrid deterrent options

120 HCSS is already running a number of experimental risk monitors for both national and subnational political violence, as well as for inter-state militarized disputes that are based on 100s of millions of data points.

are being discussed and procured to deter further Russian infringement. There is widespread agreement about the actual necessity of such hard deterrent options.

One wonders, however, whether a commensurate amount of creative energy is also applied to various possible actionable carrots that might dissuade such countries from pursuing a collision course,[121] and instead persuade them to follow a more cooperative one. Let us take a look at the Russia example, for instance. Much attention of our defense organizations is now once again being focused on that single threat. Western responses have – quite understandably – focused on the punishment ("how can we punish Russia for its actions in Ukraine") and on the denial ("how can we prevent Russia from doing something similar against NATO countries?") aspects. Those policy options are clearly registered and closely followed in the Russian debate. As in the many other (non-defense and -security) policy areas that we surveyed in our literature review, we also see these debates leading to all sorts of inculpatory ("The West always hated us") or even further escalatory ("We have to respond") dynamics. On the Russian side, we have witnessed a regime that feels supremely confident in responding in kind to Western initiatives – more assertiveness, more retaliatory brinkmanship, more investments in (old and new) adversarial kinetic and non-kinetic options. But have we articulated sufficiently to the main Russian political actors what the positive (economic, security, etc.) effects might be a possible future return "into the fold"? Has the Western alliance articulated an options portfolio that goes beyond taking back the stick and also includes (maybe even new) carrots as part of a multidimensional suasion approach?

4.3.3 The Societal Level

Most debates on deterrence in an international security context are typically focused at the level of political agency: how can a state or a non-state actor that is poised to engage in a security-or stability-threatening action be dissuaded or deterred by our official (state) policies from pursuing that intended course of action. In previous work, HCSS has termed these actors (political) 'agents of conflict'.[122] In every potential or actual conflict zone or case, there are, however, also always a much larger number of (societal) agents of resilience that in essence represent a society's immune system against conflict, or other forms of irresponsible security behavior. Would it be conceivable, therefore, for third parties to find actionable options to coopt and/or boost the healthy fibers of the societies in the fight against these cancerous conflict-cells in their midst – all with the same main aim of dissuading them from pursuing their course of action and depriving them of the societal oxygen they may require for long-term success?

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121 Beyond the usual diplomatic exchanges that continue.

122 De Spiegeleire et al., *Si Vis Pacem, Para Utique Pacem. Individual Empowerment, Societal Resilience and the Armed Forces*.

Also here, the Russian case study may offer some interesting strategic suasion options. Russian contemporary society is, in many ways, a lot more differentiated than many Western decision-makers or the broader public think. The – relatively – massive demonstrations in August 2019 in Moscow by a new politically mobilized (millennial) segment of the Russian population opens up an entirely new front of possible suasion options that could be actioned – also from a defense and security point of view. The same logic also applies to some various regional or economic interest groups whose real interests are (often) far removed from the Kremlin's. Have we thought enough – across the 2x2 taxonomy we have proposed about actionable investment options there?

As just one example: one of the – largely unexpected – upside risks here with respect to Russia is vested in Russia's biggest and closest Slavic neighbor: Ukraine. The election of President Zelenskiy is arguably one of the biggest systemic challenges to the current Russian regime. President Zelenskiy himself, whose mastery of the Russian language remains to this day far superior to that of the Ukrainian language, who got elected on an pro-Western/European, anti-corruption, pro-ending the war agenda has in his brief term in office already amply demonstrated his willingness to take the (non-kinetic) battle to Russia. The TV-show (*Sluga narodu*) which he produced and in which he played the lead role of a president who attacked the country's oligarchic-kleptocratic system is now the third most popular TV-show in the Russian Federation.[123] This means that there is an unprecedentedly promising value proposition in Dutch investments in leveraging these Ukrainian efforts to suade Russia in a direction that both they and us would find beneficial.

4.3.4 The Individual Level

Another potentially interesting area in which strategic (dis)suasive options could be designed lies at the individual level. The Industrial Age redesigned defense and security at the national level and embedded it in Industrial Age technologies.[124] We already see how that is starting to change. In the more scholarly literature – and nowhere more than in post-modern Europe – the concepts of societal and even human security are starting to gain ground. In the real world, we see various politicians and states (micro-) target specific individuals based on information that is available on them – through social media, sms, robo-calls, etc. So far, these concepts have not really received large-scale applications into any actionable defense and security capabilities. Could they?

123 "The number of views of foreign TV shows increased by 190%. This jump occurred due to the release of the final season of the Game of Thrones. The Top 3 also included the Chernobyl HBO series and 'Servant of the People' from the Ukrainian studio Kvartal-95." Лебедева, "Зрители выбрали Президента Украины."

124 De Spiegeleire, Maas, and Sweijs, *Artificial Intelligence and the Future of Defense: Strategic Implications for a Small Force Provider*.

We submit they certainly could and actually already are. The issuing of individual sanctions against Russian individuals by the European Union, and various other Western countries are already an example of this trend. But could this precedent be expanded to also include military capabilities? Could individual commanders and/or leaders of weapon producing companies be held personally accountable for any infractions of international law that they might contribute to? The powerful signals that the convictions from the Tribunal of Former Yugoslavia (and before that, the Nuremberg trials, etc.) sent all over the world cannot be underestimated. Every single potential war criminal now knows that s/he can be held personally accountable before an international court of law, and that the evidence of his acts can be unearthed. If we – as international community, as states, as societies or even as individuals were able to change the verb in the previous sentence from *can* to *will*, this may create a powerful dissuasive (even deterrent) effect.

5. Towards Suasion Design

Today, the deliberate design of a strategic suasion options portfolio – to the extent it happens at all – is primarily driven by strategic planners that are still very much ensconced in the mindset of an Industrial-Age strategic management model and in the Industrial Age paradigm of what defense is what it does and with what means it does it. HCSS has already advocated a transition to a new form of preparing purposive strategic action we have called strategic *design*,[125] in line with recent management theory and practice in a number of different more experiential schools clustered around human-centered design thinking. All of these new schools start not from the planning communities themselves (the 'supply' side), but from the actual demand for solutions for products or services from the end users. They spend much more time conducting (and continuing to conduct) ethnographic research about the stakeholders on both the supply side and the demand side of any market, thinking about various contextual challenges and opportunities that would surround possible forms of interaction between these two communities, developing clear metrics that would help in gauging whether or not a solution would contribute to the actual problem and then quickly ideating and prototyping some solutions to test to what extent they may prove viable.[126]

5.1 What Does Strategic (Dis)Suasion Design Look like?

Strategic design would start with an in-depth analytical evaluation of the party whose actions we are trying to dissuade. What is she really trying to achieve? Why does she select and engage in the courses of action that she does? What do we know about her previous responses to (dis)suasive efforts – also by third parties? Rarely will these

125 De Spiegeleire, Wijninga, and Sweijs, *Designing Future Stabilization Efforts*; De Spiegeleire et al., *The Wheel of Fortune*; De Spiegeleire et al., *Si Vis Pacem, Para Utique Pacem. Individual Empowerment, Societal Resilience and the Armed Forces*; De Spiegeleire, Maas, and Sweijs, *Artificial Intelligence and the Future of Defense: Strategic Implications for a Small Force Provider*; Sweijs et al., *Playing to Your Strengths*; De Spiegeleire and Bekkers, "Who Says Generals Can't Dance?"; De Spiegeleire et al., *STRONG in the 21st Century. Strategic Orientation and Navigation under Deep Uncertainty*; Sweijs et al., *Strategic Monitor 2015*.

