

The Great Divide in US Deterrence Thought

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Abstract

This article assesses different sides of the nuclear deterrence debate by examining opposing narratives supporting the relative simplicity versus complexity of maintaining deterrence.* The “easy deterrence” narrative posits that the essential requirements for stable mutual deterrence are not difficult to understand or meet and that the functioning of mutual deterrence can be considered largely predictable and reliable. In sharp contrast to this easy deterrence narrative, the alternative narrative envisions deterrence as difficult to establish and sustain and potentially requiring greater nuclear capabilities, contingency planning, and for some, strategic defensive capabilities. This article emphasizes the speculative nature of predictions about deterrence but suggests that the “difficult deterrence” narrative, with its recommended spectrum of deterrence threat options and focus on credibility, seems the most prudent in the contemporary threat environment. While the easy deterrence narrative has considerable confidence in deterrence because all rational or sensible leaders are expected to be cautious when confronted with a threat of societal destruction, the difficult deterrence narrative contends that such an expectation may be a “fatal error.” Difficult deterrence offers neither a definitive solution to the threat of nuclear use nor ease. It offers no cooperative global transformation and disarmament or confidence that deterrence will work easily and predictably across time. Instead, the difficult deterrence narrative confronts a dilemma that the easy deterrence concept avoids.

For seven decades, the question at the heart of the US nuclear policy debate has been how best to deter—specifically, the ease or difficulty of acquiring and maintaining effective deterrence capabilities. Contending easy and difficult deterrence narratives start from several

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common realist assumptions but posit contrary expectations about opponent calculations, decision-making, and behavior. The different expectations separating these narratives establish largely incompatible standards for deterrence and lead logically and directly to contrary definitions of deterrence requirements and the conditions for stability. The differences separating the easy and difficult deterrence narratives are so stark that proponents of the former often mistakenly contend that the latter is preparation for nuclear “war fighting,” not a deterrence strategy. The constant push and pull between these two alternative conceptions of deterrence and their respective requirements helps explain the decades-long US public nuclear policy debate. Observers wanting to understand how seemingly equally credentialed experts can make diametrically opposed claims about deterrence requirements must first understand the two competing narratives underlying those opposing claims. They must look behind the curtain.

Proponents of each narrative often criticize the other for offering risky force recommendations. They apply different and largely incompatible metrics to answer the question, How much is enough for deterrence? and unsurprisingly reach contrary conclusions. For example, depending on which deterrence narrative is the basis for judging, maintaining the US triad of strategic nuclear forces is either essential for continued deterrence or an unnecessary, destabilizing waste of resources. The integrity of the claim depends on the veracity of the narrative. However, neither side can rightly claim to “know” what will be required for the deterrence of unknown opponents in unknown circumstances over unknown stakes—it must be a matter of some speculation given the woefully incomplete information we have about the future. This article assesses both sides of the debate and suggests that the most prudent choice in the contemporary threat environment is the difficult deterrence narrative’s recommended spectrum of deterrence threat options and its focus on the credibility of those options. This suggestion, however, is made with full recognition of the unavoidable speculation involved. When it comes to projecting the future functioning of deterrence and its requirements against yet-unknown opponents in yet-unknown conditions, we are all amateurs looking at shadows on the wall.

The Easy Deterrence Narrative

During the Cold War, renowned academics—including Kenneth Waltz, Thomas Schelling, Bernard Brodie, and Robert Jervis—advanced basic points of an enduring narrative about mutual nuclear deterrence

commonly referred to as a “stable balance of terror”—“stable” meaning that neither side would have irresistible incentives to employ nuclear weapons or engage in provocations that would likely escalate to nuclear use. The simplified (and popularized) easy deterrence narrative is a pastiche that draws from these scholars’ innovative analyses. It incorporates various points appearing in their works but does not reliably reflect their variation, subtlety, or nuance. The discussion here *does not suggest* that Waltz, Schelling, Brodie, or Jervis necessarily advanced or even accepted all facets of the easy deterrence narrative, but that it incorporates various points found in their works.

The easy deterrence narrative posits that the essential requirements for stable mutual deterrence are not difficult to understand or meet and correspondingly that the functioning of mutual deterrence can be considered largely predictable.¹ Those deterrence requirements are rational or “sensible” leadership decision-making (or “a little common sense”) and properly controlled and safeguarded capabilities for strategic nuclear retaliation even after suffering an attack.² Schelling concludes that with such survivable second-strike capabilities, “a powerfully stable mutual deterrence results.”³ This narrative of relatively easy deterrence survived the Cold War and continues to be a powerful theme in public discussions of deterrence and its requirements.

The confidence of the easy deterrence narrative follows in part from three traditional axioms of realist thought. First, the international system is anarchic with mistrust among its members. Second, in this system, great powers generally prioritize the pursuit of national survival in their decision-making. Third, great powers are rational in that pursuit.⁴ Easy deterrence confidence follows from both a macro view of the international system and its anarchic structure and from the expectation that individual units (countries) will behave in predictable ways when facing a severe nuclear threat. Leaders able to reason will seek to avoid those actions that could precipitate an opponent’s devastating nuclear response. As Waltz states, “Deterrent policies derive from structural theory, which emphasizes that the units of an international political system must tend to their own security as best they can. . . . A little reasoning leads to the conclusions that to fight nuclear wars is impossible and that to launch an offensive that might prompt nuclear retaliation is obvious folly. To reach those conclusions, complicated calculations are not required. . . . [Deterrence] depends on fear. To create fear, nuclear weapons are the best possible means.”⁵ He adds, “In a nuclear world, to act in blatantly offensive ways is madness.”⁶ In short, the priority goal of protecting national sur-

vival and the fear naturally created by nuclear weapons combine to compel caution and provide deterrence.⁷

In 1983, the Harvard Nuclear Study Group observed that since the establishment of nuclear deterrence, the international system had avoided great power war despite many pressures that previously would likely have triggered conflict. The study group attributed this stability to the nuclear “balance of terror.” Why this unprecedented stability? It is because “nuclear weapons have created what we call the *crystal ball effect*. . . . This crystal ball effect helps give the nuclear world at least some measure of stability. Statesmen in the atomic age can envision the destruction of a full-scale nuclear war and it makes them determined to avoid it” (emphasis in original).⁸

Using the same “crystal ball” metaphor, Waltz points to the *unique* effectiveness of nuclear weapons for deterrence: “With conventional weapons, the crystal ball is clouded. With nuclear weapons, it is perfectly clear.”⁹ That is, “in a conventional world, deterrent threats are ineffective because the damage threatened is distant, limited, and problematic. Nuclear weapons make military miscalculations difficult and politically pertinent prediction easy.”¹⁰ A properly structured balance of terror is an overwhelmingly powerful deterrent because leaders must be cautious when national survival is at risk.

President John Kennedy’s national security advisor, McGeorge Bundy, observed that US and Soviet Cold War decision-making reflected this powerful peacekeeping effect of nuclear deterrence: “The stalemate that keeps nuclear peace between the superpowers is so deep and strong that it is not affected by the relative ruthlessness of the two societies or their different experience of twentieth-century war. What each can do to the other, whoever goes first, is more than enough to stay every hand that does not belong to a madman. . . . The imperative of avoiding nuclear war imposes great caution on both governments.”¹¹

Waltz elaborates on the same expectation: “Differences among nuclear countries abound, but for keeping the peace what difference have they made? . . . In a nuclear world, any state—whether ruled by a Stalin, a Mao Zedong, a Saddam Hussein, or a Kim Jong Il—will be deterred by the knowledge that aggressive actions may lead to its own destruction. . . . Who cares about the [differing] ‘cognitive’ abilities of leaders when nobody but an idiot can fail to comprehend [nuclear weapons’] destructive force.”¹² Waltz also suggests that “in a nuclear world any state will be deterred by another state’s second-strike forces. One need not become preoccupied with characteristics of the state that is to be deterred or scrutinize its leaders.”¹³ Why is this so? The answer, according to Bundy, is that “in

the real world of real political leaders—whether here or in the Soviet Union—a decision that would bring even one hydrogen bomb on one city of one’s own country would be recognized in advance as a catastrophic blunder; ten bombs on ten cities would be a disaster beyond history; and a hundred bombs on a hundred cities are unthinkable.”¹⁴

For leaders who are not “mad,” war between nuclear powers in a proper balance of terror simply *must* be avoided—no goal short of national survival could justify an action that would seriously risk “unthinkable” national destruction. Thus, “if decision makers are ‘sensible,’ peace is the most likely outcome.”¹⁵ This expectation regarding leadership decision-making inspires confidence in the predictable functioning of nuclear deterrence among states. Indeed, Bundy coined the term “existential deterrence”—meaning that a balance of terror creates the conditions needed for effective mutual deterrence without regard to many other factors—including the character of the sides involved or their relative nuclear capabilities.¹⁶ Waltz concurs, stating, “The [deterrence] effects of nuclear weapons derive not from any particular design for their employment in war but simply from their presence.”¹⁷

This point of the easy deterrence narrative leads to considerable confidence in a balance of nuclear terror to produce the reliable functioning of mutual deterrence. There are numerous popular, expert, and official Cold War and post-Cold War illustrations of this confidence in the predictable effect of nuclear deterrence. For example,

- “In US-Soviet relations, the current nuclear postures have substantially solved the problem of deterring deliberate nuclear attack. Under present conditions, no rational leader could conclude that his or her nation would be better off with a nuclear war than without one.”¹⁸
- “In the light of the certain prospect of retaliation there has been literally no chance at all that any sane political authority, in either the United States or the Soviet Union, would consciously choose to start a nuclear war. This proposition is true for the past, the present, and the foreseeable future. For sane men on both sides, the balance of terror is overwhelmingly persuasive.”¹⁹

In short, this narrative deems deterrence to be reliably effective in preventing large-scale attacks. In the absence of a “madman,” the crystal ball effect unique to nuclear weapons is expected to provide even the most aggressive leadership with clarity regarding the intolerable catastrophe that would attend nuclear conflict, thus preventing nuclear war and con-

flicts considered likely to escalate to nuclear war. A balance of terror provides existential deterrence.

