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A Colloquy on “Tailoring” Nuclear Deterrence

by

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&

Dr. Keith B. Payne

DASSO is pleased to present the following colloquy on nuclear deterrence theory between Professors Ford and Payne, both of Missouri State University’s School of Defense and Strategic Studies.

Part I:

Dr. Ford on “Conceptual Challenges of ‘Tailoring’ Nuclear Deterrence”

Introduction

There can hardly be a topic in national security and defense policy of more importance than how to keep the peace between adversaries armed with nuclear weaponry on a scale that could – if things went wrong – lead to worldwide catastrophe. Ever since the dawn of the nuclear age, strategists confronted by the awesome and terrible power of these tools have debated how best to approach the challenges of deterring aggression.

One of the more interesting and valuable intellectual threads to have been spun out of these debates over the last few decades is the concept of “tailoring” deterrence policies to the particular characteristics of the adversary. This essay will explore the important insights offered by what might be called the “tailored deterrence” school, before offering both a theoretical and a practical critique of some of its conclusions and suggesting a partial reformulation – acknowledging its important contributions but slightly stepping back from the ideal of what might be called “exquisite” or “bespoke” deterrence “tailoring” – that advocates instead an alternative ideal of what might be termed *force posture supersufficiency*.

Tailored Deterrence

The concept of “tailored deterrence” can be seen as having grown out of a conceptual debate within the U.S. strategic policy community dating back to the relatively early years of the Cold War. Though thinkers at the time did not necessarily categorize themselves in such terms, the noted deterrence theorist Keith Payne has described the longstanding existence of a “great divide” in American thinking about nuclear deterrence, between adherents to what he calls the school of “easy deterrence” and that of “difficult deterrence.”

For the “easy” school – among whose members Payne includes thinkers such as Kenneth Waltz, Thomas Schelling, Bernard Brodie, and Robert Jervis – “the essential requirements for stable mutual deterrence are not difficult to understand or meet[,] and ... the functioning of mutual deterrence can be considered largely predictable and reliable.” For them, to oversimplify, the existential dangers of nuclear weaponry are such that any rational leader will perceive them in more or less the same way. Accordingly, one can, through the threat of using such weapons in the event of war, effectively deter *any* great power adversary from undertaking aggression with essentially the same – and a relatively simple – recipe of force posture, risk manipulation, and declaratory policy. As Payne put it in an article six years ago, for “easy deterrence” thinkers,

... [the] general expectation that punitive threats against an opponent's society can deter reliably [derives from the assumption that] ... [d]eterrence 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.¹

By contrast, still following Payne's characterization, thinkers from the "difficult deterrence" school – among whom may be found Herman Kahn, Albert Wohlstetter, Colin Gray, and ultimately Payne himself – "envision[] deterrence as difficult to establish and sustain." Rather than concluding that nuclear terrors always produce essentially the same deterring effect, "difficult deterrence" theorists feel instead that

"... [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." ... In short, the functioning of deterrence 'is heavily context dependent.' 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.²

This contextuality, in turn, can have force posture implications, inasmuch as a strategy based upon "difficult deterrence" premises may, as Payne noted, "potentially requir[e] greater nuclear capabilities, contingency planning, and for some, strategic defensive capabilities" than is felt necessary by "easy deterrence" advocates. Simply put, if the "difficult deterrence" thinkers are right, it may take the threat of using "more" nuclear capability – or different *kinds* of nuclear capability – to deter some leaders than to deter others.

The concept we now call “tailored deterrence” grew out of this latter insight early in the Cold War, though the term itself is much more recent, being attributed – in Sarah Faris’ insightful account – to Payne himself in a 1993 briefing to the U.S. Strategic Command. And indeed, “[s]ince its early post-Cold War introduction,” Faris relates, “tailoring has become a well-established element of the U.S. approach to deterrence, on a bipartisan basis.” It emphasizes the need to calibrate one’s deterrence policy and posture “to a broad range of opponents via a close and ongoing understanding of their respective values, perceptions[,] and calculations – their decision-making frameworks.”³

Such formulations can be seen, for instance, in modern U.S. nuclear guidance documents such as the 2006 National Security Strategy, which called for “a future force that will provide tailored deterrence” vis-à-vis “both state and non-state threats.”⁴ Similarly, the 2006 Quadrennial Defense Review (QDR) declared that the Department of Defense was

continuing its shift from a ‘one size fits all’ notion of deterrence toward more tailorable approaches appropriate for advanced military competitors, regional WMD states, as well as non-state terrorist networks. The future force will provide a fully balanced, tailored capability to deter both state and non-state threats ... while assuring allies and dissuading potential competitors.⁵

Under the Obama Administration, it was likewise said in the 2010 QDR that “[c]redibly underwriting U.S. defense commitments will demand tailored approaches to deterrence,” and that “[s]uch tailoring requires an in-depth understanding of the capabilities, values, intent, and decision making of potential adversaries.”⁶ As recently as the 2022 Nuclear Posture Review, in fact, “tailored deterrence approaches” that adjust postures and policies “for specific problems, competitors, and settings” were needed in order to provide

“tailored options that will shape adversary perceptions of benefits and costs.”⁷

As Faris summarizes such thinking, tailored deterrence both requires and builds its approach around acquiring “an understanding of opponents’ unique characteristics, including their decision-making frameworks in the context of the engagement.” It rejects the aforementioned “‘one-size-fits-all’ approach to deterrence based on the assumption that rational opponents will calculate alike,” because in fact

human decision making is variable – [and] there are no universal rules that govern calculations of cost and benefit, or risk-taking. ... [D]ecision making and resultant behavior is subject to influence by a variety of factors that can lead opponents to different responses to U.S. deterrence strategies, depending on their particular decision-making frameworks, perceptions and expectations⁸

Tailoring [thus] consists of adapting deterrence strategies to opponents’ decision-making frameworks, and the context of the engagement. This means that the character of U.S. deterrence threats, including how and when they are communicated, must be based on an understanding of factors driving opponents’ perceptions and decision making. Opponents’ diverse decision-making frameworks will shape how they respond, in potentially unique ways, to U.S. deterrence strategies and redlines. Consequently, understanding these frameworks, to the extent practicable, and structuring U.S. deterrence strategies accordingly, can be critical to their reliability and effectiveness.

As Payne put it in a 2018 article on the topic, the essential predicate for sound deterrence policy is therefore the need “to understand the unique characteristics of diverse adversaries” and “tailor deterrence to the unique character of [those] adversaries,” and to the particular context in which one engages with them.