126 We want to make a special note here about the imperative inclusion of value for money metrics in the evaluation efforts – both when different ideation options are articulated and prioritized, but also in the follow-up of the actual rollout of those options and the gathering of feedback on them. Because deterrence and especially nuclear deterrence are often put in a separate category from all other defense planning categories, and because it is often ring-fenced, with special dedicated long-term budgets, many defensive security planners may not even be fully conscious of the significant opportunity costs of (especially nuclear) deterrence options. In our overview of the literature, we were struck but how little of a role this value-for-money aspect plays in the literature on deterrence. This, despite the fact that we know the extremely high proportions of defense budgets that are allocated to nuclear deterrence in those countries that have nuclear weapons. The same logic applies, however, to the more conventional (kinetic) deterrence capabilities.

questions lend themselves to unequivocal answers. The most important aspect of this homework, therefore, consists of mapping the different 'facts' and interpretations that different experts may have given in a structured way that can then subsequently be used in other parts of the analysis. But in all cases, we would submit that an in-depth data collection effort of all the relevant events of and data about the key actors involved in strategic interactions with the deterree is indispensable. New datasets and -tools furthermore give us unprecedented opportunities to pursue this 'ethnographic' stage of the design process.

The second most critically important aspect of the homework to be done prior to starting to design an options portfolio, is to analyze one's own (comprehensive) capability portfolio in this context. HCSS has emphasized the importance of designing such a capabilities options portfolio in previous research.[127] An important distinction to be made here, is the one between the military order of battle of a country and its broader capability options portfolio. Capabilities are not primarily about weapon systems. They are about the ability to perform certain actions in order to period to achieve certain effects.[128] This "ability to…" can be defined at different levels. The strategic functions, like deterrence, are one of the higher-level abilities that should be thought through in a strategic option design. Those higher-level strategic functions can and should then subsequently be declined in lower level abilities to be analyzed and designed.

The identification of a portfolio of potential strategic (dis)suasive options would then follow suit. It is important to recognize that actual strategic design would imply some quite fundamental changes in the ways our governments' approaches to strategic policymaking and planning.[129] While the question of how we can bring policymaking into the Post-Industrial Age deserves more serious scrutiny, our ambitions for this effort are far more modest. We set out to identify some promising strategic suasion elements in three design sessions – one in September with a small group some representatives of the Dutch government to test the waters, one in Kyiv with a larger group of representatives of the Ukrainian defense and security ecosystem, and another bigger one in The Hague with a larger group of representatives of the Dutch defense and security ecosystem.

5.2 Testing the Waters – Strategic (Dis)suasion Design Sessions on Russia

For this research effort, we decided to use the Russian case to explore possible strategic suasion portfolio options, as it has once again become one of the main scoping drivers

127 See footnote 125.
128 De Spiegeleire, "Ten Trends in Capability Planning for Defence and Security."
129 De Spiegeleire et al., "Implementing Defence Policy."

for the Alliance's defense planning efforts and as it also is of significant (economic, security – and after MH17 also legal) importance to the Netherlands.

We started with an initial shorter design session in which we brought together a small group of Dutch government representatives to present and discuss the general strategic (dis)suasion framework sketched in an earlier version of this report and to start ideating and debating an initial list of Dutch strategic (including capability) suasive options across the four cells of our 2x2 suasion matrix and across the four levels of analysis we identified in this paper. The scope of this initial test session was comprehensive and focused on all instruments of power that the Netherlands could potentially harness to affect Russian international behavior. The results of this test session were used in the design of two more substantial design sessions that took place in Kyiv (October 28, 2019) and in The Hague (October 30, 2019). In each session, a mixed group of about 50 participants spent an afternoon ideating actionable policy options for how Western liberal democracies might deal with 4 different future Russia's. Two of the main additional aims of these design sessions were, besides generating actual options, to a) explore whether or not such more inclusive policy option generation efforts might add value to more traditional (bureaucratic-political) governmental processes, and also b) whether stimulating diversity by running such sessions in different liberal democracies with quite diverse political, economic, societal and military traditions and contrasting degrees of exposure to Russian assertiveness enriches the options portfolio.

Both sessions were structured around four different future Russia's, which had been generated through a quite extensive meta-analysis of recent Western and Russian foresight studies on Russia, and four different 'topics' on which we wanted to elicit actionable policy options from our participants. Briefly summarized[130], the four (all post-Putin) Russia's consisted of:

- ***'Putinism forever'***, in which the main characteristics (and vacillations) of the 'Putin system' survive his departure;
- ***'Stalinism on AI-steroids'***, in which hardliners use artificial intelligence to re-create a truly authoritarian and mostly autarchic country bent on undermining liberal democracies;
- ***'Raspad',*** in which Russia disintegrates into a very diverse group of post-Russian smaller geopolitical entities with different political, economic, societal and international characteristics; and
- ***'Back to Europe'***, in which Russia rejoins the community of liberal democracies and becomes a more European country – still *sui generis*, but more in line with other European countries.

130 Fore more details, see De Spiegeleire and Sapolovych, "Four Scenarios of Future Russias."

The four topics included three common ones for both sessions (deterrence, compellence and sanctions) and one location-specific one: the Baltics in The Hague – in light of Dutch participation in NATO's Enhanced Forward Presence – and Ukraine itself in Kyiv. In both sessions we had about 50 participants from different walks of life, with the The Hague session heavier on civil servants, and the Kyiv session more focused on civil society, business and academia. The details of these sessions are in the process of being written up in another report fully dedicated to the design sessions. This report will just present some of the key findings of both sessions with respect to the topic deterrence. These findings are based on the actionable policy options (APOs) that were generated in both design sessions. An APO each of which typically[131] consists of a triple: a) the actor(s) pursuing a policy option, b) that policy option itself and c) the target(s) at which it is directed. These options were subsequently coded by the HCSS team primarily based on the CAMEO-coding scheme for actors and events that is also used in most automated event datasets[132]; but also on some additional HCSS-coding schemes like our 'dismel' scheme, which bins actions in diplomatic, informational, (non-military) security, military, economic and legal categories. The results of this coding effort were entered into Tableau, a popular and intuitive data-analytical visualization software tool, which led to the visuals displayed in the next section of this report.