Easy Deterrence Components

As noted, axioms of traditional realist thought underlie the easy deterrence narrative's expectation of the predictable, effective functioning of nuclear deterrence. However, three additional extra-realist propositions about leadership decision-making and the functioning of deterrence contribute to the conclusion that deterrence is largely predictable and "easy": societal threats, graduated options, and uncertainty.

Societal threats. The easy deterrence narrative typically contends that the nuclear "second-strike" capabilities needed for deterrence *are the survivable forces required to threaten punishment on an opponent's societal assets*. Nuclear capability *beyond* that needed to threaten societal destruction does not add to deterrence; it is unnecessary "overkill."²⁰ The expectation that a punitive threat of societal destruction can serve as the basic measure of adequacy for reliable deterrence was particularly prominent in Cold War academic treatments of the subject and in official US declarations regarding deterrence. Societal assets could include cities, industry, power, transportation, and population. However, from early in the Cold War, threats to population and cities became a type of shorthand for measuring deterrence strategies: "A force sufficient to kill the enemy's population and destroy his wealth is an adequate deterrent,"²¹ and "Deterrence comes from having enough to destroy the other's cities; this capability is an absolute, not a relative, one."²² The expectation of effective deterrence from societal threats (cities) has continued to be a theme in public commentary in the post-Cold War era: "Deterrence today would remain stable even if retaliation against only ten cities were assured."²³

This general expectation that punitive threats against an opponent's society can deter reliably is not based on the unreasonable presumption that all opponents are enlightened and dutiful civil servants. Instead, "what government would risk sudden losses of such proportion or indeed of much lesser proportion? Rulers want to have a country that they can continue to rule," and this would be put at risk by nuclear deterrent threats to their societies.²⁴ Deterrence works reliably and predictably at nuclear force levels that are easy to acquire and maintain because opponents with a modicum of common sense will place decisive value on the preservation of their nation's societal assets—which generally are relatively few, undefended, and highly vulnerable to modest numbers of nuclear weapons.²⁵

Confidence in deterrence based on punitive societal threats was not limited to academic discussions. In the 1960s, Secretary of Defense Robert McNamara's public and then-classified pronouncements regarding nuclear deterrence specified the US threat levels to Soviet society (population and industry) considered adequate for reliable nuclear deterrence. The precise numbers of his "assured destruction" metric for US deterrence capabilities shifted somewhat over time, but in a declassified 1964 draft presidential memorandum, Secretary McNamara defined US deterrence requirements as the US ability to destroy "25 percent of [the Soviet] population (55 million people) and more than two-thirds of [Soviet] industrial capacity."²⁶ McNamara's "assured destruction" metric represented the "flat of the curve" for the number of US nuclear weapons needed to threaten the specified levels of destruction on the Soviet population and industry. Beyond a specific number of weapons, the additional level of societal destruction possible with each additional weapon rapidly diminished. The computation of the declining marginal value of additional US nuclear weapons against Soviet societal targets determined the percentiles declared as deterrence standards and the capabilities necessary to meet those standards.²⁷

By the mid-1960s, Secretary McNamara expressed great confidence in the reliability of this type of deterrence threat: "Such a capability would, with a high degree of confidence, ensure that we could deter under all foreseeable conditions, a calculated, deliberate nuclear attack on the United States."²⁸ He "had come to believe that the US deterrent capability, the nation's strategic offensive forces, not the damage-limiting strategic defensive forces, protected American society."²⁹

There is no single commonly agreed number of nuclear weapons deemed adequate for deterrence based on punitive threats to an opponent's societal assets. However, many scholars suggest a range from "hundreds" to far fewer.³⁰ This deterrence narrative and metric has since become a prominent, enduring theme in public commentary about US nuclear deterrence requirements. The following are some examples:

- "Most professional analysts of the subject believe that the prospect of about one hundred thermonuclear warheads exploding over urban areas is more than enough to deter either side from starting a nuclear war. . . . I personally believe that very much smaller numbers are sufficient to deter war; I have used numbers like one hundred only because it is customary to do so in such arguments."³¹
- "No current or conceivable threat to the United States requires it to maintain more than a few hundred survivable nuclear weapons. The

delivery of fewer than a hundred warheads could destroy the society and economy of any country, and tens of detonations could kill more people than have ever been killed in any previous war.”³²

- “A reasonably small force of several hundred weapons would allow that state to strike back over 100 times before it had to negotiate. No state on the planet could withstand that sort of punishment, and no sane leader would run that sort of risk.”³³
- “Ten to one hundred survivable warheads should be more than enough to deter any rational leader from ordering an attack on the cities of the United States or its allies.”³⁴
- “Fewer than 100 warheads is sufficient to inflict a wholly unacceptable level of damage on a continental-sized economy, and suggests that—even for the most enthusiastic proponent of nuclear deterrence—maintaining an arsenal at higher than that level is unnecessary.”³⁵

In short, this narrative contends that deterrence is easy to achieve and sustain because a punitive nuclear threat of societal destruction requires relatively few weapons and is made transparent by the crystal ball effect. A modest survivable second-strike capability will serve to compel all but “mad” leaders to “draw back from the brink.”³⁶

Graduated options for deterrence. An important additional element of this easy deterrence narrative is the contention that US capabilities for limited or graduated nuclear threats can help to deter limited attacks or prevent escalation in the event an initial failure of deterrence leads to an opponent’s limited attack. Schelling, Waltz, and Jervis essentially endorsed the threat of graduated (limited) response options as part of a US deterrence strategy to demonstrate US will and thereby deter limited attacks and help control escalation if deterrence initially fails.³⁷ They identified the capability for graduated demonstration-of-will threats as particularly important for extending US nuclear deterrence coverage to allies.

This rationale for graduated nuclear options is not based on the potential military effects of limited nuclear employment but on certain expectations. One is that brandishing limited nuclear threats can help deter an opponent’s limited nuclear provocation by having proportional response options. Another is that having graduated threat options can help deter an opponent’s escalation if deterrence initially fails by demonstrating US resolve to escalate further if necessary—but doing so well below the ultimate deterrence threat of societal destruction. That “ultimate threat” could be held in reserve to help ensure that the opponent would continue to have

an overwhelming incentive *not* to further escalate a conflict for fear of unleashing its own nuclear destruction.

This rationale for limited nuclear threats also does not presume that a “limited” nuclear war could be fought safely or with any certainty that a limited war would remain so in any meaningful sense. It also is not an endorsement of nuclear “war fighting.” Rather, the existence of graduated options is intended to contribute to both the deterrence of limited attacks and the reestablishment of deterrence (“intra-war deterrence”) to bound escalation following a limited attack. Brandishing limited nuclear response options and thereby demonstrating resolve for these deterrence purposes has been an apparent feature of declared US deterrence policy since the mid-1970s.³⁸ As Secretary of Defense James Schlesinger observed at the time, “To the extent that we have selective response options—smaller and more precisely focused than in the past—we should be able to deter such challenges. Nevertheless, if deterrence fails, we may be able to bring all but the largest nuclear conflicts to a rapid conclusion before cities are struck. Damage may thus be limited and further escalation avoided.”³⁹ The capacity to issue graduated nuclear threats necessitates the manifest planning and control of forces that enable graduated threats to be known to opponents for deterrence purposes.⁴⁰

Uncertainty deterrents. The easy deterrence narrative typically includes another expectation about the functioning of deterrence that facilitates the conclusion that deterrence is easy and reliable. This second expectation is that opponents’ *uncertainty* about whether, when, and how the United States actually would execute its nuclear deterrent threat can provide *adequate credibility* for effective deterrence. An opponent’s uncertainty about the US deterrent threat can deter attack because the consequences of US retaliation would be so catastrophic if executed: “Uncertainty of response, not certainty, is required for deterrence because, if retaliation occurs, one risks losing so much.”⁴¹ Thomas Schelling posited that deterrence depends *not* on an opponent’s certainty that nuclear catastrophe would follow its highly aggressive action but on the “*chance*” that catastrophe would follow. Schelling famously called this “the [deterrence] threat that leaves something to chance.”⁴²

Early in the Cold War, Schelling explained why uncertain nuclear threats can deter in a balance of terror: “Any situation that scares one side will scare both sides with the danger of a war that neither wants, and both will have to pick their way carefully through the crisis, never sure that the other knows how to avoid stumbling over the brink.”⁴³ The possibility or

chance of great loss provides adequate deterrence because “a low probability of carrying a highly destructive attack home is sufficient for deterrence.”⁴⁴

This easy deterrence expectation that the chance of threat execution can provide effective deterrence is particularly important to the integrity of America’s extended nuclear deterrence umbrella to allies. It answers the concern that America’s threat of employing nuclear weapons in defense of allies should be seen as an unconvincing bluff, not an effective deterrent, *because doing so could easily result in the destruction of the United States.*⁴⁵ However, extended deterrence *can* be sufficiently credible to work—even if US execution of the threat would be self-destructive—because the opponent *could never be sure that the United States would not execute its deterrent threat* by way of an irrational act or the fog of war, and that chance is adequate to deter.⁴⁶ Consequently, the seemingly innocuous proposition that uncertain nuclear threats can deter reliably plays a central role in the easy deterrence narrative, particularly for extended deterrence.