We must pursue the hard work of understanding how to deter a more diverse set of adversaries and potential adversaries, from a wider array of specific actions, in a similarly wider array of plausible circumstances⁹

Accordingly, he concluded,

... [i]n the contemporary era, there can be no generally-applicable “rule of thumb” derived from the U.S.-Soviet experience for predicting that a particular set of U.S. capabilities will be “stabilizing” or “destabilizing” across a spectrum of potential adversaries and contexts.¹⁰

The insights of tailored deterrence thinking within the “difficult deterrence” intellectual tradition are profound, and they offer planners an invaluable cautionary warning about the need to understand what is likely to deter *your actual* adversary rather than just to deter a hypothesized rational actor who is assumed *a priori* to think and respond just as we ourselves would. The challenge of avoiding the evergreen temptation of “mirror-imaging” vis-à-vis our adversaries – and the need to build our approaches to them, instead, on an understanding of how they actually are – has long been well-known in intelligence and policy planning circles, even though meeting this challenge has always been frustratingly difficult. Tailored deterrence theory, however, offers a critical reminder that these problems are *especially* important in the realm of nuclear weapons posture, where errors could quite literally lead to the death of billions.

For all the powerful intellectual contributions of tailored deterrence theory, however, I fear it nonetheless presents challenges, both logical and practical, which may require us at least partly to reconceptualize its assumed links between behavioral insight and policy prescription. The following pages will explain what I mean by this.

The Problems of “Tailoring”

First, however, let me make clear that I strongly endorse the basic insight of tailored deterrence thinking about the need to adjust one’s approach, as much as feasible, to the particular characteristics and potential idiosyncrasies of the adversary. This is an extremely important lesson, which we forget at our peril.

After all, deterrence is not, and never has been, a *physical condition* that can reliably be arrived at and maintained through attention merely to fixed and clear formulae of weapon system hardware and deployment options, much as an engineer might perhaps calculate the design of a bridge based upon the tensile strength of steel, compression loadings for a particular mix of concrete, certain specified wind and weather parameters, and expected traffic volume. Indeed, deterrence is not first and foremost a question of nuclear weapons *hardware* at all, though the specifics of the hardware through which one employs threats and counterthreats and manipulates risk are obviously important.

At root, one might say, deterrence is a question of *wetware*: an operation in the grey matter between the ears of the participants, a psychological game in the adversary’s head. This makes deterrence a deeply *human* phenomenon, in just the sort of actor- and decision-contextual ways that tailored deterrence theorists emphasize; it is anything but formulaic.

To be sure, as I’ll discuss more later, one probably indeed needs the *least* “tailoring” of deterrence policy when it comes to the specific task of dissuading an adversary from launching a “bolt from the blue” nuclear first strike of the sort about which Cold War planners on both sides once worried a great deal. The assumption that suicide is not a rational game-theoretical choice is one that hopefully holds for most players under most circumstances.

Even there, however, we know from many other contexts that humans do not *invariably* make the “rational” choices. In the context of nuclear deterrence, it would be desperately unwise not to consider whether variables are present that might, in practice, lead one’s adversary to take a highly extreme and subjective approach to calculating costs, benefits, risks, and opportunities. Is he, for instance, operating in some extremity of cognitively-distorting stress or other emotion? Is he in fact a sociopath, an ideological fanatic obsessed with extirpating perceived evil at essentially any cost, or a religious enthusiast enthralled by the prospect of martyrdom and subsequent eternal life in Paradise? (As Keith Payne notes in his companion piece to this essay, for instance, “[i]n some cases, opponents’ decision-making may effectively be immune to external deterrence threats and redlines.”) If the answer to any one of such questions is “yes” or even “maybe,” deterrence even of a “bolt from the blue” may start to sound rather more “difficult” than “easy.”

Moreover, if an adversary concluded that he had a good chance of landing a knockout blow with his first punch via a decapitating or otherwise crippling first strike, he might perhaps, in a crisis, feel such preemption to be rational even if he were quite sane. (This might be particularly true if he felt that full-scale war were inevitable anyway, and hence that his choice was not between peace and a quasi-suicidal war, but rather between a terrible war on slightly “better” terms *sooner* versus one on “worse” terms *later*.) This is one reason why the maintenance of robustly survivable second-strike capabilities – *e.g.*, ensuring that at least some minimum force of quiet ballistic missile submarines is always at sea on continuous patrol – has long been such an important focus of U.S. nuclear force posture planning.

And such an “out of the blue” scenario is presumably the *easiest* nuclear deterrence question to answer. It would be much harder and complicated still to prevent war from breaking out in the first place by deterring conventional attacks under a varying range of possible circumstances, or to navigate the treacherous shoals of “escalation management” – on which more below – by deterring adversary movement “up” the “escalation ladder” either *to* nuclear use or to *more*

nuclear use once a conflict has begun. The principle of “tailoring” acknowledges that in terms of their “detrability” in any specific situation of this sort, all adversaries are *not* created equal, and that such differences must perforce be taken into account. And in this, tailoring theorists are surely correct.

That said, I suspect that “tailoring” has limits: practical and conceptual ones that are, I fear, particularly salient for U.S. deterrence planners in today’s context of multi-power “near-peer” rivalry. Specifically, I would suggest three such challenges: (1) problems of *fidelity*; (2) problems of *temporality*; and (3) problems of *plurality*.

Problems of Fidelity

It is the central selling point of deterrence “tailoring,” of course, that the cognitive terrain of the adversary’s mind and decision-making processes – the terrain on which one seeks to exert a deterring influence upon the foe through nuclear force posture, doctrines, and declaratory policy – can be a very complicated landscape. (The considerable demands that tailoring places upon intelligence collection and analysis, for instance, are discussed in the essay by Keith Payne that accompanies this piece.) This is certainly true, but it is worth spelling out in more detail just how much problematically detailed and deep knowledge one would need to acquire (and to maintain over time) in order to achieve truly “bespoke” tailoring.

With respect even merely to the *personal* characteristics of a single adversary leader, for instance, as we have seen “difficult deterrence” theorists remind us, one must assess the impact upon his decision-making of factors such as “nationality, passion, idealism, cynicism, pragmatism, dogmatism, stupidity, intelligence, imagination, flexibility, stubbornness, and so on,” along with “mental disorders such as depression, anxiety, and paranoia.”¹¹ Nor is acquiring such knowledge likely needed just for one person, since few adversary regimes are *so* personalistic that nobody else matters: in all probability, one would also need to evaluate the impact of such factors

upon all of the essential players within that country's nuclear-relevant decision-making apparatus.

Moreover, such potentially idiosyncratic human beings would be making decisions within a highly complex web of factual circumstances, as well as bringing both to the perception and the interpretation of these circumstances – and to the formulation and implementation of policies in response thereto – a range of antecedent assumptions, habits, preconceptions, policy-behavioral “instincts,” and intellectual and cognitive path-dependencies. In principle, therefore, these would *also* need to be well understood if “tailoring” were to be fully effective in addressing one's deterrent policy to a particular adversary in the specific circumstances in which one faces him.

Obviously, ever being able *actually* to have such a degree of analytical fidelity about any given adversary is a fantasy. It is surely impossible to “know one's enemy” at the level of detail that tailored deterrence holds out as the ideal.