5.3 Insights from the Design Sessions

Both design sessions generated 89 actionable policy options for the topic 'deterrence' – 55 in the Kyiv session and 34 in the The Hague one (Figure 14). The detailed descriptions of these options as well as their interactive visualization can be consulted on Tableau Public.[133]

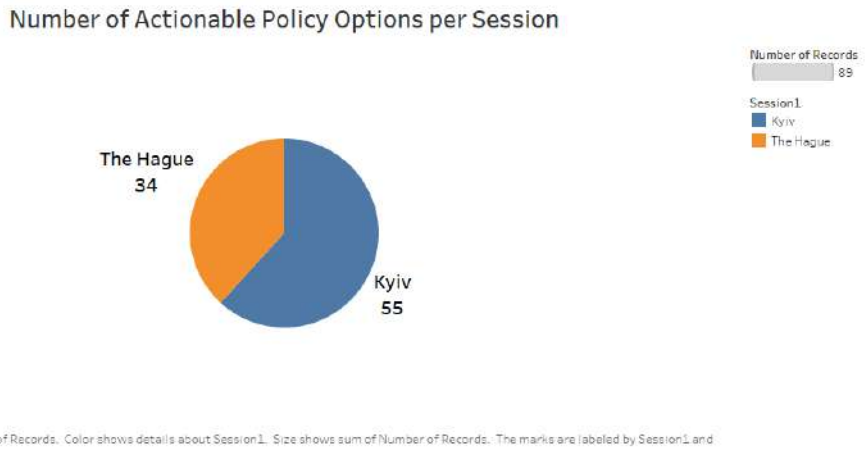


Figure 14: Actionable policy options per design session

131 In some cases, no source or target actor were identified.
132 Holynska et al., "Events Datasets and Strategic Monitoring"
133 Stephan De Spiegeleire et al., "Mapping Future Russias (Forthcoming)" (February 15, 2020).

A first interesting observation is how few purely military deterrent policy options were identified in both places – even in a country that is waging a 'hot' war with Russia. To provide a few of these military examples: participants in The Hague proposed for the EU to position a permanent military presence at the border with Russia, while in Kyiv people suggested that the West should deploy international forces to Russia if it disintegrates, in order to deter extremist groups from capturing weapons of mass destruction. The most 'popular' functional deterrent categories were actually diplomatic and economic ones – both in The Hague (where we had proportionally more civil servants and representatives from the Ministry of Foreign Affairs) and in Kyiv (where there were more representatives from civil society).

A second notable finding is that participants in The Hague had an easier time identifying deterrent options than those in Kyiv: the former ended up with 36% of all codes being deterrent ones, whereas in Kyiv that figure was only 27%.[134]

Suggesting ways for dealing with different future 'Russias', participants were more inclined to suggest deeds than words (Figure 15). Three quarters of all policy options (69 out of 89) were 'material'.[135] The number of conflict vs. cooperation events was exactly the same – 44 to 44.[136] This means that even when we asked to think about 'negative' compliance-seeking efforts that aimed at making Russian NOT do something, our participants thought as much about 'sticks' as about 'carrots' – an intriguing finding in its own right that provides further support for the 2x2 taxonomy we proposed in this report. This finding also holds across the two locations – both Ukrainian and Dutch participants generated an almost equal number of options for each type.[137]

With respect to the different scenarios that were used to trigger participants' creativity (Figure 16), the *Raspad* (Russia disintegrates) scenario appears to have been the most stimulating one, with especially Ukrainian participants being able to come up with a significant number of (self-defined) deterrent options, including restricting flow of money and people from the new states and preventing these states from creating military alliances. Participants in The Hague generated an almost equal number of options for each of the scenarios with *Stalinism on the AI steroids* getting slightly more than others. The only more positive future, *Back to Europe* intriguingly generated the

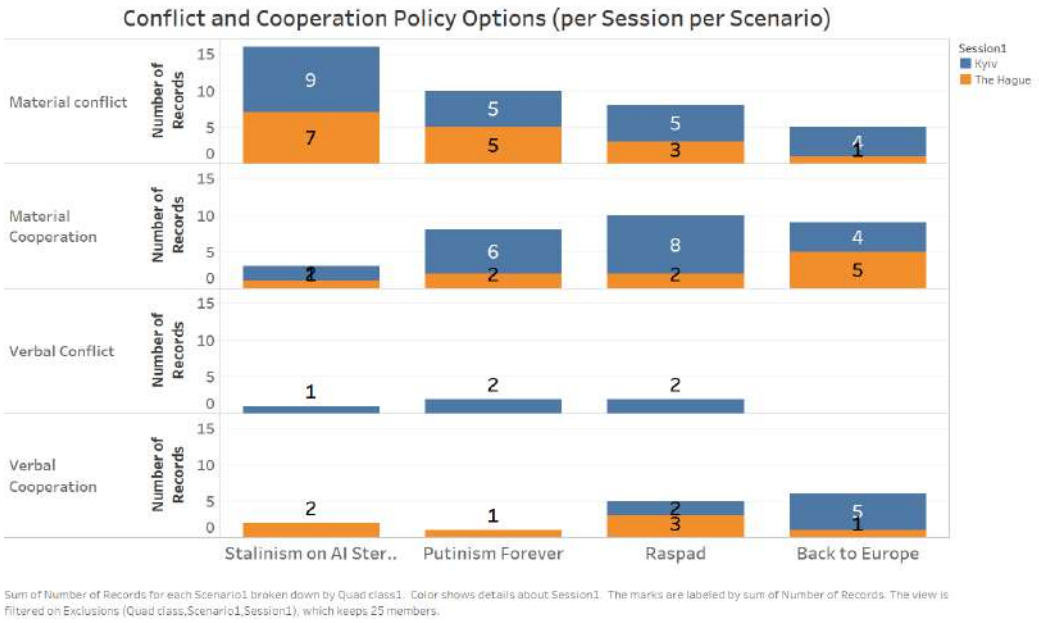
134 We should note that a) the topics were not identical in both sessions (with compellence, deterrence and sanctions being topic in both places, but with the Baltics being the fourth in The Hague, and Ukraine in Kyiv – still both topics in which deterrence should presumably play an important role); b) the composition of both groups was different (e.g. the Dutch session has a higher number of professional military participants); and c) that not all APOs that were generated would be coded as truly 'deterrent' ones by HCSS (although the discussion around these options really did take place under the banner 'deterrence').

135 For this classification we used one that is widely used in event datasets and aggregates CAMEO codes into four quadrants: verbal vs material and cooperation vs. conflict. Full CAMEO codebook can be found here: Schrodt, "CAMEO Conflict and Mediation Event Observations Event and Actor Codebook."