This contention that deterrence can be based on uncertainty regarding the US nuclear threat contributes significantly to defining how much is enough for deterrence in terms that are easily achieved and sustained. How so? Effective deterrence does *not* require that the country attempting to deter *convince* opponents that it would, in fact, deliberately, rationally execute its nuclear deterrent threat if provoked. The country seeking to deter can forego those offensive or defensive strategic capabilities that might otherwise be thought necessary to *fully convince* opponents of the certainty of its deterrence threat—that it surely would be executed as threatened. Such additional requirements are unnecessary for effective deterrence because threat credibility with that sense of certainty is unnecessary. In short, not only are the required second-strike nuclear forces relatively modest and easily sustained, but additional strategic capabilities *are unnecessary to convince opponents of the logical credibility of the threat.*

Easy Deterrence: Reasons for Optimism

This narrative leads to considerable optimism about the ease and predictability of deterrence. However, Waltz, Brodie, and Jervis acknowledge that deterrence is not “ironclad” or foolproof. It could be upended by leaders who are not “sensible” in that “a small-number system can always be disrupted by the actions of a Hitler and the reactions of a Chamberlain.”⁴⁷ Jervis elaborates on why this is so: “Miscalculations are possible, even in situations that seem very clear in retrospect, and states are sometimes willing to take what others think are exorbitant risks to try to reach highly valued goals.”⁴⁸

Despite this caveat regarding deterrence that “nothing in this world is certain,” considerable “comfort” and “cautious optimism” are warranted with regard to the reliability of deterrence—not because leaders are reliably virtuous but because the dangers involved in reckless behavior are so obvious (the crystal ball effect).⁴⁹ According to Waltz, “With nuclear weapons, it’s been proven without exception that whoever gets nuclear weapons behaves with caution and moderation. Every country—whether they are countries we trust and think of as being highly responsible, like Britain, or countries we distrust greatly for very good reasons, like China during the Cultural Revolution—behaves with such caution.”⁵⁰ Brodie adds, “The leaders of no country will wish to risk the total destruction of their country. . . . We should not complain too much because the guarantee is not ironclad.”⁵¹

In addition, even if an individual leader is reckless, “those who direct the activities of great states are by no means free agents.”⁵² There may be a variety of pressures contributing to sensible behavior that are beyond the character of a particular leader or leadership, including the possible refusal of those who carry out orders to engage in reckless actions. As 2007 Nobel Laureate professor Roger Myerson says in this regard, “Our most dangerous adversaries are not lone madmen, however, but are leaders with political support from many people who have normal hopes and fears. Psychopathic militarists like Hitler become a threat to our civilization only when ordinary rational people become motivated to support them as leaders.”⁵³ For nuclear deterrence in a proper balance of terror to fail, “one would have to believe that a whole set of leaders might suddenly go mad.”⁵⁴

Also, as noted, the absence of war among great powers since the end of World War II suggests the predictable reliability of nuclear deterrence: “Never since the Treaty of Westphalia in 1648 . . . have great powers enjoyed a longer period of peace than we have known since the Second World War. One can scarcely believe that the presence of nuclear weapons does not greatly help to explain this happy condition.”⁵⁵ This extraordinary history, according to Waltz, argues *against* the expectation that nuclear deterrence is likely to fail. Indeed, he finds it “odd” that “a happy nuclear past leads many to expect an unhappy nuclear future.”⁵⁶

Finally, this narrative includes the expectation that if deterrence fails at some point, graduated nuclear options and intra-war deterrence can help prevent escalation. While there are no guarantees, “even if deterrence should fail, the prospects for rapid de-escalation are good.”⁵⁷

Easy Deterrence Force Planning

The force recommendations that follow from the easy deterrence narrative focus on the need for survivable nuclear capabilities that *are able* to hold an opponent's societal assets at risk but *are not able to threaten the opponent's own deterrence forces*. What is the reason for this balance? Stable deterrence follows from the ability to threaten the opponent's societal assets, but a capability to threaten the opponent's own deterrence forces is not consistent with a stable *mutual* balance of terror. Forces able to strike an opponent's offensive deterrence forces on the ground and air defenses or ballistic missile defenses intended to protect cities are likely ineffective and unnecessary for deterrence. And they would threaten to upset stability by calling into question the opponent's deterrence capability. Such forces could cause an opponent to doubt the effectiveness of its deterrent and thus drive the opponent to move in haste to gain the possible advantage of striking first rather than waiting to absorb an initial undeterred blow.⁵⁸

Offensive or defensive forces that might threaten the pre- or post-launch survivability of an opponent's deterrence forces could in this way create what Schelling called "the reciprocal fear of surprise attack."⁵⁹ Avoiding such "destabilizing" forces promotes reliable deterrence because "the *likelihood* of war is determined by how great a reward attaches to jumping the gun, how strong the incentive to hedge against war itself by starting it, [and] how great the penalty on giving peace the benefit of the doubt in a crisis" (emphasis in original).⁶⁰

Confidence in the reliable working of deterrence also contributes to the conclusion that attempting to physically protect society against strategic nuclear attack not only is unnecessary for deterrence and potentially destabilizing but also is of limited potential value because a stable balance of terror provides reliable protection via deterrence—and does so *in the absence of such defenses*. Waltz summarizes this point with the rhetorical question, "Why should anyone want to replace stable deterrence with unstable defense?"⁶¹ He further states, "In a nuclear world defensive systems are predictably destabilizing. It would be folly to move from a condition of stable deterrence to one of unstable defense."⁶²

Correspondingly, the easy deterrence narrative's general guidelines for stable deterrence *favor* the survivable, modest offensive capabilities able to threaten societal assets, which could include "targets that are crucial to a nation's modern economy, for example, electrical, oil, and energy nodes [and] transportation hubs."⁶³ However, the same guidelines *argue against* (1) offensive nuclear systems able to threaten the pre-launch survivability of an opponent's own deterrence forces and (2) strategic defensive capabilities

designed to physically protect one's own society. The concern that strategic defenses could destabilize deterrence has been a prominent theme in US strategic thought and policy for decades and continues to be present.⁶⁴

In summary, based initially on several points of traditional realist thought and the three elaborations described above, early in the Cold War a compelling and even comforting deterrence narrative emerged that posits the ease and efficacy of a balance of terror to prevent nuclear or large-scale conventional war. US policy never followed this deterrence narrative in its entirety, and official public characterizations of US deterrence requirements became increasingly distant beginning in the mid-1970s. However, the easy deterrence narrative's relatively modest and narrow force requirements for a stable balance of terror and related arguments against "destabilizing" strategic offensive and defensive capabilities were, and continue to be, prominent themes in the US public debate about deterrence and force requirements.

The Difficult Deterrence Narrative

During the Cold War, a largely separate set of prominent academics and scholars contributed to a markedly different nuclear deterrence narrative. This alternative narrative certainly concurs that deterrence is valuable, even necessary, for the United States in an anarchic international system. It includes some variation and has evolved over decades. However, in sharp contrast to the easy deterrence narrative, this alternative narrative envisages deterrence as *difficult* to establish and sustain and as potentially demanding considerably greater nuclear capabilities, contingency planning, and for some, strategic defensive capabilities. Correspondingly, its general force guidelines are quite different from those of the easy deterrence narrative.

This alternative deterrence narrative emerged early in the Cold War—at least in part in response to the inadequacies some scholars saw in the sanguine easy deterrence narrative. They included most prominently Herman Kahn and Albert Wohlstetter and, more recently, Colin Gray. For example, Wohlstetter begins his famous 1958 paper, *The Delicate Balance of Terror*, with the following:

I should like to examine the stability of the thermonuclear balance which, it is generally supposed, would make aggression irrational or even insane. The balance, I believe, is in fact precarious, and this fact has critical implications for policy. Deterrence in the 1960's will be neither inevitable nor impossible but the product of sustained intelligent effort, attainable only by continuing hard choice. . . .

... While feasible, it will be much harder to achieve in the 1960's than is generally believed. One of the most disturbing features of current opinion is the underestimation of this difficulty.⁶⁵

This classic early work captures much of the basic criticism of the easy deterrence narrative and points toward a competing deterrence narrative derived from the works of Kahn, Wohlstetter, Gray, and others. In contrast to the easy deterrence narrative, it sees the pursuit of deterrence as an ongoing and difficult challenge, with no fixed approach and no corresponding finite and fixed set of nuclear capabilities that can predictably provide the desired deterrent effects.

Bernard Brodie's commentary on Wohlstetter's contention of a "delicate balance of terror" illustrates a fundamental disagreement between these two competing deterrence narratives: "I could never accept the implications of [Wohlstetter's] title—that the balance of terror between the Soviet Union and the United States ever has been or ever could be 'delicate.' My reasons have to do mostly with human inhibitions against taking monumental risks or doing things which are universally detested."⁶⁶ Brodie's comments demonstrate that while both approaches to deterrence share some points of realist origin, they posit (1) strikingly different expectations about possible leadership decision-making and behavior; (2) different expectations about the functioning of deterrence; and (3) correspondingly, different answers to the question of how much is enough for deterrence.