This does not in itself invalidate “tailoring” theory, of course, for just as having *more* accuracy in targeting a kinetic weapon system is better than having *less* of it, doing more tailoring in adjusting deterrence policy to one's adversary is generally preferable to doing less. Tailoring remains a valuable aspiration and conceptual lodestar notwithstanding the fact that in the real world, the *degree* of one's deterrent tailoring will be unavoidably imperfect.

The point here, however, is that a degree of “bluntness” in deterrence tailoring is unavoidable, and that one can be sure that there are *always* aspects of one's assumptions about how the adversary thinks that will be *wrong*. Because by definition one cannot be sure *which* such conclusions are mistaken, however, deterrence planning based upon assessments of the adversary must at some point aim not so much to *maximize* performance against an extremely detailed cognitive model of the other party but rather to attempt to find an approach that, to use Herbert Simon's term, “satisfices” across a *range*

of possible alternative adversary cognitive terrains. (Where you have very high confidence in your ability to understand him, this can perhaps be a fairly narrow range, but in no case can you assume that you've gotten him *completely* right.)

Interestingly, there is at least some precedent for this kind of thinking as a way to inform force posture planning. A RAND Corporation study in 1969, for instance, sought to create “future best estimates” of an optimal U.S. posture on the basis of a model that considered multiple planning factors and a series of “expected value submodels” across a range of uncertainty in order to identify “the appropriate force mix (or size) to achieve a desired level of confidence at least cost” in each scenario.¹² Another RAND study in 1974 explored the USSR’s hypothesized susceptibility to being deterred by U.S. nuclear force posture across four different sets of alternative assumptions about the dynamics underlying Soviet decision-making.¹³ From today’s vantage point, it is not clear whether U.S. leaders actually used such calculations in developing nuclear plans during that period, and it has been observed more generally that such analyses have tended to be less influential in Pentagon decision-making than analytical literature suggests they should be, and that “scenario planning in the DoD has not fulfilled its promise as a fulcrum for strategic planning.”¹⁴

Nevertheless, with such insights in mind, tailored deterrence should admit its own limitations and eventually derogate from its own aspiration to fidelity in favor of some degree of *deliberate* bluntness of approach. The question is not one of *whether* such derogation will be needed, but rather one of *where* and *how much* of a departure one must make in favor of more broad-brush approaches in order to reduce the risk that deterrence will fail on some unexpected patch of cognitive terrain. It is perhaps ironic that the operational end-state of tailored deterrence is thus a careful and prudential avoidance of “too much” tailoring, but some sort of such analytical “hedging” would seem to be inherent in the project.

Problems of Temporality

A second challenge for tailored deterrence theory – with its emphasis upon understanding the complex physical and cognitive circumstances of any given situation of adversary decision-making – is the awkward but unavoidable fact that such circumstances *change* over time. To ensure that one's approach is and remains "tailored" thus requires that one adjust it over time as relevant facts evolve. But this temporal malleability introduces important additional challenges.

For one thing, tailored deterrence solutions may need to be adjusted or re-set with each successive new national leader. It's not difficult to imagine, after all, that the question of "What will deter *you*?" might be answered in meaningfully different ways depending upon whether the nuclear decision-maker in question is, for instance, Joseph Stalin, Nikita Khrushchev, Yuri Andropov, Mikhail Gorbachev, or Vladimir Putin. (By comparison, Dwight Eisenhower, Richard Nixon, Ronald Reagan, Jimmy Carter, George H.W. Bush, Barack Obama, Joe Biden, and Donald Trump differ hardly less among themselves, and perhaps more so.)

The answer might also differ depending upon *when* the question is asked even within the tenure of the *same* leader, for real-world human beings frequently learn, grow, deteriorate, or otherwise evolve while in office. Since leaders do not generally make decisions in a bureaucratic vacuum, moreover, some degree of adjustment may also be needed depending upon changes in the landscape of policy advisors and implementers. (Anyone thinking it doesn't matter who else is "in the room" as long as the paramount decision-maker remains the same might wish to compare the divergent policy approaches of the First and Second Trump Administrations.)

And of course, even if one could hold the characteristics of the decision-maker constant in a notably unrealistic way, the *context* in which he will assess his security environment and make nuclear decisions is also subject to change. "Facts on the ground" are always evolving, and such evolution will at some point inevitably bring

changes relevant to nuclear decision-making – and that may accordingly require some adjustment of one’s nuclear “tailoring” solutions. *What* adjustment, *how much* of it would be needed, and *how often* this need would arise presumably cannot not be predicted with any particular accuracy, but it seems inescapable that *some* process of ongoing adjustment will be required if deterrence tailoring is to be maintained.

As with problems of analytical fidelity, these dynamics of change do not in principle invalidate tailored deterrence theory. Adapting tailored deterrence solutions only *imperfectly* to changed circumstances is surely probably better – in terms of overall deterrent performance – than not adjusting things at all. Yet dynamics of temporal change seem likely to sharply limit the extent to which tailoring can be accomplished, given the degree to which nuclear force posture depends upon a range of complex nuclear weapons and delivery system development, deployment, and acquisition decisions that can take years to be made, and that can take *decades* to bear fruit.

The reader of this journal is likely to be familiar with John Boyd’s famous concept of the “OODA loop” – his acronym for a decision-and-action cycle in which each player attempts to be as rapid and accurate as possible in *observing* his environment, *orienting* himself within it, *deciding* what to do, and *acting* upon that decision. The player who can cycle through the “OODA loop” faster than his opponent, the theory goes, can generally outfight him, because having a faster cyclic rate means that one is able to change the opponent’s operational environment (presumably to his disadvantage) faster than he can react to it. If you cycle faster, he will inevitably fall behind.

The OODA loop concept offers us a cautionary note for tailored deterrence, because the factual context in which nuclear-relevant decisions are made – including the political-bureaucratic terrain of decision-making within an adversary regime, or the cognitive terrain of the individual “wetware” of the adversary leader – is capable of changing *much* faster than one can change one’s nuclear force posture. It is true that declaratory policy and doctrine can be revised more

quickly than the number and nature of the physical nuclear tools one deploys, but it seems unavoidable that the world of deterrence-relevant “facts” in the security environment will be able to change more rapidly than one can build, modify, redeploy, or dismantle nuclear weapons and delivery systems.

One can see aspects of this dilemma surfacing clearly in post-Cold War U.S. nuclear force posture planning. The fall of the Berlin Wall in 1989, the collapse of the USSR in 1991, and the resultant dramatic easing of Cold War tensions opened up remarkable opportunities for nuclear force posture reductions, and indeed in time allowed both Washington and Moscow to reduce their nuclear arsenals to only a small fraction of their Cold War peaks – in the American case, to its smallest size since 1960. This could perhaps even be seen as an application of tailored deterrence, for it was almost certainly the case that in the circumstances of the early post-Cold War years, neither of the former superpower rivals *needed* very large forces to deter aggression against it by the other in the new security environment they both faced.