136 One policy option was purely domestic so it could not fit into any quad class category

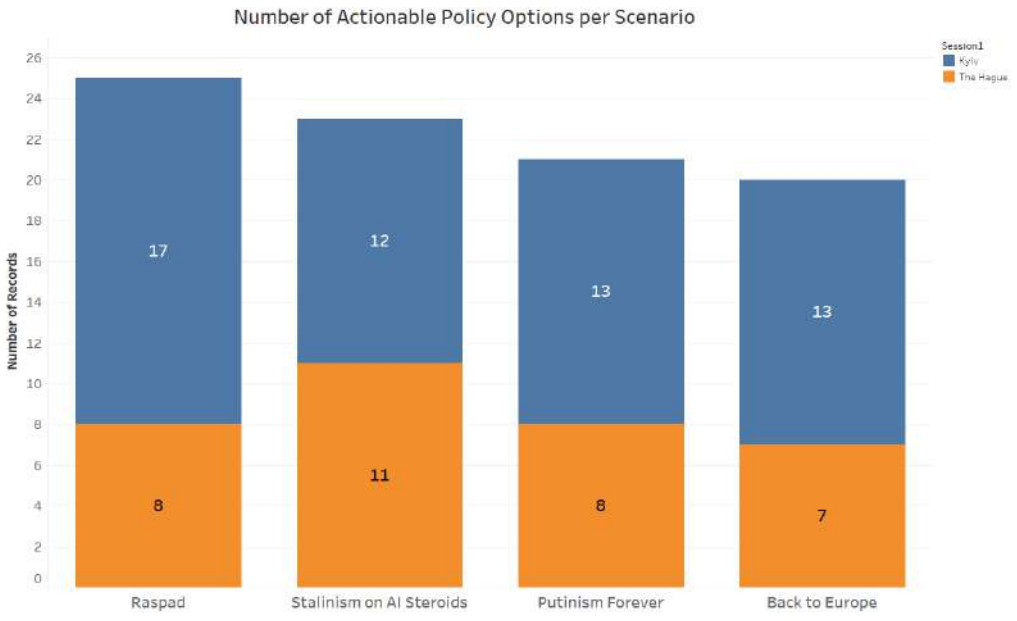
137 We also point out that conflictual APOs were clearly dominant in the *Stalinism on AI steroids* scenario, a more balanced approach of both conflict and cooperation was suggested for the *Putinism forever* scenario and cooperation is once again prevalent in the *Raspad* and *Back to Europe* scenarios.

smallest number of options in both locations. This may be partially due to the nature of the scenario (why would a more European Russia have to be deterred?), but honesty also compels us to mention that there was significant blowback against this optimistic scenario in Kyiv, because many felt it was entirely implausible. Another possible explanation – that would be quite troubling (but not without other evidence) – is that Europe has forgotten to think creatively about more positive future scenarios for Russia.



Sum of Number of Records for each Scenario1 broken down by Quad class1. Color shows details about Session1. The marks are labeled by sum of Number of Records. The view is filtered on Exclusions (Quad class,Scenario1,Session1), which keeps 25 members.

Figure 15: Actionable policy options: verbal/material and conflict/cooperation breakdown



Sum of Number of Records for each Scenario1. Color shows details about Session1. The marks are labeled by sum of Number of Records.

Figure 16: Actionable policy options per scenario

A closer look at the breakdown by policy-codes of the APOs that were recorded for each session (Figure 17) reveals a number of interesting insights. The most popular policy option even for this deterrence topic in Kyiv was to 'provide aid' – present in all scenarios except for *Back to Europe*. In the *Raspad* scenario, aid for the 'post-Russian' entities should predominantly come in the form of economic assistance, according to Kyiv participants, while for Putinist Russia it should be directed at various organizations that could create an alternative to the regime (i.e. progressive (liberal, pro-democratic) elites). The most popular policy for participants in The Hague was the need to "influence" Russia and its allies as well as newly established states replacing a disintegrated Russia.

For the most 'extreme' scenario (*Stalinism on steroids*), participants of both sessions selected policy options that would deter this future Russia from its anticipated (aggressive) behavior. The – by far – single most popular policy option in Kyiv was to 'reduce relations'. Kyiv participants generated a quite diverse range of options: from more assertive actions towards this regime such as 'exhibit military posture' and 'fight' to – even – 'provide aid', mentioned twice out of 12 policy options generated for this scenario. This once again confirms our above-mentioned claim that dissuasion can also be achieved through 'carrots' and not just through 'sticks'. In The Hague, policy suggestions for this scenario were much more evenly distributed with each of them having 1-2 mentions and only "exhibit security posture" being mentioned 3 times.

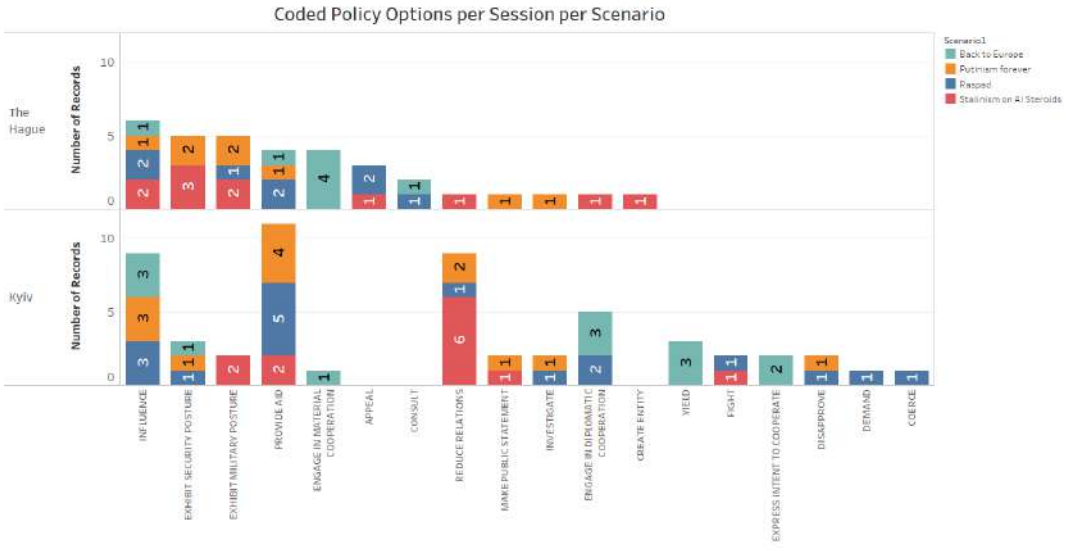


Figure 17: Actionable policy options per session per scenario

The *Putinism forever* scenario showed even more differences between the two sessions. The most popular policy option in Kyiv here was again to 'provide aid' (four mentions) with 'influence' a close second. The Hague participants, on the contrary, (slightly) favored 'exhibit military posture' (an option entirely absent in Kyiv but mentioned two

times in The Hague) and 'exhibit security posture'. None of the options, developed for this scenario, included any diplomatic or material cooperation, and the most radical options such as 'assault', 'fight' or 'coerce' were not even suggested by the participants in either location. Moreover, the mentioned actors that should be assertive towards Putinist Russia are purely collective: one generic actor (mentioned very frequently) – 'the West' – as well as a coalition of European Union and NATO. Kyiv participants also specified who in Russia should be targeted by these actors in their influence – Russian business and media.