While the easy deterrence narrative has considerable confidence in deterrence because rational or sensible leaders can generally be expected to be cautious when confronted with a threat of societal destruction, the difficult deterrence narrative contends that such an expectation may be a "fatal error." This is because "not all actors in international politics calculate utility in making decisions in the same way. Differences in values, culture, attitudes toward risk-taking, and so on vary greatly."⁶⁷ Rational or sensible leadership decision-making can include unique decision-making factors that drive leaders' perceptions and calculations of value, cost, and risk in surprising, unpredictable directions. An examination of multiple international crises leads to the assessment that "the personality of an individual determines the reaction to information and events. A leader's nationality, passion, idealism, cynicism, pragmatism, dogmatism, stupidity, intelligence, imagination, flexibility, stubbornness, and so on, along with mental disorders such as depression, anxiety, and paranoia, shape reactions and decisions during a crisis."⁶⁸

Colin Gray points to the variability in leadership perceptions and calculations in his full rejection of the easy deterrence narrative. Such uncertain-

ties present deterrence planners (and defense planners in general) with an incomplete basis for confident prediction of opponent behavior “no matter how cunning their methodology or polished their crystal ball.”⁶⁹ As a result, “there is massive uncertainty over ‘what deters’ (who? on what issue? when?).”⁷⁰

In short, the functioning of deterrence “is heavily context dependent.”⁷¹ The confident expectation of an opponent’s sensible caution when confronting a severe societal deterrence threat may be upset by a variety of factors that may not be obvious in advance to an outside observer. For example, an opponent’s hierarchy of values may posit an expectation of *intolerable cost* associated with *not* acting; an opponent may be willing to take great risks in unwavering pursuit of a cherished goal or be confident that it need not conciliate because the deterrer itself will yield; an opponent may be unwilling or unable to recognize great risk; and unexpected technical, operational, or organizational factors may prevent the hoped-for deterrence outcome from prudent leadership decision-making.⁷²

A 2014 study by the National Research Council of the National Academy of Sciences emphasizes that accounting for such factors is critical in considerations of deterrence.⁷³ Indeed, advancements in cognitive science have demonstrated the significant degree to which decision-making often is governed not only by prudent cost-benefit calculations but also by many possible less predictable factors. These include people’s tendencies to act on the basis of their emotional and cognitive biases, such as seeking confirmation of their opinions; being overly optimistic; focusing on their wins versus losses, or survivorship; and making decisions based on expectations of normalcy versus planning for new or potential events.⁷⁴

Numerous analyses of historical case studies indicate that these types of factors can affect leadership decision-making and thus the functioning of deterrence.⁷⁵ In one such study, King’s College professor Richard Ned Lebow notes that “even the most elaborate efforts to demonstrate prowess and resolve [for deterrence] may prove insufficient to discourage a challenge when policy makers are attracted to a policy of brinkmanship as a necessary means of preserving vital strategic and domestic political interests.” He further suggests that “these cases and others point to the importance of motivation as the key to brinkmanship challenges. To the extent that leaders perceive the need to act, they become insensitive to the interests and commitments of others that stand in the way of the success of their policy.”⁷⁶

The difficult deterrence narrative does not share the expectation that the crystal ball effect will reliably mitigate all such inherently human

decision-making factors and thereby reliably lead to opponents' caution and prudence in response to even severe punitive deterrence threats. Because the definition of what constitutes "sensible" leadership thinking and behavior can vary greatly, generalized expectations of how easily deterrence *should* function vis-à-vis sensible leaders and the finite forces that *should* reliably deter them may be misleading at best *apart from the specifics of a case*.⁷⁷ This conclusion contrasts sharply with the easy deterrence expectation that sensible leaderships can be expected to respond similarly to a severe deterrence threat, that is, with caution.

Variation in Decision-Making

A reliably effective deterrent threat must overcome the possibly wide variation in opponents' perceptions, calculations, and decision-making. For the difficult deterrence narrative the implications of this seemingly academic point are enormous. For example, different leaderships may place highest priority on different values, national or personal—potentially dashing confident expectations of how deterrence *should* function if leaders are sensible. While Schelling, Waltz, Jervis, and Brodie clearly recognize the potential of variability in decision-making and the fact that deterrence is not "ironclad," it is the difficult deterrence narrative that is influenced greatly by the potentially distorting effects of this variation on the predictable functioning of deterrence and on its requirements.

The difficult deterrence narrative points to various historical case studies in which opponents did not reason or behave as expected by the easy deterrence narrative as evidence that deterrence may not function as it projects. While many historical examples are available, two brief cases illustrate this point. The first occurred in 1962, when Nikita Khrushchev moved nuclear weapons to Cuba despite his expectations that, as a consequence, "they can attack us and we shall respond" and that "this may end in a big war."⁷⁸ During the same crisis and in an expression of socialist ideological zeal, the Cuban leadership urged Soviet leaders to launch a nuclear attack against the United States despite its recognition that the consequences would be a horrific war and the destruction of Cuba.⁷⁹

In the second example, occurring in October 1973, Egypt and Syria launched a massive armored attack against Israel to restore national honor despite the reported possibility of Israeli nuclear retaliation.⁸⁰ US leaders were surprised by this large-scale attack on Israel and the Yom Kippur War because, according to Secretary of State Henry Kissinger, "Our definition of rationality did not take seriously the notion of [Egypt and Syria] starting an unwinnable war to restore self-respect. There was no defense

against our own preconceptions.”⁸¹ The Egyptian and Syrian leaderships’ decision to risk another war with Israel followed from their extreme motivation to change the status quo and restore honor.⁸² Their motivation to act overshadowed their caution, a dynamic that was outside Kissinger’s “definition of rationality” and easy deterrence projections.

The difficult deterrence narrative is driven by the point that this variability in leadership decision-making means that *deterrence is not easy*, in part because deterrence planning must be done “with reference to the unique details of the case in hand.”⁸³ It must, for example, reflect an understanding of the potentially unique values or assets held most dear by different opponents because those values or assets may vary and yet must be put at risk for deterrence purposes. In contemporary deterrence policy jargon, this narrative has evolved to include the corresponding point that deterrence strategies must be “tailored” to take into account the unique context and characteristics of the opponent in question.⁸⁴

The easy deterrence narrative typically contends that a punitive US threat to an opponent’s societal infrastructure reliably constitutes a near-universally applicable deterrence threat. But having an arsenal suited to threaten “easy” societal targets may be inadequate for deterrence if the material assets or intangible values opponents hold most dear are other than *societal assets*. To focus only on one general form of punitive deterrence threat per the easy deterrence narrative risks having a strategy that does not apply to the opponent in question when necessary. Consequently, this difficult deterrence narrative contends that deterrence requirements must include nuclear forces capable of threatening a spectrum of plausible opponent values and assets, potentially including an opponent’s diverse and hardened military targets. Kahn insisted during the Cold War that an “adequate” US nuclear deterrent “demands more and better offensive forces” than the simple capability to threaten societal assets.⁸⁵ This call for greater and more diverse nuclear capabilities does not reflect a “nuclear war-fighting” goal vice deterrence as easy deterrence critics often contend. Rather, it reflects a more demanding definition of deterrence requirements. Indeed, the logic of the difficult deterrence narrative is captured by Kahn’s observation that planning for deterrence should not be limited to expectations of

a complacent and cautious enemy. Even a frown might do that [deter]. Our attitude should be the same as an engineer’s when he puts up a structure designed to last twenty years or so. He does not ask, “Will it stand up on a pleasant June day?” He asks how it performs under stress, under hurricane, earthquake, snow load, fire, flood, thieves, fools and

vandals. . . . Deterrence is at least as important as a building, and we should have the same attitude toward our deterrent systems. We may not be able to predict the loads it will have to carry, but we are certain there will be loads of unexpected or implausible severity.⁸⁶

Physically Defending against Nuclear Attack

The differences separating the easy and difficult deterrence narratives transcend the latter's greater requirements for strategic nuclear capabilities. For *a select cadre of those contributing to the difficult deterrence narrative*—including Herman Kahn, Donald Brennan, and Colin Gray—it also included the requirement for some capabilities to physically defend the United States from nuclear attack. Their argument for strategic defensive capabilities follows again from the significance for deterrence of the variation in leadership decision-making—in this case revolving around *the need for deterrence threat credibility*.

Herman Kahn was particularly critical of the easy deterrence contention that uncertainty or chance can provide sufficient threat credibility for reliable deterrence.⁸⁷ He emphasized the connection between physically defending the United States and having a *sufficiently credible* extended nuclear deterrent for allies. Kahn insisted that a “not incredible” US deterrence threat is needed to extend deterrence coverage to allies reliably, and that achieving *that level of threat credibility is dependent on the US capability to protect American society to some extent*. Why so? Kahn argued, in a true “balance of terror,” the US extended deterrent was likely to *be incredible* because the opponent's capability for a nuclear reply against US society could be seen as precluding US willingness to employ nuclear weapons on behalf of an ally. He believed that such an act could, in effect, be suicidal for the United States and thus not adequately credible for extended deterrence, stating that “it will be irrational [for the United States] to attack and thus insure a Soviet retaliation unless we have made preparations to counter this retaliation.”⁸⁸ His basic point was that deterrence credibility is based not only on the US threat that can be posed against an opponent, but on the punishment the opponent could inflict in return on the United States if Washington were to carry out its deterrent threat.⁸⁹ If an opponent's punishment of the United States is likely to be seen as intolerable, even if the US deterrent threat is recognized as severe by the opponent, *that threat may not be sufficiently credible to deter in a crisis*.

Neither Kahn nor Gray suggests that for deterrence purposes such defensive preparations must be “perfect” (likely a hopeless goal), but rather sufficiently effective to lead the opponent to conclude that it cannot

dismiss the US extended nuclear deterrent given US homeland vulnerability. This point of the difficult deterrence narrative contends that US extended deterrence responsibilities establish a requirement for some US homeland defensive capabilities that the easy deterrence narrative typically deems “destabilizing.”⁹⁰

Kahn and Gray also advanced a separate rationale for strategic defense capabilities that follows logically from the difficult deterrence narrative’s theme that deterrence is subject to potential failure. Kahn emphasized that because deterrence can fail despite best efforts to deter, the United States requires some defensive capabilities to reduce the level of possible catastrophe in the event of war. This is a matter of national prudence. As Kahn noted, “War can still occur and it is better to survive the war than not. Therefore one needs to have systems that can reduce the damage done in a war.”⁹¹ He emphasized that “so long as” strategic defensive capabilities are “technologically and economically possible,” they are needed for both extended deterrence credibility and “because it is prudent to take out insurance against a war’s occurring unintentionally.”⁹² Kahn’s colleague, Donald Brennan, elaborated the case for strategic defense of the United States during the Cold War, arguing that it was “bizarre” that US policy should prioritize offensive threats to Russians over defensive capabilities for Americans.⁹³ Kahn, Brennan, and Gray were mindful of the technical and financial challenges confronting these strategic defense goals. They contended, nevertheless, that the level of defenses needed for extended deterrence *credibility* was likely available and that a meaningful level of strategic defense for society could be available with reasonable investment, time, and policy attention.