Notably, in U.S. practice, planners attempted to employ concepts of deterrence “hedging” by not cutting the arsenal *quite* as far back as they probably could have given the security environment of the time, and by retaining a modest reserve of retired, non-deployed weapons that could, in theory, be returned to service if the security environment failed to remain as non-threatening as it then seemed to be. On the whole, however, we “tailored” down quite dramatically from Cold War levels to a much smaller force keyed to the assumedly benign circumstances of the post-Soviet world. We did so, moreover, not just by taking many thousands of weapons and delivery systems out of service over the subsequent two decades, but also by radically scaling back the footprint and production capacity of the U.S. nuclear weapons production infrastructure and the overall size of the American Defense Industrial Base (DIB) as a whole.

Today, of course, the security environment does not seem nearly so benign, and we are being forced to confront a force posture “OODA

loop problem” in the form of the mismatch between the rate of change in the security environment and the available pace of change in our development, production, and deployment of nuclear weaponry. At the moment, we are struggling to keep pace even with the programmatic and financial demands of modernizing the types of strategic delivery system we retained from Cold War days – and of replacing them merely at today’s vastly-reduced post-Cold War numbers – and we still have very little capability to build any *more* of them, or to build anything *new*, as deterrence requirements change or grow in today’s deteriorating security environment.

U.S. national security planners have for years emphasized the importance of ensuring that America’s nuclear weapons development and production infrastructure and the associated deterrence-relevant DIB are as agile and “responsive” to evolving threats as possible. As early as the 2001 Nuclear Posture Review (NPR) published by the George W. Bush Administration, for instance, the U.S. Department of Defense called for “[r]evitalization of the [nuclear] infrastructure so that it can support in a timely manner the full range of future capability and modernization requirements.”¹⁵ In a similar vein, the First Trump Administration’s 2018 NPR stressed that

An effective, responsive, and resilient nuclear weapons infrastructure is essential to the U.S. capacity to adapt flexibly to shifting requirements. Such an infrastructure offers tangible evidence to both allies and potential adversaries of U.S. nuclear weapons capabilities and can help to deter, assure, hedge against adverse developments, and discourage adversary interest in arms competition.¹⁶

This was also a point made in the Biden Administration’s 2022 NPR, which declared it essential to

establish the capabilities and infrastructure that can efficiently produce weapons required in the near-term and beyond, and that are sufficiently resilient to adapt to

additional or new requirements should geopolitical or technology developments warrant.¹⁷

Yet despite literally decades of such calls for more “responsiveness,” and some new infusions of money to this end in recent years, we are still far from where we need to be. Some portions of the U.S. nuclear weapons infrastructure still date from the Manhattan Project itself, and only the most modest of recoveries has yet been achieved from the dramatic downsizing of this infrastructure after the Cold War – which left the weapons complex all but “hard-wired,” as it were, in a form too small to permit effective future adaptation to a more threatening security environment. According to a 2025 memorandum from the current U.S. Deputy Secretary of Energy,

... [f]or nearly three decades, the United States has not had the ability to produce plutonium pits in the quantities required for the nuclear weapons stockpile and to maintain nuclear deterrence.¹⁸

In the First Trump Administration, we set in motion a plan to build two new production pipelines for the plutonium “pits” that form the core element of U.S. nuclear weapons, but these efforts are over budget and behind schedule. (One of these lines produced its first pit only as recently as late 2024, while the other may do so until the mid-2030s.) Even when this pit production begins, moreover, the two lines’ combined throughput will be a mere 80 per year – a tiny fraction of the United States’ peak annual pit production capacity of between 1,000 and 2,000 during the Cold War, and nothing at all like a genuinely “responsive” infrastructure capable of hedging against future threats.

We are in no danger, in other words, of being able to build any genuinely new capability anytime soon – or to produce any significant number of *new* weapons from scratch – and though the evidence suggests the problem is not nearly as bad as some once feared, there remains debate and concern about the implications as our existing collection of plutonium pits gradually ages over time. In the

immediate term, the only U.S. capacity to respond to increased force posture requirements in the face of decreasingly “detractable” modern adversaries thus stems from the modest “hedge” of non-deployed weapons we decided to keep around gathering dust on the proverbial shelf years ago. Nor will we be able *replace* those weapons in the American “hedging” stockpile because the abovementioned 80-pit annual throughput will be primarily allocated merely to producing warheads for existing programs to replace existing delivery systems at current stockpile numbers.

All of this suggests the conceptual and practical limits of aspiring to “tailor” deterrence in a context in which our OODA loop response time for nuclear force posture evolution is *very* slow. Having tailored our deterrence posture three decades ago to the characteristics of adversaries who we did not then find particularly threatening, we now find ourselves falling behind the curve in being able to respond to the much more problematic ones of our day. What little ability the United States now has to tailor our force posture to *today’s* threats, in fact – *e.g.*, the ability to “upload” some of our retired weapons into deployed delivery systems – is the result of a fortuitous decision *not* to tailor U.S. force posture *too* closely to yesterday’s limited needs.

There thus exist sharp programmatic limits, it would seem, on how well “bespoke tailoring” can cope with temporal change – particularly as the security environment gets *worse*. Yet an environment of growing threats is presumably just the context in which you would ordinarily want to tailor deterrence *more* in order to maximize its effectiveness. We clearly face a real challenge here.

Problems of Plurality

Tailoring faces additional problems with respect to what one might call *plurality* – that is, the challenges of coping with deterring multiple “near-peer” nuclear adversaries at the same time. In principle, it might be possible to plan and implement a tailored deterrence strategy against a single peer adversary in a bilateral rivalry, as indeed we arguably attempted to do during the Cold War

vis-à-vis the Soviets. To extend the tailoring metaphor a bit further, if you know for whom a “suit” is being made, a good tailor can make the cut work very attractively indeed. If the same garment is being made to fit *multiple* people, however, it seems unlikely – particularly through the context-minded prism of “difficult deterrence” thinking, which analogically posits that national leaders come in greatly varying sizes and shapes – that one could ever *really* make the suit look good.

However many adversaries one faces, one still only gets to have *one* force posture, at least in terms of the actual weapons systems one builds and deploys. Nuclear weapons-related *policies* might perhaps still be “tailored” – *e.g.*, by preparing different approaches to strategic signaling, different rules of engagement and conceptual frameworks for escalation management, and different doctrinal and declaratory policy caveats for each adversary – but one still only gets *a single* force posture at a time where actual weapons systems are concerned. In that respect, ensuring one’s ability to tailor deterrence policy to the target over time might require being careful *not* to tailor one’s arsenal *itself* too much to existing deterrent needs: the logic here suggests the need to err on the side of excess capability in numbers and type, rather than aim at very close tailoring.¹⁹

In principle, in the face of multiple adversaries, one might thus be best served by approaching tailoring *additively* – that is, layering what one needs vis-à-vis one adversary on top of what one needs against the other, as packages separately calculated and concurrently maintained. Nevertheless, due to real-world limitations on funding and to production programmatics, a purely cumulative approach is surely unfeasible vis-à-vis near-peers, driving force posture planning into the challenging intellectual terrain of considering how *little* surplusage – over and above what one would need for mission taskings against a single near-peer adversary – one could safely get away with. Here, again, one may have to forego the aspiration to optimality in favor of a somewhat different approach less finely tuned to actual needs.