Discussing a Russia that would return to Europe (*Back to Europe*), both Ukrainian and Dutch participants placed much emphasis on cooperative actions. In Kyiv three policy options received equal attention: 'engage in diplomatic cooperation', 'influence' and 'yield'. The option 'yield' appeared twice in Kyiv with different actors but the same idea: West should give up its nuclear weapons and so should the new Russia. In The Hague, material cooperation was mentioned four times with other options being much less popular.

Even more discrepancies were visible in the *Raspad* scenario. In Kyiv, a broader scope of options was developed, including one mention of 'fight'. But this 'fight' option had a generous aim as it was to be done for the greater good: "Policy action #16. The West should deploy international forces to the newly established states in order to prevent capturing of WMD by extremist groups or mass humanitarian challenges for civilians." But the most popular options were 'provide aid' (five mentions in Kyiv and two in The Hague) and 'influence'.

As we mentioned the actionable policy options did not only consists of the options themselves, but also of the concrete actors who had to either initiate or be the targets of these options. Also, these 'agency' codes ("Who?" And "To Whom?") yield some intriguing results. With respect to the 'source' actor who would be supposed to initiate the deterrent policy option (Figure 18), the more generic actor of "the West" is, as was to be expected, the most frequently mentioned, followed by the European Union and a "coalition" of Western countries and organizations (i.e. EU, NATO and the USA). These three actors are thought to be the main 'shakers and breakers', with the US playing a decidedly more subdued role (mentioned separately only once during Kyiv sessions, in other instances jointly with the other actors, i.e. the EU, NATO, etc). It is unclear to what extent this finding is a 'conjunctural' reflection of the Trump administration's current attitudes towards Ukraine and Russia as opposed to a more 'structural' expression of an increased European inclination towards strategic agency in its immediate neighborhood. The Netherlands as a deterrer in its own right is only conspicuous by its absence.

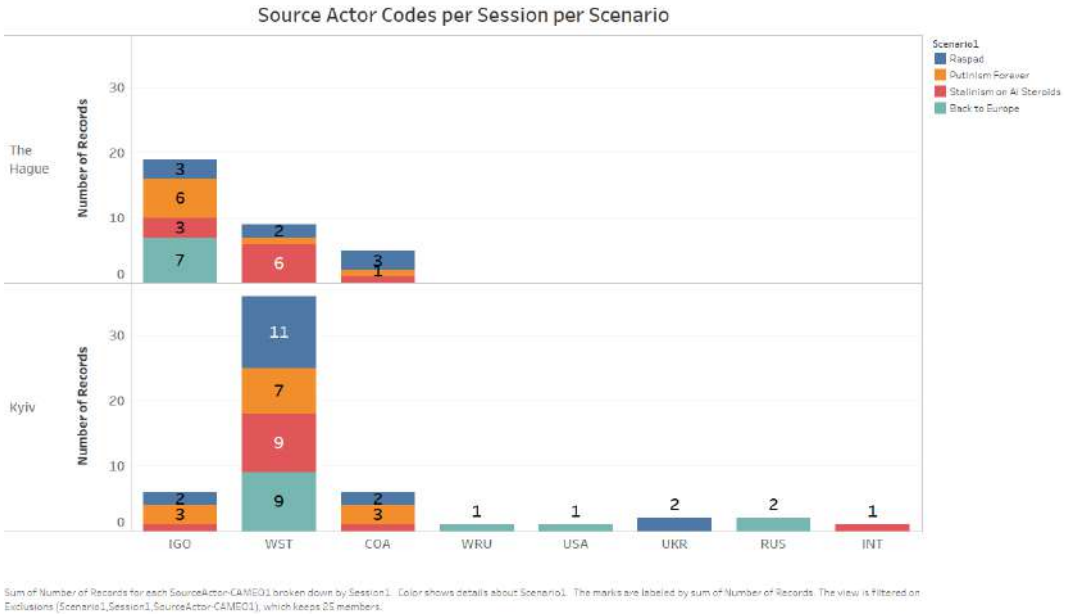


Figure 18: Source actor codes per design session per scenario

The Ukrainian participants clearly put far more faith in the generic term 'the West' as the main Russia-deterrer than the Dutch participants, who, interestingly, regard the European Union as the key actor here (the EU is mentioned almost twice as much as NATO). The fact that in Kyiv only two policy options actually had Ukraine as the source actor also suggests that Ukraine's own international agency is still seen (at least in this group) to be secondary to 'help from the outside'.[138] The participants of both sessions also did not focus too much on elaborating on which specific government actor that should implement the option, with the subcodes business, parliament and several others mentioned only a very few times.

A look at the target actors (Figure 19) reveals that 'Russia' proper (including the post-Russian states in the *Raspad* scenario that were coded as "New States of Russia" – NSR) was by far the dominant target in both sessions. Russian allies as well as Russia as a part of a broader coalition were mentioned only four times. One might question whether this 'frontal' focus on Russia does sufficient justice to possible 'indirect' deterrent opportunities.

Our team did not only apply (slightly amended) top-level CAMEO actor codes to all APOs, but also second- and sometimes third-level ones – always using three-letter codes. So, for instance, the top-level code RUS (for Russia) could be broken down into RUSGOV (for the Russian government), and then further into RUSGOVMIL (the

138 We also have to note here that we 'framed' this Kyiv design session as an attempt by 'Westerners' to listen to what Ukrainians think the West ('liberal democracies') should do about Russia. But having said that, we still emphasized that we considered Ukraine to be a part of that concert of liberal democracies and that we were also eager for them to explore what they themselves could do.

(official) Russian military) or RUSGOVLEG for the (Russian Parliament). A drill-down into these lower-level actor codes for Russia as a target shows that both groups still had difficulties to disassemble 'Russia' into a wider array of potential deterrent targets. 18 mentions of Russia in Kyiv and 8 in The Hague (out of 31 and 15 respectively) did not have such further breakdown. For Ukrainians, Russian media and business did turn out to be important targets within two of the scenarios (*Stalinism on AI Steroids* and *Putinism forever*).