US policy has moved incrementally and on a bipartisan basis over the past several decades toward acceptance of strategic ballistic missile defense capabilities for the United States *against limited* missile threats and theater missile defenses for allies and friends.⁹⁴ This move in policy in favor of defensive capabilities for the United States against limited missile threats appears to have been motivated by the emerging and unprecedented nuclear threats from “rogue” states. Remarked President George W. Bush, “In such a world, Cold War deterrence is no longer enough. To maintain peace, to protect our own citizens and our own allies and friends . . . we need a new framework that allows us to build missile defenses to counter the different threats of today’s world.”⁹⁵ This shift also reflects an apparent general belief that US missile defense capabilities are technically feasible/affordable against a “rogue” state’s *limited* strategic missile threat—as op-

posed to the contemporary prospects for defending against the large-scale missile threats posed by Russia and China.⁹⁶

However, the acceptance of the need for physical protection of the United States remains within some familiar easy deterrence-oriented limits. The Obama administration's unclassified 2013 *Report on Nuclear Employment Strategy of the United States* says that "the United States seeks to improve strategic stability by demonstrating that it is not our intent to negate Russia's strategic nuclear deterrent."⁹⁷ The Trump administration's 2019 *Missile Defense Review* says, "The United States *relies on nuclear deterrence* to prevent potential Russian or Chinese nuclear attacks employing their large and technically sophisticated intercontinental missile systems" (emphasis added).⁹⁸ US security against the large-scale nuclear threats posed by these great powers appears to be based *on deterrence, not* on capabilities for physical protection against such a nuclear attack. Contemporary US policy in this regard corresponds to Kahn's call for strategic defenses for the United States against limited nuclear missile threats, but *not* against large-scale Russian or Chinese nuclear threats.

Implications for the Evolving Nuclear Policy Debate

Nuclear policy debates tend to focus on some specific nuclear system, such as an ICBM or cruise missile. Advocates and opponents offer contrasting claims that the system in question surely is needed for deterrence or certainly is excessive and "destabilizing." These conflicting claims generally are extensions of the difficult or easy deterrence narratives' different expectations about the functioning of deterrence and speculation about the future contexts and types of opponents against which deterrence is expected to operate. They often reflect one deterrence narrative or the other as the basis for judgement because these narratives' differing expectations of context and character of the opponent determine how "stability" is defined and how deterrence requirements are calculated. However, rarely do the discussions focus on the narratives behind the competing arguments that a nuclear system is essential or excessive for deterrence—it is much easier simply to assert that "it's destabilizing" or "it's essential" as if there is a known, objective basis for making such statements. There is not; there are competing narratives based on differing speculative expectations about the future.

If the easy deterrence narrative's answers to the key questions about context and opponent are considered the more valid, then the associated easy deterrence force posture may be considered the most reasonable. If the difficult deterrence narrative's answers to these questions are considered

the more valid, then its more demanding associated force posture requirements may be deemed the most reasonable. Each narrative is the most reasonable *if judged from the prism of its own respective assumptions and logical framework*. However, each is woefully wrongheaded if judged by the other's: the easy deterrence force requirements are wholly inadequate if judged by the standards of the difficult deterrence narrative; the difficult deterrence requirements, in turn, are excessive and destabilizing if judged by the easy deterrence metrics. Both such judgements, however, are largely speculative by definition because they concern the future functioning of deterrence and its requirements—which will be shaped by currently unknown details of context and opponent.

In short, definitive contemporary claims about what will or will not be required for deterrence or what is excessive should be recognized for what they are—based on the different speculative assumptions about the future context and character of opponents underlying the competing narratives. This speculation cannot be resolved with great confidence by better methodologies or sharper analyses. There simply are too many inherent unknowns regarding the many possible factors that can affect the future functioning of nuclear deterrence and its requirements. As Kahn emphasized, there is a fortunate absence of empirical data regarding the outbreak of nuclear war on which to base definitive conclusions about the functioning of nuclear deterrence.⁹⁹ Gray provides the implications of this point: “It is all but self-evident that there can be no objectively correct answer. None of the candidate answers are testable, save by the verdict of future events.”¹⁰⁰

Which narrative ultimately is the more accurate depends then on which will prove to have captured the character of future contexts and opponents more precisely: Will the potentially diverse opposing leaderships' goals, perceptions, values, and modes of decision-making render opponent behavior unpredictable, even seemingly irrational to American observers—thereby making the functioning of deterrence particularly challenging—as is anticipated by the difficult deterrence narrative? Or, as anticipated by the easy deterrence narrative, will the contexts and character of opponents render punitive societal threats and the uncertainty of their execution adequate for deterrence to function predictably and reliably? If so, the easy deterrence force recommendations should correspondingly be adequate and the potentially “destabilizing” effects of physical defenses may indeed be of greater concern than the value of whatever level of added deterrence credibility and protection they might provide. As noted, however, the answers to these questions about the future cannot be known with precision

and confidence in the present given the irreducible uncertainties pertinent to the functioning of deterrence. Looking back from the twenty-second century, it may be clear via the unraveling of history that one of these narratives or the other offered a more accurate basis for deterrence policy in the mid to late twenty-first century, but that simply cannot be known with confidence in the present.

This lack of certainty does not fit well with the political demands for policy planners to identify with great confidence the specific effects of moving in one direction or another, but it may be the best that honestly is possible. Nevertheless, as Kahn observed, in the absence of the cooperative global transformation enabling nuclear disarmament, preparation for deterrence must go forward. Abdicating in frustration because it is impossible to predict with certainty the composition of “stability,” the precise requirements for deterrence, or a policy direction that *ensures* the functioning of deterrence would be to consciously leave all to chance and luck—a notoriously bad strategy. Instead, policy guidance for deterrence must be as informed as possible with full recognition that the unavoidable uncertainties about the future preclude credible claims that one narrative or the other is “objectively correct.” With this significant caveat about deterrence and nuclear policy, here is the key question: Given what may be anticipated about future contexts and opponents, is it possible to suggest whether the easy or difficult deterrence narrative offers an approach to deterrence policy *that is more prudent?* As Hans Morgenthau emphasized, in matters of national security, prudence should be the priority consideration given the stakes involved.¹⁰¹

Where Is Prudence?

Which deterrence narrative ultimately is the more prudent depends on which seems to be more suitable to deter war in the future given the limited information available in the present. No “objectively correct answer” is possible, but informed commentary is. For example, it is possible to observe that evidence from history and contemporary studies of cognition suggest strongly that opponents are likely to have a diversity of goals, perceptions, values, and modes of decision-making—some known to outsiders, others unknown. Leaderships have frequently pursued surprising goals and risked national security in ways that observers, including those in the United States, considered highly unlikely and even irrational at the time.¹⁰² The easy deterrence narrative may be correct in its expectation that uncertain punitive nuclear threats will enforce caution in all rational or sensible opponents and thus have the needed deterrent effect;

it is impossible to claim otherwise with certainty. But the driving concern of the difficult deterrence narrative is reasonable: at least some future opponents' decision-making and behavior may be contrary to easy deterrence expectations—*as has been the case in the past*—and affect the functioning of deterrence in unexpected ways—again, as it has in the past. This expectation is buttressed by the expanding number and diversity of nuclear threats to the United States—including from revisionist, expansionist states and states with leaderships that are unfamiliar and/or highly eccentric by familiar Western norms. This dynamic appears to increase the probability that the decision-making of diverse opponents will be varied and shape the functioning of deterrence in surprising directions.

Given the potential stakes at risk, it would seem that the burden of proof is on the easy deterrence narrative to explain why those responsible for US national security should now be confident that contexts and opponents will predictably and reliably fit the comforting profile it posits of opponents who will, when necessary, be deterred by uncertain US societal threats, that is, easy deterrence. But this explanation must acknowledge that the character, behavior, and apparent calculations of some pertinent past leaderships have been well outside that particular profile for a variety of reasons. Why can it now be expected with confidence that the potential variability in opponents' future decision-making will *not* lead them to surprising—even *apparently* irrational—behavior? What new factors in state behavior now point with high confidence to opponents whose decision-making and behavior can be relied upon to prove so predictably sensible and cautious that deterrence can be expected to work easily? Easy deterrence proponents are welcome to present the evidence and logic behind confidence in this expectation. The implications for US deterrence policy and considerations of proliferation are profound if it is deemed most plausible.¹⁰³

There is, however, a challenge in doing so. Assurances of predictably prudent opponent behavior seem open to serious question given the reality of eccentric, occasionally reckless behavior of some US opponents—now including those with growing or potential nuclear capabilities, such as North Korea and Iran—and also given the significant role nuclear weapons appear to play in Russia's and China's respective efforts to recover or expand their places “in the sun.” Even during the Cold War, Herman Kahn acknowledged that it would be “reckless” for an opponent to strike the United States with nuclear weapons, but “even more reckless” for the United States to rely on an opponent's “extreme caution and responsibility” for security à la easy deterrence.¹⁰⁴

The difficult deterrence—recommended diverse and flexible nuclear threat options and planning *cannot* ensure the functioning of deterrence in every possible contingency—as its contributors fully acknowledge. Nothing can “ensure” deterrence because opponents ultimately decide to be deterred or not. But a broader and more flexible range of threat options may help expand the parameters for deterrence to apply to opponents who require more than an uncertain threat of societal destruction to be deterred. Having a spectrum of deterrence threat options and focusing on threat credibility seem only prudent in the contemporary threat environment given the diversity of opponents and their nuclear threats, the potential variability of their decision-making, and the range of possible deterrence goals.