Beyond Core Deterrence

It is also worth noting that tailored deterrence is, on its own terms, a framework arguably incapable of providing a comprehensive force-sizing construct for the arsenal of a major nuclear weapons power in the first place. To help explain this point, recall that there are at least three conceptually different types of task, or “mission sets,” to which a nuclear arsenal might be put: Core Deterrence (CD); Escalation Management (EM); and Damage Limitation (DL).

As it has been described in the literature, tailored deterrence seems best suited for providing force posture guidance for Core Deterrence purposes – that is, for deterring an adversary from launching a “bolt-from-the-blue” attack in peacetime or in crisis, or from thinking it worthwhile to launch an all-out conventional war. In principle, a careful analysis of adversary nuclear thinking could help determine what force posture one requires in order to have the capabilities needed to dissuade him from taking such steps – *e.g.*, how large a survivable second-strike force, and capable of hitting what targets, would likely frighten him into thinking the risks and likely costs of aggression not worth its potential benefits.

Even with CD, of course, really high-fidelity tailoring is likely impossible due to the aforementioned problems of analytical fidelity, temporality, and plurality. Nevertheless, a nuclear force posture’s CD mission set – which is planned for and implemented in advance, thus allowing at least *some* careful study of the adversary under more or less the same contextual non-wartime conditions in which one hopes deterrence will work – is the one most conducive to tailored deterrence theory.²⁰

Tailored deterrence struggles somewhat more, however, with the coercive bargaining questions of Escalation Management – which is to say, with the challenges that arise as one attempts to use one’s force posture to manipulate nuclear risk in ways that dissuade an adversary from crossing the threshold into nuclear weapons use or

escalating into *further* nuclear use after a limited nuclear conflict has begun. EM is a type of coercive bargaining, and involves not only efforts to use nuclear-related threats and actions to achieve one's affirmative goals against the adversary, but also to cope with and respond to *his* efforts to employ nuclear threats for coercive bargaining against *you* in crisis or conflict.

In principle, the tailoring of deterrence should be possible here too. In contrast to the CD mission set, however, EM involves questions of how an adversary will react in circumstances radically different from the peacetime baseline – circumstances for which advance analytical preparation is much less possible, and which are more likely to change with extreme rapidity. This makes tailoring's "fidelity" and "temporality" problems particularly acute.

Importantly, in terms of number and type of nuclear weapons systems, EM-related force posture requirements for such coercive bargaining are probably significantly greater than those needed merely for CD. Core Deterrence might perhaps be achieved merely by the maintenance of a survivable second-strike capability, as long as it was of a sort capable of holding at risk what the adversary indeed most fears losing. (These forces, in other words, would be structured to ensure that, come what may, you could destroy whatever it is that the foe most prizes.)

For effective Escalation Management, however, a force of merely that size is unlikely to be enough. Indeed, without some ability to engage in EM in a crisis or limited conflict, a stable balance of "mutually assured destruction" capabilities at the strategic level might actually *invite* lower-level or merely regional aggression on the basis of an adversary's assumption that you won't respond effectively to such localized provocations precisely *because* getting into a full-scale war would present existential risks. (In Ukraine today, for instance, Russia has sought to employ the risk of nuclear escalation to deter *us* from directly intervening to stop *it* from feeding upon its neighbors. In contrast to the more *defensive* applications of deterrence as we usually contemplate in the West, I have called this strategy an

“offensive nuclear umbrella.”²¹) EM is thus likely to require both a larger and a more flexible nuclear arsenal – especially in terms of lower-yield weapons or those of more limited range suited to theater-level exchanges – than does Core Deterrence.

The point here with respect to tailored deterrence is that even to the degree that tailoring theory can help with both CD and EM tasks – which, as we have seen, is quite real, though ultimately limited – the resulting force posture requirements are *different*. Meeting the requirements of force posture planning thus entails looking beyond any specific single formulation of “tailoring” to broader logics tied to the purposes nuclear forces are intended to serve.

This disjuncture is especially dramatic when one considers Damage Limitation. As I have written elsewhere, DL strategy can come into play where both deterrence and escalation management have *failed*, and all-out nuclear war has begun:

In *those* unhappy circumstances, “damage limitation” refers to the effort, in effect, to destroy as many of the enemy’s nuclear assets as possible, as quickly as possible, in order to prevent them from being used against you. It is not damage *prevention*, of course, because in such circumstances that is presumably impossible[,] [particularly to the extent that the adversary possesses survivable second-strike forces]. Nevertheless, there is an undeniable logic in the idea that it is better to be hit by only *some* of an adversary’s nuclear arsenal than by *all* of it, and damage limitation strategies seek to make this ‘some’ as small a number as possible.²²

DL strategies generally pay little attention to tailoring except simply in the sense of making sure you know as much as possible about the nature and location of all surviving enemy nuclear forces. Indeed, DL isn’t fundamentally about *deterrence* at all, though of course one’s clear ability to achieve damage limitation missions may in fact contribute to deterrence by making an adversary think twice about

attacking. Rather, DL is about doing what one can to limit adverse national consequences after considerations of actually *detering* the adversary have already been swept from the board.

My point here is merely that Damage Limitation requirements – if one has them – may have very different implications for force posture planning than the other missions I have described. In particular, DL is likely to demand much more in terms of absolute numbers of weapons than either CD or EM, and likely *less* in terms of theater-level capabilities than EM (unless the particular geographies involved are especially constrained, making theater-range systems effectively “strategic” from the perspective of at least one party). This is, then, another way in which, while deterrence planning can draw upon powerful insights from tailored deterrence theory, it yet needs to look beyond it to meet the challenges of force posture planning.

And indeed, at least implicitly, it may be for such reasons that it is not actually clear that the U.S. Government has ever really *tried* to achieve tailored deterrence in a highly developed way. In principle, one might imagine that in its ideal form, a strategy of “tailoring” deterrence would have at least three elements: (a) we would do focused analytical work on what, specifically, a given adversary most fears losing and would wish to protect above all else; (b) we would change our force posture, doctrinal, and operational plans in order to make us able to hold that thing (or things) at risk under any and all circumstances; and (c) we would explicitly *signal* to the adversary that we have taken the foregoing steps in order to maximize their deterrent effect upon him.

Yet I am not aware of any evidence in the historical record of any such conjunction of steps; in practice, it would appear that U.S. leaders have at every stage decided, even if only tacitly, to opt for a *less* surgical approach to deterring our foes. It is perhaps not a coincidence, then, that I, too, suggest a somewhat blunter approach, as the following pages will detail.

A BaDASS Approach?

None of the above critiques invalidate the insights and importance of tailoring, and we owe a great deal to Keith Payne and other tailored deterrence theorists for enriching the literature and bringing these insights so effectively to our attention. Nevertheless, these challenges suggest that we also need to recognize the limitations of tailoring.