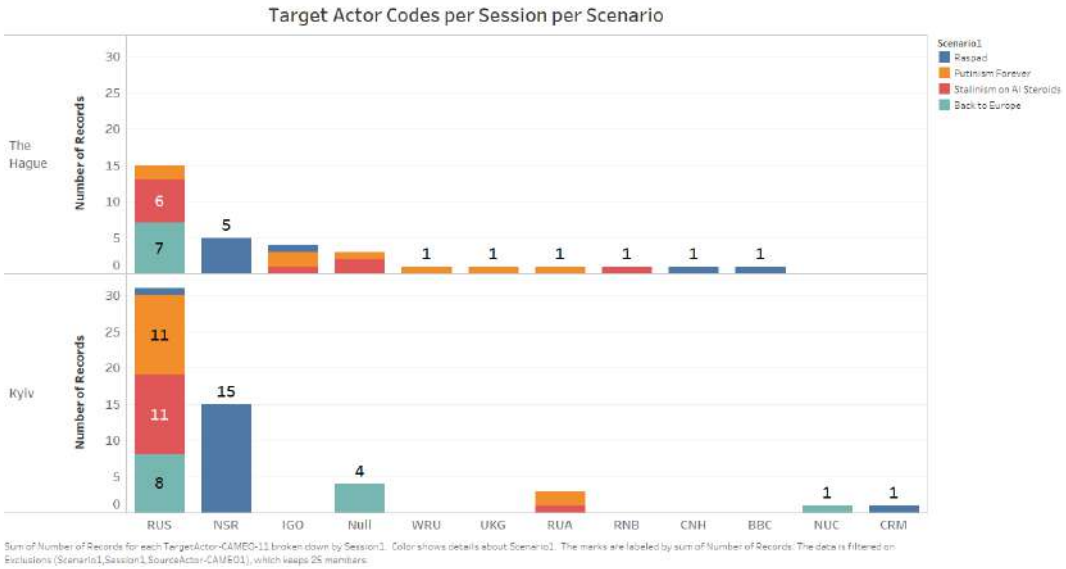


Figure 19: Target actor codes per design session per scenario

A final insight we want to highlight pertains to the very nature of this effort. HCSS was able to assemble a quite diverse groups of professionals from various walks of life in two extremely different parts of Europe to think through future 'deterrent' policy options for dealing with (quite) different future Russias. In the course of one single afternoon, these groups were able to collaboratively walk through a number of Russia scenarios and policy topics, generate initial policy options, 'red-team' those and then reformulate them into the (slightly) more refined options that we have aggregated, visualized and presented in this section of this report.

By framing the task at hand a) starting from a strategic objective or function (e.g. "how can we bring Russia NOT to pursue a course of action that IT may want to pursue but that WE may deem undesirable for us") and not some operational task (e.g. "how do we make sure our nuclear deterrent continues to be effective in the current-day strategic environment" or "how can we deter cyberattacks"); and b) 'comprehensively' and not just militarily (let alone from a weapon-system angle), these groups relatively quickly were able to come up with a set of refined policy options. US Gen Breedlove (USAF, Rtd) who was present and active in both design sessions, emphasized a number

of times how useful the insights of such an exercise would have been to him when he was the Supreme Allied Commander Europe at NATO.

The (still partial) results reported here were obtained in just two afternoons. In only two countries. With diverse but ultimately still bounded and self-selected groups of participants. With limited means. Dealing with 'deterring' only one country. Focusing on only the 'ideation' part of the 'design thinking' effort, and not on the subsequent parts. We submit that a more sustained effort to engage a much broader subset of the wider defense and security ecosystem in our countries on a more permanent basis in such strategic design efforts would greatly bolster our 'comprehensive' efforts to discover more intelligent and effective ways to achieve our strategic objectives – including (but not limited to) our efforts at strategic deterrence. We would also posit that our (semi-)controlled experiment shows that diversity truly does add value – a thought that should buoy the European Union, the European Defence Agency and NATO Allied Command Transformation in their efforts to move beyond lowest-common-denominator efforts.

6. Conclusion

We conclude with five – from our point of view important – policy-relevant observations about deterrence/'dissuasion'; one ensuing top-level recommendation for the Dutch defense and security organization, and a final reflection on why Europe – and especially its smaller and more pragmatic 'force' providers, may possibly be in a better position to craft a new, more constructive, approach to designing a more truly 'strategic' capability portfolio.

The five important points about deterrence and the uses our defense and security organizations may wish to make of it are based on an attempt to rationally analyze the pros and cons of various policy options from an effects-based point of view ("does deterrence actually help in achieving the strategic effects we wish to obtain?") and not on any moralistic judgments either in favor or against the use of any form of terror, let alone nuclear terror, for security and defense purposes.

First, we concur with many other scholars, analysts and pundits that the debate on deterrence, for better *and* for worse, is back. It is indeed an important *strategic function* that governments may want – and need – to re-explore with more rigor, creativity and in more detail, given the changed international security environment. But while we agree with the increased salience of international deterrence, we disagree with the still quite dominant knee-jerk reaction to fall back upon the tenets of the particular 'International Relations/Security'-version of deterrence theory as it emerged in the cauldron of the post-World War II era. We acknowledge and document in our literature review that a new wave of deterrence thinking is indeed emerging. That wave recognizes that deterrence has become more difficult in the current polycentric world, with many types of instabilities involving a wider array of state and non-state actors engaging each other in a multitude of ways across different domains in both cooperative and conflictual modes. But much effort is still being expended on figuring out whether the canonical (fear- and punishment-based) Cold War tenets of deterrence can be repurposed to deal with new issues such as terrorism, cyber-deterrence or hybrid deterrence. This report claims that we may need a far more fundamental and creative re-imagination of truly more multifaceted purposive strategic – including dissuasive – action.

Secondly, our research suggests that we have seen diminishing returns to the overall purposive instrumentalization of fear and terror across human endeavors and history. Because of our conviction that the concept behind deterrence deserves a far more

fundamental re-think than it has received so far, we cast our research review nets much more widely than usual – both by going much further back in time than most of our colleagues, *and* by looking at a far broader range of both theoretical and empirical inquiries into the theory and practice of deterrence. This report presents a meta-meta-analysis of different disciplines that have a) thought hard and deep about how useful it is to instrumentalize fear to achieve one's goals; and b) have amassed and teased out the findings from far richer datasets than the field of international relations/security has so far been able or willing to collate. This uniquely broad meta-analysis provides ample evidence that the strategic manipulation of fear in human existence has empirically declined fractally over time. We would even venture the hypothesis that at this juncture in time existential fear plays such a small role in people's everyday lives in most parts of the modern and (especially) postmodern world that it has become increasingly difficult – whether for better *or* for worse – to instrumentalize it successfully for any purposive reasons, including in the defense and security realm.

This hypothesis leads us to a ***third*** important finding which is that the most essential part of deterrence is not so much the instrument that is being used (the *means*), but the objectives (/*ends*) that are being pursued and the *ways* in which *means* are being harnessed to achieve that 'dissuasive' purpose. We argue that the very term 'deterrence' actually conflates two important but very different dimensions in one word: a) the 'what do we want to achieve?' principle (in the case of deterrence: to prevent somebody from doing something); and 2) the 'how do we want to achieve it?' (in the case of deterrence *stricto sensu*: through fear). Disentangling these two elements leads to a 2x2 matrix (Figure 20), in which deterrence finds itself in the bottom right cell.