In addition, it seems particularly imprudent to place so much confidence in the reliable functioning of deterrence that little or no provision is made for physically defending against even the *limited* nuclear attacks that might be mounted or threatened by a North Korea, Iran, or other new nuclear power in the future. Here again, the difficult deterrence narrative seems the more prudent; easy deterrence offers no provision for the reduction of damage if deterrence and intra-war deterrence fail—its focus is on societal threats and argues *against* strategic defenses. In short, Waltz’s easy deterrence—oriented rhetorical question of why anyone should want to replace stable deterrence with unstable defense now seems easily answered.¹⁰⁵ In the contemporary security environment, some strategic defense capabilities may be wanted not to replace deterrence, but to help protect society in those limited attack scenarios in which the reliable functioning of deterrence is suspect and strategic defenses offer some potential for meaningfully limiting the consequences of deterrence failure. To be sure, there is room to debate the prospective threats that fit this category, but some almost certainly do.

The prudence of difficult deterrence also includes a continuing role for diplomacy—Kahn emphasized the possible value of negotiations and agreements that are in the mutual security interests of the United States and opponents.¹⁰⁶ The realist’s caveat to this point, however, is to recognize that most, perhaps all, opponents are likely to pursue diplomacy, including arms control negotiations, to advance their own self-interested strategic goals—not as a selfless act for the greater global good or to advance an easy American concept of nuclear deterrence stability. Expectations otherwise are likely to be frustrated.

Conclusion

The easy deterrence narrative is encouraging, even comforting, when compared to the alternative narrative that deterrence is difficult, requires tailoring to specific opponents, and takes constant effort to sustain—and even with that, the prospects for war still cannot be dismissed. The difficult deterrence narrative hardly offers a definitive, satisfying, or in any way comforting prescription, and it sits atop the foreboding realist perspective that the international system is anarchic; it seems designed to lack appeal.

Nevertheless, the Obama administration's commitment to rebuild the US strategic nuclear triad of bombers, ICBMs, and sea-launched missiles—after decades of relative US inactivity—appears to reflect some basic themes of the difficult deterrence narrative and correspondingly the need for US nuclear modernization.¹⁰⁷ Proponents of sustaining the triad largely follow the difficult deterrence narrative's definition of requirements and emphasize the need for the *flexibility and credibility* provided by the triad. In contrast, critics of the modernization program charged that the Obama administration had “lost focus and momentum” and was pursuing “excessive strategic capabilities.”¹⁰⁸ They opined that “it is past time for the Obama administration to take a hard look at where the US nuclear arsenal is heading. . . . It is time to change course.”¹⁰⁹ Yet the Obama administration sustained its triad modernization plans, and the same underlying difficult deterrence themes appear to be reflected in the Trump administration's continuation of the US rebuilding program.

In short, contemporary positions for or against the nuclear triad modernization program tend to follow one narrative or the other as the basis for their respective arguments. Largely following the easy deterrence narrative, critics make confident claims about force requirements for deterrence and in doing so tend to see no deterrence need for, and considerable potential instability in, comprehensive plans to modernize the strategic triad. In line with the difficult deterrence narrative, proponents conclude otherwise.¹¹⁰ Today's competing arguments are largely unintelligible in the absence of an understanding of the divergent easy and difficult narratives because the contending arguments about what is or is not “stabilizing” or required for deterrence are extensions of their different assumptions and projections. As the triad modernization debate picks up, a narrative roadmap truly is needed to understand the meaning behind the competing arguments.

The easy deterrence narrative is comforting and convenient in many ways while the difficult deterrence narrative can only be described as discomforting, even jarring. Herman Kahn acknowledged that his difficult deterrence prescription lacked popular appeal: “This is a difficult, unpleas-

ant, and emotional subject: the points raised are often irritating or dismaying, and many readers transfer their irritation and dismay to the author.”¹¹¹ Nevertheless, Kahn insisted that facts and logic did not allow him an alternative, more attractive course. When criticized by a congressman during congressional testimony for “putting this cold war logic of nuclear war and overkill for two peoples in such remorseless terms,” Kahn replied, “Do you prefer a warm human error, a nice emotional mistake?”¹¹²

There is little chance that the difficult deterrence narrative will be described as comforting or appealing. Difficult deterrence offers neither a definitive solution to the threat of nuclear use nor ease. It offers no cooperative global transformation and disarmament or confidence that deterrence will work easily and predictably across time. Instead, the difficult deterrence narrative confronts a dilemma that the easy deterrence narrative avoids: the contention that deterrence is necessary because cooperative global disarmament is unlikely, but also difficult and fallible because leadership decision-making is variable and unpredictable. This is a profound dilemma. In response, difficult deterrence offers the following for the foreseeable future: (1) tailoring deterrence to be as effective as possible; (2) diplomacy to ease friction when possible; and (3) if deterrence fails, mitigating to the extent possible the humanitarian consequences with intra-war deterrence and feasible defensive preparations. This is a troubling prescription in many ways. It includes no promised ease or certain happy ending, but it is critical to understand if its basic points are the most plausible. If so, this narrative that appears least appealing is, nevertheless, also the most prudent. ❧

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Notes

1. For example, Waltz indicates that the “second-strike” strategic nuclear capability needed for this stable nuclear “balance of terror” is easily acquired and maintained: “It does not take much to deter. . . . In the nuclear business deterrence is cheap and easy.” Waltz in Scott D. Sagan and Kenneth N. Waltz, *The Spread of Nuclear Weapons: A Debate Renewed; With New Sections on India and Pakistan, Terrorism, and Missile Defense* (New York: Norton

and Co., 2003), 142, 152. Waltz also notes that “the invulnerability of a sufficient number of warheads is easy to achieve. . . . With nuclear weapons, [deterrence] stability and peace rest on easy calculation of what one country can do to another. Kenneth N. Waltz, “Nuclear Myths and Political Realities,” *The American Political Science Review* 84, no. 3 (September 1990): 732, 734. Further, Jervis states, “The healthy fear of devastation, which cannot be exorcised short of the attainment of a first-strike capability, makes deterrence relatively easy.” Robert Jervis, “Why Nuclear Superiority Doesn’t Matter,” *Political Science Quarterly* 94, no. 4 (Winter 1979/1980): 617–18, <https://www.jstor.org/>.

2. Kenneth Waltz contends that rational calculations are *not* necessary for nuclear deterrence to function, “only a little common sense.” See Waltz in Sagan and Waltz, *Spread of Nuclear Weapons*, 154.

3. Thomas C. Schelling, *The Strategy of Conflict* (Cambridge, MA: Harvard University Press, 1960), 251.

4. These are realist “bedrock assumptions.” See John J. Mearsheimer, *The Tragedy of Great Power Politics* (New York: W. W. Norton & Co., 2001), 30–31.

5. Waltz in Sagan and Waltz, *Spread of Nuclear Weapons*, 154.

6. Kenneth Waltz, “The Spread of Nuclear Weapons: More May Be Better,” *Adelphi Papers*, no. 171 (London: International Institute for Strategic Studies, 1981), <https://www.mtholyoke.edu/>.

7. James Wood Forsyth Jr., “The Common Sense of Small Nuclear Arsenals,” *Strategic Studies Quarterly* 6, no. 2 (Summer 2012): 94, <https://www.airuniversity.af.edu/>.

8. Albert Carnesale et al., *Living with Nuclear Weapons* (New York: Bantam Books, 1983), 44. See also Gordon Graig and Alexander George, *Force and Statecraft: Diplomatic Problems of Our Time* (New York: Oxford University Press, 1995), 225.

9. Waltz in Sagan and Waltz, *Spread of Nuclear Weapons*, 114.

10. Waltz, “More May Be Better.”

11. McGeorge Bundy, *Danger and Survival: Choices about the Bomb in the First Fifty Years* (New York: Random House, 1988), 592.

12. Waltz in Sagan and Waltz, *Spread of Nuclear Weapons*, 117, 132.

13. Waltz, “Nuclear Myths and Political Realities,” 737–38.

14. McGeorge Bundy, “To Cap the Volcano,” *Foreign Affairs* 48, no. 1 (October 1969): 10, <https://www.jstor.org/>.

15. Robert Jervis, “The Political Effects of Nuclear Weapons: A Comment,” *International Security* 13, no. 2 (Fall 1988): 81.

16. McGeorge Bundy, “Bishops and the Bomb,” *New York Review of Books* 30, no. 10 (16 June 1983): 3–4. See also Bernard Brodie, *War and Politics* (New York: Macmillan Publishing, 1973), 412.

17. Waltz, “Nuclear Myths and Political Realities,” 738.

18. Graham Allison, Albert Carnesale, and Joseph Nye, “Conclusion,” in *Fateful Visions: Avoiding Nuclear Catastrophe*, eds. Joseph Nye, Graham Allison, and Albert Carnesale (Cambridge, MA: Ballinger Publishing, 1988), 216.

19. Bundy, “To Cap the Volcano,” 9.

20. See, for example, Herbert York, *Race to Oblivion: A Participant’s View of the Arms Race* (New York: Simon and Schuster, 1970), 42, 46–48.