As a practical matter, however committed one may be to tailoring deterrent posture to the complexities of the adversarial environment, we cannot adjust major aspects of that posture to a changing world fast enough or surgically enough to achieve or maintain high-fidelity tailoring. One might be able to – and presumably *should* – try to tailor how one anticipates *using* one's nuclear capabilities (*e.g.*, through doctrinal adjustments, declaratory policies, and signaling strategies) in order to maximize their ability to accomplish whatever is felt most likely to deter one's adversary in all his potential idiosyncrasy. Attempting “bespoke” tailoring in terms of what nuclear capacities one *possesses*, however, seems problematic, both because the challenges of analytical fidelity increase the risk of *under-shooting* the mark, and because changing course along highly path-dependent development pipelines in response to new, differing, or additional requirements – or simply to the discovery that one's adversary is for some reason less “detractable” in that fashion than one had at first estimated – is so difficult, expensive, and slow.

It may thus be necessary to relax aspirations to a finely-tuned posture and be willing to accept – or indeed actively *seek* – a greater degree of “bluntness,” calibrated less to optimized performance against one adversary and set of facts than to performing “adequately” against a range of players and alternative futures. This helps shift the conceptual focus away from tailoring *per se* and toward an ethic of prudentially *non*-tailored policies that are oriented more toward as much hedging, flexibility, and *excess* capacity as one can afford than toward making one's posture correspond closely with current

deterrent needs. Put another way, the keen insights of tailoring theory retain salience in terms of *using* one's nuclear force posture to shape an adversary's decision-making, but are an inadequate guide to shaping the nature and scale of that nuclear force itself.

In hope of offering an alternative way to conceptualize deterrent requirements in a way alive both to the importance of tailoring capabilities and policies to the adversary and the strategic circumstances and to the *limitations* of such tailoring, I suggest a conceptual framework that draws upon tailoring theory but also *builds* upon it to offer a more comprehensive picture of how to think about force posture needs. As I see it, a more comprehensive approach would be one that:

- a) Accepts the key insights of “difficult deterrence” theory and hence aims to use “tailoring” as much as feasible to maximize deterrent impact;
- b) Accommodates the need for strategic “hedging” by developing capabilities *beyond* those that any given recipe for adversary-specific tailoring would itself require, aiming thereby to cope with the problems of limited analytical fidelity, temporal change, and the potential multiplicity of adversaries who must be deterred;
- c) Understands that optimal performance against any given set of deterrence needs is impossible when one has to plan against a range of adversary and circumstantial futures, and in an environment of unavoidably finite resources and programmatic path-dependencies, but that a certain overinclusive “bluntness” of approach can help preserve some degree of deterrent effect notwithstanding this unavoidable sub-optimality;

- d) Over time, prizes flexibility, programmatic “responsiveness,” and surplusages of available (even if unused) productive and developmental capacity at least as much as – and, in contexts of strategic benignity, even *more* than – it values actual “weapons-in-hand”; and
- e) Accepts that certain mission requirements can go well beyond what baseline “deterrence” requires, notably in the form of approaches designed to cope with the challenges both of coercive bargaining in Escalation Management and (especially) of Damage Limitation.

As the reader will by now have guessed, I think such an approach militates generally in favor of some degree of *supersufficiency*, calling for a larger and more flexible nuclear force posture either than one actually *needs* at any given point in time or than what would be suggested by any single given force posture theory – whether drawn from the world of “easy deterrence” posturing or from that of “difficult deterrence”-inspired tailoring. In my own head, I label this approach “Bargaining and Deterrent Arsenal Super-Sufficiency – or, more wryly, by its memorable acronym BaDASS.

BaDASS represents an acknowledgment that tailoring is a powerful insight, but has limits, and that “Saville Row”-levels of deterrent optimality are simply unavailable to us for the various conceptual and practical reasons I have tried to explain. BaDASS policy acknowledges that the physical elements of nuclear force postures change only slowly and expensively, and that one cannot ever adjust and thereafter readjust “tailoring” with nearly as much accuracy, detail, and responsiveness as one would wish. It seeks, instead, merely to “satisfice” against any given set of deterrence needs, while also building buffers into force posture planning – in the form of some degree of excess capacity and “responsive” productive and developmental capabilities, to the extent that one can afford them – as

a hedge against error, change, and deterioration in the future security environment.

Conclusion

I make no claim that this is a wholly original concept, though I am reasonably confident that “BaDASS” is a novel formulation. U.S. nuclear planners have recognized for years that their security environment is highly unpredictable and can change considerably over time, both in terms of *who* our adversaries are and in terms of what it might take to deter them from actions against us. The 2001 NPR, for instance, minced no words about this unpredictability, declaring that

... [t]he United States cannot predict with confidence what nation, combination of nations[,] or non-state actors may pose a threat to its vital interests or those of its friends and allies decades from now. In the coming decades, the United States is likely to confront unexpected crises and conflicts involving one or a combination of adversaries armed with a range of capabilities²³

Nor am I really telling thoughtful advocates of tailored deterrence anything that they don’t already know. In response to unpredictability, they frequently recognize the need to hedge against future threats *separately from and in addition to* the process of “tailoring” itself. Keith Payne himself, for instance – who has been described as “the main architect” of the George W. Bush Administration’s abovementioned NPR²⁴ – has pointed out the need for a “range of deterrent tools to tailor deterrence strategies better across a broad range of opponents and circumstances and to provide a defensive hedge.”²⁵

As Payne also put it in a 2018 article on tailored deterrence, while “[d]eterring contemporary adversaries is a challenge[,] deterring future adversaries yet to emerge is, by definition, a challenge of unknown dimensions,” making it important also “to ‘hedge’ against

uncertainty and risk” – such as, he noted, in the ways we called for in Trump’s 2018 NPR. For him, good deterrence planning indeed requires “hedging against the unknown and unexpected.”²⁶ Similarly, Sarah Faris has emphasized that

... [a] tailored deterrence approach calls for the ability to employ a variety of deterrent threats flexibly. The variability of opponents’ perceptions and decision-making frameworks mandates the U.S. ability to deter in a variety of ways to provide the greatest opportunity for effective deterrence. This flexibility pairs well with tailoring because it is intended to help provide Washington with a range of means to deter a spectrum of opponents given the potential variability in their decision making, value systems, perceptions, and calculations of risk, cost and benefit. Recognizing that not all opponents will respond to deterrence threats in the same way and from a similar decision-making framework, leads logically to the demand for the flexible means necessary to deter in a variety of ways to provide the greatest opportunity for deterrence to “work.” Specifically, a tailored approach to deterrence provides the fundamental rationale for a diverse arsenal, with both nuclear and non-nuclear capabilities, as a means for deterring multiple opponents simultaneously, including the flexibility of the nuclear triad and regional nuclear capabilities.²⁷

This clearly implies a recognition that precisely *because* one wants the ability to “tailor” the uses of one’s nuclear force posture to the circumstances of each adversary, one needs *enough* such forces to provide a broad repertoire of responsive behaviors.