This matrix illustrates two important points that we feel may also have implications for our nations' defense and security investment priorities. The first is that even if one's objective is to make another actor not do something, using 'sticks' (the use of fear and punishment or even just discouragement) is not the only 'way' in which that goal can be achieved. Thinking through what can be done to dissuade other actors from pursuing undesired courses of action through positive incentives (the top-right cell in the matrix) may

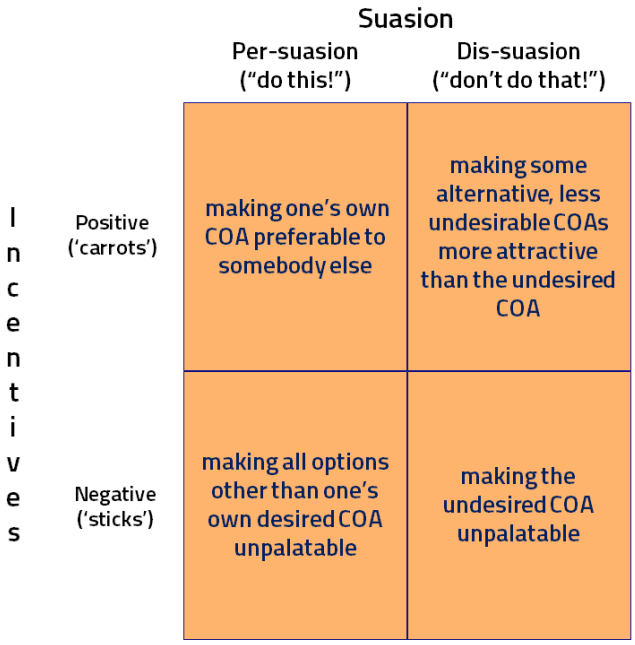


Figure 20: A 2x2 'suasion' matrix

deserve more attention that it currently receives. But the second point is a broader one. Most of the defense and security literature maintains a dogged focus on framing efforts to achieve desired outcomes through 'suasion' campaigns (or maybe better – compliance-seeking effort) based primarily on incentivizing an opponent not to pursue a course of action that is deemed inimical to one's own, as opposed to incentivizing that same actor to pursue an alternative course of action that is less inimical or maybe even amicable to one's own (i.e. including the two left quadrants in the matrix). One may wonder whether that truly is the most intelligent (let alone cost-effective – especially in the long-term) approach to obtaining and sustaining our defense and security objectives.

Many of the earlier writings on deterrence in a defense context[139] were acutely aware of the need to put deterrence within this broader effort space – in ways that subsequent policymakers (and other scholars) seem to have forgotten or underestimated. Our analysis of other walks of life that have struggled with this very same and very human conundrum suggests to us that the "taxonomic disorder and strategic confusion"[140] surrounding the various ways in which international actors can make other international actors comply with their wishes is at least at big as the field in which that expression was first coined (communication/advertising research). Building on that literature, HCSS has started to inventorize and categorize various 'compliance seeking efforts' that are used in (also international) interactions. Early exponents of that research effort are already visible in the way in which we coded the deterrent 'actionable policy options' that were elicited from participants from various walks of life in two 'design sessions' on this topic in two very different parts of Europe. We have also suggested a simpler but hopefully still useful 2x2 matrix that at least disentangles the means (terror vs. delight) from the end (making somebody do something vs. making somebody not do something). So our third finding is that if we want to discover more effective actionable 'compliance seeking' (including dissuasive, including deterrent) policy options, we may have to put more creative effort in the identification and operationalization[141] of and experimentation with various 'compliance-seeking efforts'

139 Certainly, Tom Schelling himself, but Glenn Snyder, Alexander George and many others.

140 Kellermann and Cole, "Classifying Compliance Gaining Messages."

141 This finding is similar to Alexander George's observation that: "two types of knowledge relevant for policy analysis of emergent situations in which consideration is given to employing deterrence, coercive diplomacy, or other strategies discussed in this chapter (reassurance, conciliation, conditional reciprocity). These are, first, the somewhat abstract conceptual models of the strategy and, second, generic knowledge of the strategy. To this, the third type of knowledge emphasized throughout the chapter is actor-specific behavioral knowledge of the adversary in question". George, "The Need for Influence Theory and Actor-Specific Behavioral Models of Adversaries," 482. The authors of this report want to highlight the importance of all three, but of specifically this last point. Rephrased in our own vocabulary that we used in this report, our taxonomic efforts correspond to George's first type of knowledge; our attempt to compress that multidimensional taxonomy in the coding scheme that we started using for coding the actionable policy options from our design sessions seem close to George's second type of knowledge. But while we consider these two efforts quintessential to our appeal to reimagine 'deterrence'; we could not concur more with George's (joined in this respect RAND's Paul Davis in much more recent work (Davis et al., "Deterrence and Stability for the Korean Peninsula.") third point. In other ongoing work, HCSS (together with the US-based Georgia Institute of Technology) is applying a variety of new data-science tools to build a better knowledge base (RuBase) with actor-specific behavioral knowledge of at least one 'country of concern' – the Russian Federation; as well as the knowledge that can be gleaned from the more dynamic interactions between that country and others.

that aim to dissuade actors from pursuing their own desired courses of action through both sticks and carrots and that do so in ways that diminish rather than increase the likelihood of even more destabilizing strategic mayhem.

Our ***fourth*** conclusion is that there may or may not still exist a significant amount of underexplored options to instrumentalize fear in order to achieve either positive or negative outcomes; or to not only use sticks but also carrots to achieve a dissuasive outcome – but that any analytical prioritization efforts along these lines should be based on a hard-nosed and well-founded balance of investment analysis that juxtaposes the various ways to achieve desired outcomes, and then decides which ones of these to include in a hopefully balanced options portfolio that provides excellent value for money and can subsequently still be recalibrated based on changing environments or new technological, sociological, identitary or other developments. The two key differences with our current planning constructs here would be a) not to start from how we deter now (including the means we use for that), but to instead start from our strategic objectives – what we want to achieve; and b) to include costs in this analysis – financial costs, but also other costs through some 'better roughly right than precisely wrong' multi-criteria decision-making approaches. At this point, the design sessions we conducted merely identified various new elements of a possible dissuasion portfolio and stopped short of comparing these with each other based on a number of different criteria (including costs). We would submit that the richness of the findings we were able to generate that way still indicates that the same inclusive, participatory format could be used to not just come up with various policy options, but to also perform some inter-subjective, multi-criteria trade-off analysis across these various options.

This report's ***fifth*** and final insight is that a more 'designer'ish approach to strategic planning may offer great promise. The industrial age in many ways saw (linear) 'operational art devour strategy'. Strategic defense planning in the industrial age has tended to be quite linear (as opposed to rhizomatic); tactical-operational (as opposed to strategic); deterministic (as opposed to complex-adaptive); inward- and process-focused (as opposed to outward- and effect-based); closed Weberian-governmental (as opposed to comprehensive/open/ecosystem'y); threat-based (as opposed to capability-based); platform- (or system-)centric (as opposed to – again – effect-based). As our societies are moving beyond the industrial age and are starting to radically 'reimagine' key policy areas such as health, education, crime, etc. – is it conceivable that defense and security might follow suit?