21. Ralph Lapp, *Kill and Overkill: The Strategy of Annihilation* (New York: Basic Books, 1962), 140.

22. Jervis, "Why Nuclear Superiority Doesn't Matter," 618. Schelling further asserts, "We should find virtue in the technological discoveries that enhance the anti-population potency of our retaliatory weapons." Schelling, *Strategy of Conflict*, 239, 233, 236–37. See also Thomas C. Schelling, "Reciprocal Measures for Arms Stabilization," in *Arms Control, Disarmament and National Security*, ed. Donald G. Brennan (New York: George Braziller, 1961), 167; York, *Race to Oblivion*, 42, 46–48; McGeorge Bundy, William J. Crowe, Jr., and Sidney D. Drell, *Reducing Nuclear Danger: The Road Away from The Brink* (New York: Council on Foreign Relations Press, 1993), 95; Bernard Brodie, "The Anatomy of Deterrence," *World Politics* 11, no. 2 (January 1959): 177; and Jerome H. Kahan, *Security in the Nuclear Age: Developing U.S. Strategic Arms Policy* (Washington, D.C.: The Brookings Institution, 1975), 330.
23. Bruce Blair et al., "Smaller and Safer: A New Plan for Nuclear Postures," *Foreign Affairs* 89, no. 5 (September/October 2010): 10, <https://www.jstor.org/>.
24. Waltz, "More May Be Better."
25. As noted in Steven Pifer and Michael E. O'Hanlon, *The Opportunity: Next Steps in Reducing Nuclear Arms* (Washington, D.C.: Brookings Institution Press, 2012), 20–21.
26. Robert McNamara to Lyndon Johnson, draft memorandum, subject: "Recommended FY 1966–FY 1970 Programs for Strategic Offensive Forces, Continental Air and Missile Defense Forces, and Civil Defense," 3 December 1964, Department of Defense/Office of the Secretary of Defense, Freedom of Information Act, 4. Hereafter, McNamara to Johnson, draft memorandum, 1964.
27. See Alain C. Enthoven and K. Wayne Smith, *How Much Is Enough? Shaping the Defense Program, 1961–1969* (New York: Harper and Row, 1971), 67, 207–8; and McNamara to Johnson, draft memorandum, 17.
28. McNamara to Johnson, draft memorandum, 4.
29. Edward J. Drea, *McNamara, Clifford, and the Burdens of Vietnam, 1965–1969*, vol. 6, Secretaries of Defense Historical Series (Washington, D.C.: Historical Office, Office of the Secretary of Defense, 2011), 347, <https://history.defense.gov/>.
30. See a listing of such recommendations in Keith B. Payne and James R. Schlesinger, *Minimum Deterrence: Examining the Evidence* (Fairfax, VA: National Institute Press, 2013), 4–5, <https://www.nipp.org/>.
31. York, *Race to Oblivion*, 167–68.
32. Union of Concerned Scientists, *The Obama Administration's New Nuclear Policy: An Assessment of the "Nuclear Posture Review"* (Washington, D.C.: Union of Concerned Scientists, 8 April 2010).
33. James Wood Forsyth Jr., "Nuclear Weapons and Political Behavior," *Strategic Studies Quarterly* 11, no. 3 (Fall 2017): 122, <https://www.airuniversity.af.edu/>.
34. Steve Fetter, "Nuclear Strategy and Targeting Doctrine," in *The Nuclear Turning Point: A Blueprint for Deep Cuts and De-alerting of Nuclear Weapons*, ed. Harold A. Feiveson (Washington, D.C.: Brookings Institution Press, 1999), 57.
35. Gareth Evans and Yoriko Kawaguchi, *Eliminating Nuclear Threats: A Practical Agenda for Global Policymakers*, Report of the International Commission on Nuclear Non-proliferation and Disarmament (Canberra: International Commission on Nuclear Non-proliferation and Disarmament, 2009), 194, <https://ycsg.yale.edu/>.
36. Waltz in Sagan and Waltz, *Spread of Nuclear Weapons*, 109.
37. Thomas C. Schelling, *Arms and Influence* (New Haven, CT: Yale University Press, 1966), 102–12; Thomas Schelling, "Comment," in *Limited Strategic War*, eds. Klaus

Knorr and Thornton Read (New York: Frederick A. Praeger, 1962), 248–50; Thomas Schelling, “Surprise Attack and Disarmament,” in *NATO and American Security*, ed. Klaus Knorr (Princeton, NJ: Princeton University Press, 1959), 207; Waltz, “Nuclear Myths and Political Realities,” 733–34; and Jervis, “Why Nuclear Superiority Doesn’t Matter,” 618, 628–29.

38. In 1974, Secretary of Defense James Schlesinger observed that all previous planned US options involved “literally thousands of weapons” and emphasized the need for limited nuclear response options. He announced publicly that the United States would introduce limited nuclear threat options to provide greater credibility for the deterrence of limited threats. He said this was made necessary because increased Soviet nuclear capabilities had rendered the credibility of large-scale US response options to limited attacks “close to zero.” James Schlesinger, *US/USSR Strategic Policies*, Testimony in US Senate, Committee on Foreign Relations, 93rd Cong., 2nd Sess., 4 March 1974, 9, and 7, 12–13, 55. See also James Schlesinger, *Annual Defense Department Report, FY 1976 and FY 1977* (Washington, D.C.: USGPO, 5 February 1975), II-3–II-4, <https://history.defense.gov/>; and James Schlesinger, *Annual Defense Department Report, FY 1975* (Washington, D.C.: US Government Printing Office, 4 March 1974), 32, 42, <https://history.defense.gov/>.

39. Schlesinger, *Annual Defense Department Report, FY 1975*, 38.

40. Secretary of Defense Schlesinger emphasized that capability for limited nuclear response options required no increase in the number of nuclear weapons, but did require the planning and control necessary for limited strike options. See Schlesinger, *US/USSR Strategic Policies*, 17; and Schlesinger, *Annual Defense Department Report, FY 1975*, 44.

41. Waltz in Sagan and Waltz, *Spread of Nuclear Weapons*, 24.

42. See in particular Schelling, *Strategy of Conflict*, chap. 8.

43. Schelling, *Arms and Influence*, 99.

44. Waltz, “More May Be Better.” Robert Jervis makes the same claim: “Even a very small probability of escalation is sufficient to deter serious encroachments.” Jervis, “Why Nuclear Superiority Doesn’t Matter,” 619.

45. In 1979 Henry Kissinger remarked publicly that “our European allies should not keep asking us to multiply strategic assurances that we cannot possibly mean, or if we do mean, we should not want to execute, because if we execute, we risk the destruction of civilization.” Henry Kissinger, “The Future of NATO,” in *NATO, The Next Thirty Years*, ed. Kenneth Myers (Boulder, CO: Westview Press, 1981), 8.

46. Thomas Schelling elaborated this proposition that uncertainty deters in some detail. See the discussion in Keith Payne, *The Great American Gamble* (Fairfax, VA: National Institute Press, 2008), 31–35.

47. Kenneth Waltz, *Theory of International Politics* (Boston: McGraw Hill, 1979), 175.

48. Jervis, “Why Nuclear Superiority Doesn’t Matter,” 633. See also Brodie, *War and Politics*, 403, 430.

49. Waltz in Sagan and Waltz, *Spread of Nuclear Weapons*, 126.

50. Waltz in Scott Sagan, Kenneth Waltz, and Richard Betts, “A Nuclear Iran: Promoting Stability or Courting Disaster?” *Journal of International Affairs* 60, no. 2 (Spring/Summer 2007): 137, <https://www.jstor.org/>. (Transcript of a debate between Waltz and Sagan, Kellogg Conference Center, Columbia University School of International and Public Affairs, 8 February 2007.)

51. Bernard Brodie, *War and Politics* (New York: Macmillan, 1973), 403, 430.

52. Waltz, *Theory of International Politics*, 176.

53. Roger B. Myerson, *Force and Restraint in Strategic Deterrence: A Game-Theorist's Perspective* (Carlisle, PA: US Army War College, Strategic Studies Institute, November 2007), 22.
54. Waltz, "Nuclear Myths and Political Realities," 737.
55. Waltz, 744.
56. Waltz, "More May Be Better."
57. Waltz; see also Schelling, *Strategy of Conflict*, 253.
58. Schelling, *Strategy of Conflict*, 233.
59. Schelling, 207–29.
60. Schelling, *Arms and Influence*, 285.
61. Waltz, *Spread of Nuclear Weapons*, 153.
62. Waltz, "Nuclear Myths and Political Realities," 743.
63. Hans M. Kristensen, Robert S. Norris, and Ivan Oelrich, *From Counterforce to Minimal Deterrence: A New Nuclear Policy on the Path toward Eliminating Nuclear Weapons*, Occasional Paper no. 7 (Washington, D.C.: Federation of American Scientists and the National Resources Defense Council, April 2009), 31–32, <https://fas.org/>.
64. Secretary of Defense Harold Brown made this point with remarkable clarity in his fiscal year 1980 annual Department of Defense report: "*In the interests of [deterrence] stability, we avoid the capability of eliminating the other side's deterrent*, insofar as we might be able to do so. In short, we must be quite willing—as we have been for some time—to accept the principle of mutual deterrence, and design our defense posture in light of that principle" (emphasis added). Harold Brown, *Department of Defense Annual Report, Fiscal Year 1980* (Washington, D.C.: US Government Printing Office, 1979), 61, <https://history.defense.gov/>. More recently, see Department of Defense, *Ballistic Missile Defense Review Report* (Washington, D.C.: Secretary of Defense, February 2010), 12–13, <https://apps.dtic.mil/>; and Eric Gomez, "It Can Get You into Trouble, but It Can't Get You Out," in *America's Nuclear Crossroads: A Forward-Looking Anthology*, eds. Caroline Dorminey and Eric Gomez (Washington, D.C.: CATO Institute, 2019), 17–28.
65. Albert Wohlstetter, *The Delicate Balance of Terror*, doc. P-1472 (Santa Monica, CA: RAND Corporation, 1958), <https://www.rand.org/>.
66. Bernard Brodie, "The Development of Nuclear Strategy," *International Security* 2, no. 4 (Spring 1978): 69, <https://www.jstor.org/>.
67. Gordon A. Craig and Alexander L. George, *Force and Statecraft: Diplomatic Problems of Our Time*, 3rd ed. (New York: Oxford University Press, 1995), 188.
68. Jonathan Roberts, *Decision-Making during International Crises* (New York: St. Martin's Press, 1988), 162–63.
69. Colin S. Gray, *Strategy and Defence Planning: Meeting the Challenge of Uncertainty* (London: Oxford University Press, 2014), 1.
70. Colin Gray, *Nuclear Strategy and Strategic Planning* (Philadelphia: Foreign Policy Research Institute, 1984), 47.
71. Craig and George, *Force and Statecraft*, 192.
72. For a thorough discussion of this final organizational factor interfering with the predictable functioning of deterrence, see Scott Sagan in Sagan and Waltz, *Spread of Nuclear Weapons*, 46–87.
73. National Research Council, *U.S. Air Force Strategic Deterrence Analytic Capabilities: An Assessment of Tools, Methods, and Approaches for the 21st Century Security Environment* (Washington, D.C.: National Academies Press, 2014), 35–39, 93–95, <https://doi.org/>.