My point here, therefore, is not that “tailoring” theorists got things wrong, but to emphasize that tailoring itself is only *part* of what is necessary for a sound deterrence policy. Indeed – properly conceived, as I have attempted to explain – the insights of tailored deterrence themselves point us precisely to the *limits* of “bespoke”

tailoring, and to the need to restrict it to the manipulation of doctrine and policy choice in the *application* of nuclear weapons power, while adopting more hedging-focused, BaDASS “supersufficiency” policies when it comes to force type and sizing. I suggest, in other words, that in order to ensure effective deterrence and sound force posture planning over time, we need not to *replace* the concept of tailored deterrence, but rather both to understand its conceptual and practical limits and to pursue *additional* capacity on top of – and to some extent in derogation from – the idea of high-fidelity “tailoring.”

* * *

About the Author

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Notes for Dr. Ford's Essay

- ¹ Keith B. Payne, “The Great Divide in US Deterrence Thought,” *Strategic Studies Quarterly*, Summer 2020, 21. Payne, it should be noted, is not just an influential deterrence thinker and the scholar most associated with tailored deterrence thinking, but also served as the second director of [Missouri State University's School of Defense and Strategic Studies](#) (DSS) and brought the DSS program to the Washington, DC, area in 2005.
- ² *Ibid.*, 29-30 (quoting Jonathan Roberts, *Decision-Making during International Crises* (St. Martin's Press, 1988), 162-63; and Gordon A. Craig & Alexander L. George, *Force and Statecraft: Diplomatic Problems of Our Time* (3rd ed.) (Oxford University Press, 1995), 192).
- ³ Sarah Faris, “Tailoring Deterrence: What and Why?” National Institute for Public Policy, *Occasional Papers*, vol. 5, no. 11, November 2025, viii & 1, <https://nipp.org/wp-content/uploads/2025/11/Vol.-5-No.-11.pdf>.
- ⁴ U.S. Department of Defense, *National Security Strategy of the United States of America* (March 2006), 43, <https://history.defense.gov/Portals/70/Documents/nss/nss2006.pdf>.

- ⁵ U.S. Department of Defense, *Quadrennial Defense Review Report* (February 6, 2006), 49, <https://history.defense.gov/Portals/70/Documents/quadrennial/QDR2006.pdf?ver=2014-06-25-111017-150>.
- ⁶ U.S. Department of Defense, *Quadrennial Defense Review Report* (February 2010), 14, <https://history.defense.gov/Portals/70/Documents/quadrennial/QDR2010.pdf>.
- ⁷ U.S. Department of Defense, *2022 Nuclear Posture Review* (October 2022), 9-10, <https://media.defense.gov/2022/Oct/27/2003103845/-1/-1/1/2022-%20NATIONAL-DEFENSE-STRATEGY-NPR-MDR.pdf>.
- ⁸ Faris, “Tailoring Deterrence: What and Why?”, 20 & 23.
- ⁹ Keith B. Payne, “Nuclear Deterrence in a New Era: Applying ‘Tailored Deterrence,’” National Institute for Public Policy, *Information Series*, no. 431 (May 21, 2018), 3 & 13, <https://nipp.org/wp-content/uploads/2021/03/IS-431.pdf>.
- ¹⁰ Payne, “Nuclear Deterrence in a New Era,” 22.
- ¹¹ Payne, “The Great Divide,” 29.
- ¹² Donald E. Emerson, “A Note on Handling Uncertainty in Force Structure Studies,” RAND Corporation (1969), <https://www.rand.org/pubs/papers/P4017.html>.
- ¹³ William M. Jones, “Modeling Soviet Behavior and Deterrence,” RAND Corporation (1974), <https://www.rand.org/pubs/reports/R1065.html>. I am grateful to Austin Long for these two RAND examples.
- ¹⁴ Michael Fitzsimmons, “Strategic Insight: Challenges in Using Scenario Planning for Defense Strategy,” U.S. Army Strategic Studies Institute (January 30, 2018), <https://ssi.armywarcollege.edu/SSI-Media/Recent-Publications/Display/Article/3579721/strategic-insights-challenges-in-using-scenario-planning-for-defense-strategy/>.
- ¹⁵ U.S. Department of Defense, *Nuclear Posture Review* (2001), i, https://www.esd.whs.mil/Portals/54/Documents/FOID/Reading%20Room/NCB/06-F-1586_Nuclear_Posture_Review.pdf.
- ¹⁶ U.S. Department of Defense, *Nuclear Posture Review* (2018),
- ¹⁷ *Nuclear Posture Review* (2018), 23.
- ¹⁸ Deputy Secretary of Energy James P. Danley, Memo for John E. Dupuy and Theresa Robbins, “Special Study of the National Nuclear Security Administration’s Leadership and Management of the Plutonium Pit Production Mission” (August 11, 2025), http://www.lasg.org/MPF2/documents/DOE-SpecialStudyNNSALeadershipMgmtPPPMission_ltr_11Aug2025.pdf.
- ¹⁹ As a side note, it may be worth observing that tailoring deterrence in the context of multiple players is likely to be especially challenging as a result of feedback loops in how each adjusts itself to the other. Even in a bilateral relationship, once you begin adjusting deterrence policies in response to changing circumstances, and once the other begins in turn adjusting *his* policies in light of *your* tailorings, complex dynamics of reciprocal influence could develop. With luck, such dynamics would prove stabilizing – that is, the operation of negative feedback loops would have a behaviorally dampening effect, making extreme reactions less likely and conducing to deterring conflict. Alternatively, however, positive (accelerating) feedback loops might predominate, to potentially destabilizing effect. Adding third parties to the system would render such complex dynamics far more likely, making the system more nonlinear and unpredictable.
- ²⁰ I do not mean to suggest that the three force posture mission categories are mutually exclusive. It seems likely, for instance, that core deterrence will be affected by an adversary’s perceptions of how well equipped you are for escalation management and damage limitation, for those questions have bearing on how well the adversary is likely to think he will fare in the event that deterrence fails. (If you are not ready for escalation

management, for instance, he might feel more willing to engage in peacetime provocations – not necessarily because he doesn’t fear your survivable second-strike forces, but rather because a relative lack of “rungs” on your “escalation ladder” made it more likely that he would enjoy “escalation dominance” and that you would be commensurately self-deterred from pushing back against his provocations.) There is also a conceptual relationship between the maintenance of the survivable second-strike forces needed for core deterrence and the challenges of damage limitation, inasmuch as the very existence of reliably survivable forces provides a kind of “backstop” upon the degree of damage limitation his forces are going to be able to achieve, even preemptively.