What do these five insights mean for the Dutch Defense and Security Organization (DSO) and what it should now do about deterrence? Some may have expected a report like this to culminate in a clarion call to a) put (even) more money into defense and security so that we can start deterring current and future opponents again; b) become

more forthright on nuclear deterrence and the role that small and medium-sized force providers (can) play there; and c) explore how the Dutch DSO could apply familiar Cold War ideas about (mostly nuclear) deterrence to 'new' areas like cyber and/or hybrid deterrence. This report cautions against such – in our view probably overly simplistic and ill-guided but certainly premature – temptations. This report's research efforts essentially leave its authors agnostic about which concrete financial and/or capability choices are to be made. It suggests that we are not yet in a position to make considered judgment calls about this and would be well-advised to return to the proverbial drawing board to bring some more much needed clarity and sanity to this debate. Much along the lines of what a handful of strategic thinkers did after World War II at the dawn of the Cold War and the nuclear age.

We submit that this report does offer a number of – in our view – promising both conceptual and practical handles that may help in making some progress along these lines. We therefore recommend a strategic rethink of the strategic function (dis)suasion in which a small and pragmatic defense and security organization, like the Dutch one, may be in a unique position to play a path-blazing role. We – frankly – doubt that the adapted[142] 'French' version of the 'strategic functions' that was 'borrowed' by the Dutch Future Policy Survey will prove to be the last word on the 'strategic functions' taxonomy. Our – incipient – work on (multi-disciplinary) 'compliance-seeking efforts' suggests that a more truly 'comprehensive' taxonomy may end up looking differently from the current one. And so, this think piece ends up with one principal recommendation to the Dutch DSO, in which deterrence is just one example – a *pars pro toto* – for a much broader and more fundamental exhortation. It is high time to start putting significantly more (and more sustained) creative applied design thinking into the strategic functions taxonomy that played such a prominent role in the 2011 Future Policy Survey. HCSS already tried to reanimate this debate by examining another strategic function that ended up being so important to our armed forces in the past two decades: stabilization. This report extends and expands that analytical effort by starting to reimagine the strategic function deterrence – or, as we would relabel it, dissuasion. Our main takeaway therefore is that there is ample room for a more comprehensive, inclusive and transparent mapping of the various (actionable) strategic policy options that a country like the Netherlands, in all of its agency manifestations, might identify in order to (also cost-)effectively perform various strategic functions – including dissuasion. Such a debate could end up in a strategic options space that the Dutch polity, economy and society could pragmatically pre-chew and strategically assess, could make choices from to craft its own dissuasion portfolio, and could then constantly recalibrate that portfolio based on new insights, technologies or changing circumstances.

142 The French White Books only contain 5 strategic functions that are essentially identical to the Dutch ones, but they do not include the functions stabilization and normalization. Sarkozy, *Défense et sécurité nationale*; Hollande, *Défense et sécurité nationale 2013*.

This report's final thoughts go out to the unapologetically European inspiration behind this think piece. Current global thinking about dissuasion has been extraordinarily influenced by US thinking after World War II ('(rational) deterrence theory') and by the 'nuclear condition' that triggered this theory. Fear of being punished physically/militarily plays a critical role in this thinking. And yet our own European historical experience with 'deterrence' – the strategic manipulation of fear to prevent one's neighbors/opponents to behave in militarily unwanted ways – antedates the nuclear condition by a few centuries. For about two centuries, as European 'nation states' started making their apparition on the world map, virtually all European DSOs were (often obsessively) preoccupied with either discovering ways to expand their national territory at the expense of others or with dissuading others from doing so. Instilling fear of unacceptable punishment onto one's enemies was one of the main ingredients of this approach. It is what drove the punitive 'reparation' demands against the 'central powers' in the Versailles Peace Treaty after World War I, which only ended up fueling the politics of resentment – which are so palpable today again in some of the world's leading great powers – on both sides. It is what inspired one of the most shameful Allied acts of war late in World War II, now 75 years ago, when Allied bombers destroyed the mostly defenseless German city of Dresden with almost 8m pounds of explosives from more than 200,000 bombs – not primarily to punish Germany, but to demonstrate to the Soviet Union the liberal democracies' enormous destructive power. This episode pushed even UK Prime Minister Winston Churchill to write in a memorandum to the British chiefs of staff: "It seems to me that the moment has come when the question of bombing German cities simply for the sake of increasing the terror…should be reviewed"[143]. It is precisely the painful recollections of the prohibitive costs, chronic instability and negative consequences of these (deadly real) experiences that Europe suffered that have pushed our continent to break out of this vicious 'deterrence-*avant-la-lettre*' circle and to pursue radically and disruptively alternative portfolio options to overcome this perennial security dilemma in more sustainable ways.

After the disastrous outcome of World War II, the nuclear condition seemed to give the concept of deterrence a new lease on life. And yet, as the great powers (including the two European ones) started to – by and large – converge on a particular way of managing (interdependent) escalation ladders, Europe as a whole started spending more effort on imagining new, more creative compliance seeking 'ways' for its neighbors. These 'ways' were far less negative in nature than they had been in the past. Learning – the hard way – the negative lessons of its 'deterrence-centric' past, Europe, after World War II, relatively quickly decided on another, from hindsight more intelligent course of action. A course of action that initially, in those days, admittedly,

143 Winston Churchill, "Churchill Personal Telegram to Chiefs of Staff, D. 83d. 83/5 Top Secret," March 28, 1945, https://winstonchurchill.org/publications/finest-hour-extras/churchill-and-air-marshals-of-wwii/. The memo was subsequently redrafted removing the suggestion that the RAF has engaged in 'terror bombing'.

owed a lot to US far-sightedness and 'raw' power. But nevertheless, still a course of action that was independently pursued and that diverged from the historical 'way of doing things'. A course of action that, in the guise of the European Union, has brought back numerous EU member states to the top of various international rankings in terms that matter to its citizens.

The current international security environment – in the eyes of many analysts – seems to mandate a return to Cold War precepts of 'deterrence'. This report has advocated a different – in our view more European and more prudent – course of action. We wholeheartedly agree that Europe (/The Netherlands) needs to maintain the ability to obtain third powers' compliance with our own preferred courses of action across some high-level (hopefully thoroughly thought through and agreed) strategic option space. This imperative incontrovertibly also includes the ability to dissuade third powers from pursuing options that Europe(/The Netherlands) deems either unacceptable or undesirable. But we have also stressed that any strategically prudent approach along these lines needs to first and foremost intelligently map and explore the entire strategic option space of various plausible and promising compliance-seeking efforts; needs to then identify an optimal portfolio from within that options space – taking into account the idiosyncracies of both the compliance-seeker, but also the target-actor; and needs to then also take into consideration – as much as possible – the various (also complex-interactive) interactions that may emerge. We submit that a comprehensive re-imagining and re-design of the strategic function of 'dissuasion' (and not just 'deterrence') may usefully galvanize the Dutch defense and security ecosystem into designing a new strategic options portfolio that would give it a much better-grounded appreciation of the relative value-for-money propositions embedded in various strategic suasion options.

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