74. For a recent concise summary of this point and some of its implications for deterrence, see Iain King, “What Do Cognitive Biases Mean for Deterrence?,” *The Strategy Bridge*, 12 February 2019, <https://thestrategybridge.org/>. See also Thomas Scheber, “Evolutionary Psychology: Cognitive Function, and Deterrence,” in *Understanding Deterrence*, ed. Keith B. Payne (New York: Routledge, 2013), 65–92.

75. See Keith Payne, *Deterrence in the Second Nuclear Age* (Lexington: University Press of Kentucky, 1996), 79–119; and Keith Payne, *The Fallacies of Cold War Deterrence and a New Direction* (Lexington: University Press of Kentucky, 2001), 1–77.

76. Richard Ned Lebow, “The Deterrence Deadlock: Is There a Way Out?” in Robert Jervis, Richard Ned Lebow, and Janice Gross Stein, *Psychology and Deterrence* (Baltimore: Johns Hopkins University Press, 1985), 183.

77. Lawrence Freedman, *Deterrence* (Malden, MA: Polity Press, 2004), 117.

78. Quoted in Aleksander Fursenko and Timothy Naftali, *One Hell of a Gamble: Khrushchev, Castro, and Kennedy, 1958–1964* (New York: W. W. Norton and Company, 1997), 171, 241.

79. Viktor Semykin, interview for “The Missiles of October: What the World Didn’t Know,” *ABC News*, Journal Graphics transcript no. ABC-40, 17 October 1992, 21.

80. Avner Cohen, *Israel and the Bomb* (New York: Columbia University Press, 1998), 342. Prof. John Mearsheimer notes, “Egypt and Syria knew that Israel had nuclear weapons in 1973, but nevertheless they launched massive land offensives against Israel.” Mearsheimer, *Tragedy of Great Power Politics*, 132.

81. Henry Kissinger, *Years of Upheaval* (Boston: Little, Brown & Co., 1982), 465.

82. Craig and George, *Force and Statecraft*, 181, 191.

83. Colin S. Gray, *Maintaining Effective Deterrence* (Carlisle, PA: Strategic Studies Institute, US Army War College, August 2003), 15, <https://apps.dtic.mil/>.

84. Office of the Secretary of Defense, *2018 Nuclear Posture Review* (Washington, D.C.: Office of Assistant Secretary of Defense, 2018), 25–27, <https://media.defense.gov/>. For an early post–Cold War (1996) discussion of the need to “tailor” deterrence, see Payne, *Deterrence in the Second Nuclear Age*, 128–29, 156–57.

85. Herman Kahn, “United States Central War Policy,” in *Beyond the Cold War*, ed. Robert A. Goldwin (Chicago: Rand McNally, 1966), 51. See also Herman Kahn, *On Thermonuclear War* (Princeton, NJ: Princeton University Press, 1960), 557.

86. Kahn, *On Thermonuclear War*, 137–38.

87. Kahn, “United States Central War Policy,” 46, 51.

88. Kahn, *On Thermonuclear War*, 133. See also Michael Howard, “The Forgotten Dimensions of Strategy,” *Foreign Affairs* 57, no. 5 (Summer 1979): 983, <https://www.jstor.org/>.

89. Kahn, *On Thermonuclear War*, 32.

90. This linkage between some US defenses for society and extended deterrence credibility continues in contemporary policy discussions. See, for example, Jina Kim and John K. Warden, “Limiting North Korea’s Coercive Nuclear Leverage,” *Survival* 62, no. 1 (February/March 2020): 31, <https://doi.org/>.

91. Herman Kahn, “Some Comments on Controlled War,” in Knorr and Read, *Limited Strategic War*, 64.

92. Herman Kahn, *The Nature and Feasibility of War and Deterrence*, P-1888-RC (Santa Monica, CA: RAND Corporation, 20 January 1960), 39–40, <https://www.rand.org/>. Colin Gray presented this point concisely: “Nuclear war is possible, and the US government owes it to generations of Americans—past, present, and future—to make

prudent defense preparations to limit damage to domestic American values to the extent feasible in the event of nuclear war.” Gray, *Nuclear Strategy and Strategic Planning*, 8.

93. Donald G. Brennan, “The Case for Population Defense,” in *Why ABM: Policy Issues in the Missile Defense Controversy*, eds. Johan J. Holst and William Schneider Jr. (New York: Pergamon Press, 1969), 116.

94. Office of the Secretary of Defense, *2019 Missile Defense Review* (Washington, D.C.: Department of Defense, 2019), 25–37, <https://media.defense.gov/>. The Obama administration’s 2010 “Ballistic Missile Defense Review” lists as first priority defending “the homeland against the threat of limited ballistic missile attack.” Department of Defense, Office of Public Affairs, “2010 Ballistic Missile Defense Review (BMDR) Fact Sheet,” 3 March 2010, 2, <https://www.mda.mil/>.

95. The White House, President George W. Bush, “Remarks by the President to Students and Faculty at National Defense University,” news release, 1 May 2002, <https://georgewbush-whitehouse.archives.gov/>. See also Department of Defense, *Nuclear Posture Review: Report to the Congress in Response to Sections 1041 (as Amended) and 1042 of the Floyd D. Spence National Defense Authorization Act for Fiscal Year 2001, PL 106-398*, December 2001, iii, 7, <https://www.esd.whs.mil/>.

96. Numerous US government statements observe that contemporary US strategic missile defense capabilities are effective against the prospect of limited missile attacks against the United States. Gen John Hyten, vice-chairman of the Joint Chiefs of Staff, said recently, “I don’t say 100 percent very often. I have 100 percent confidence in those capabilities against North Korea.” See Lee Haye-ah, “U.S. Military Leader Expresses Full Confidence in Ability to Defend against New N.K. Missiles,” Yonhap News Agency, 18 January 2020, <https://en.yna.co.kr/>. Also, the 2010 BMDR states, “The United States is currently protected against limited ICBM attacks.” Department of Defense, “2010 Ballistic Missile Defense Review (BMDR) Fact Sheet,” 2. See also Office of the Secretary of Defense, *2019 Missile Defense Review*, XII; the statement by Adm Harry Harris in Missy Ryan, “North Korean Threat Could Require New Missile Defenses for Western US,” *The Washington Post*, 14 February 2018, <https://www.washingtonpost.com/>; and the statement by Lt Gen Trey Obering in Rowan Scarborough, “U.S. Puts Faith in Missile Defense,” *Washington Times*, 24 June 2006, <https://www.washingtontimes.com/>. As early as 1991, the Arms Control Association (frequently critical of missile defense) observed, “There is little doubt that it is technically possible to protect the United States against a handful of missiles launched by accident, a mad commander, or a Third World country.” Arms Control Association, Background Paper, *New Star Wars Plan: Unnecessary Destruction of the ABM Treaty*, February 1991, 1.

97. Department of Defense, *Report on Nuclear Employment Strategy of the United States Specified in Section 491 of 10 U.S.C.* (Washington, DC: Department of Defense, June 2013), 3, <https://apps.dtic.mil/>.

98. Office of the Secretary of Defense, *2019 Missile Defense Review*, 8.

99. See Payne, *Deterrence in the Second Nuclear Age*, 7n7.

100. Gray, *Strategy and Defence Planning*, 2.

101. Hans J. Morgenthau, *Politics among Nations: The Struggle for Power and Peace* (New York: Alfred A. Knopf, 1962), 10.

102. Described in Keith Payne, *The Fallacies of Cold War Deterrence and a New Direction* (Lexington: University Press of Kentucky, 2001), 1–15.

103. Waltz expressed a logical but countercultural conclusion of his expectations, that is, that nuclear proliferation could entail positive results if it expands the regions made reliably stable by mutual deterrence. Waltz, "Spread of Nuclear Weapons," 168.

104. Kahn, *Nature and Feasibility of War*, 30.

105. Waltz in Sagan and Waltz, *Spread of Nuclear Weapons*, 153.

106. Kahn, *Nature and Feasibility of War*, 43.

107. See Department of Defense, "Remarks by Secretary Carter to Troops at Minot Air Force Base, North Dakota," transcript, 26 September 2016, <https://www.defense.gov/>; and Brad Roberts, *The Case for U.S. Nuclear Weapons in the 21st Century* (Stanford, CA: Stanford University Press, 2016), 35, 99, 103–4, 192–94, 260–62, 268–71. The Obama administration's rejection of a "no first use" declaratory policy also appears to correspond to the difficult deterrence narrative. See Amy Woolf, *U.S. Nuclear Weapons Policy: Considering "No First Use,"* Congressional Research Service (Washington DC: CRS, 1 March 2019), <https://fas.org/>.

108. Daryl Kimball, "Mr. President, 'Yes, We Can,'" *Arms Control Today*, Arms Control Association, 6 July 2015, <http://www.armscontrol.org/>.

109. Tom Collina and Will Saetren, "Time to Cut America's Nuclear Triad," *The National Interest*, 17 December 2015, <http://nationalinterest.org/>.

110. See, for example, the statement by Adm Charles Richard in C. Todd Lopez, "Stratcom Commander: Failing to Replace Nuclear Triad Akin to Disarmament," DOD News, 28 February 2020, <https://www.defense.gov/>.

111. Herman Kahn, "The Arms Race and Some of Its Hazards," in Brennan, *Arms Control, Disarmament and National Security*, 89–90.

112. Statement of Herman Kahn, Director, Hudson Institute, before the US House of Representatives, Committee on Foreign Affairs, Subcommittee on National Security Policy and Scientific Developments, Hearings, 91st Cong., 1st sess., in House, *Strategy and Science: Toward a National Security Policy for the 1970's* (Washington, D.C.: US Government Printing Office, 1969), 154, e-book, <https://books.google.com/>.

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