- ²¹ See, e.g., Christopher A. Ford, “Offensive Nuclear Umbrellas and the Modern Challenge of Strategic Thinking,” remarks to a Nuclear Security Working Group Congressional Seminar at the U.S. House of Representatives (February 10, 2016), <https://www.newparadigmsforum.com/p2007>.
- ²² Christopher A. Ford, “Artificial Intelligence and Nuclear Weaponry,” INHR (March 27, 2026), <https://www.newparadigmsforum.com/artificial-intelligence-and-nuclear-weaponry>.
- ²³ *Nuclear Posture Review* (2001), 5.
- ²⁴ Anna Péczeli, “Best Options for the Nuclear Posture Review,” *Strategic Studies Quarterly* (Fall 2017), 76, https://www.airuniversity.af.edu/Portals/10/SSQ/documents/Volume-11_Issue-3/Peczeli.pdf.
- ²⁵ Keith B. Payne, “The Nuclear Posture Review: Setting the Record Straight,” *Washington Quarterly*, vol. 28, no. 3 (Summer 2005), 141, <https://ciaotest.cc.columbia.edu/olj/twq/sum2005/sum2005i.pdf>
- ²⁶ Payne, “Nuclear Deterrence in a New Era,” 4.
- ²⁷ Faris, “Tailoring Deterrence: What and Why?”, 40.

Part II:

Dr. Payne on “Fundamental Deterrence Challenges and Tailoring”

Introduction

The bipartisan endorsement of adapting, or “tailoring,” deterrence to the potentially unique characteristics of particular opponents and contexts is a milestone in the evolution of U.S. deterrence policy. It has tremendous implications for the character of the U.S. nuclear and non-nuclear force posture intended to support deterrence and extended deterrence to allies.

For example, the basic rationale for tailoring deterrence is recognition of the diversity of opponents’ interpretations of what constitutes “rational” or “reasonable” goals and behavior. An overarching deterrence policy requirement designed to enable the United States to tailor its deterrence strategies and redlines across the range of opponents and potential contingencies mandates a force posture that can adapt U.S. deterrence strategies to opponents’ divergent goals, value hierarchies, risk and cost tolerances, levels of determination, modes of communication, and perceptions of the United States – among the many factors that can shape enemy responses to U.S. deterrence threats and redlines.¹

In 1995, without using the term “tailoring,” two prominent scholars, Gordon Craig and Alexander George, presented the basic rationale for adapting deterrence strategies to the opponent’s particular characters: “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. There is no substitute for knowledge of the adversary’s mind-set and

behavioral style”² Given this reality, tailoring is needed because, “if one does not threaten the right target for the right reason, it may not matter how well one does it.”³

A U.S. force posture consistent with a policy of tailoring deterrence to a variety of opponents and contingencies must be sufficiently diverse and flexible to hold at risk the potentially wide spectrum of assets that those opponents deem of highest value – potentially including numerous hardened, defended point targets. It also must be able to pose a credible deterrence threat to opponents who arise relatively quickly or are recognized belatedly. Consequently, tailoring mandates a larger and more diverse standing arsenal of forces supporting deterrence than is favored by those who advocate for what has been referred to as “minimum deterrence” or “easy deterrence.”⁴ It is this force posture implication of tailored deterrence regarding the number and diversity of U.S. nuclear forces that leads some who recognize the logic of tailoring deterrence, nevertheless, to reject it as policy guidance. They tend to place priority on facilitating lower U.S. force numbers over optimizing prospective deterrent effect.

Intelligence and Tailoring Deterrence

Recognition that opponents can vary widely in their perceptions of, and responses to, U.S. deterrence efforts correspondingly elevates the demands on U.S. intelligence and analysis that supports deterrence. The need is to understand the factors that inform and animate foreign leaderships in different circumstances and how those factors are likely to affect their perceptions of, and responses to, U.S. deterrence strategies. This need is a contemporary deterrence application of Sun Tzu’s emphasis in *The Art of War* on the importance of knowing the enemy.⁵

This intelligence task is not “one and done” because opponents and crises can emerge rapidly and their respective responses to U.S. deterrence strategies can vary depending on the stakes and circumstances of a confrontation. The demand for continuing analysis

of opponents and circumstances is seemingly unlimited and must be bounded in practice by the priority threats of the time.

Challenges to Tailoring

Various challenges to tailoring as a deterrence requirement are well-known at this point. They tend to focus not on the principle itself – which is self-evidently reasonable – but on the difficulties involved in knowing opponents and in applying that knowledge to deterrence in operational practice.⁶ “Knowing” the opponent will always be incomplete and applying what is known to deterrence practice is an art – ever subject to uncertainties and change – as Christopher Ford concludes in his insightful adjoining essay on tailoring deterrence. The goal is for complete knowledge and deterrence certainty, but neither is achievable in practice; deterrence can never be ensured. The tailoring goal that is achievable is more modest: to make fewer mistakes and reduce uncertainties so deterrence can “work” as effectively as may be possible.

The harsh reality is that the practicable deterrence goal of doing better with tailoring, even with its limits, should not be sidelined in favor of the unobtainable goal of deterrence perfection without challenges. Even with the most sophisticated and dedicated tailoring, the functioning of deterrence will not be fully predictable. That is an unavoidable reality that must be acknowledged and against which the United States must hedge. Indeed, given the inescapable possibility of deterrence failure, global nuclear disarmament would be a far better alternative if it were plausible.

However, the often-suggested disarmament alternative to deterrence – despite its superficial appeal – is not a serious option. It would require the prior transformation of the international order and human relations the likes of which have never been known in all of history, and hardly appear to be on the horizon.⁷ In 2009, America’s original, bipartisan Strategic Posture Commission rightly concluded: “The conditions that might make possible the global elimination of nuclear weapons are not present today and their creation would

require a fundamental transformation of the world political order.”⁸ An option that is not now remotely plausible is not an option. Unless or until that dramatic transformation takes place, we must make deterrence as foolproof as is possible. Tailoring can help.

Fundamental Challenges and Tailoring Deterrence

Not often discussed are the fundamental difficulties that attend tailored deterrence – and *any* form of deterrence, whatever its title. This difficulty is as true for tailored deterrence as it will be for any future approach to deterrence, and as it has been for all previous approaches to strategic deterrence, whether the Johnson Administration’s “Assured Destruction,” the Nixon Administration’s “Schlesinger Doctrine,” the Carter Administration’s “Countervailing Strategy,” or the Biden Administration’s “Integrated Deterrence.” The names change, as do some key points in the concepts of operation, but the general principles of deterrence have endured for thousands of years, as does the fundamental challenge facing deterrence strategies regardless of their particular methodologies and titles.

This ubiquitous difficulty is that deterrence can fail regardless of the underlying concept, operational approach, forces assigned for that purpose, or the excellence in its presentation. There is no set of threats and redlines that, “of course,” has predictable deterring effect, regardless of the skill in application. Why so? Because for deterrence to function, there must be sufficient “space” in opponents’ decision-making for U.S. deterrence strategies to function. That is, for deterrence to “work,” opponents must be open to pragmatically or grudgingly standing back from the goal or purpose that would otherwise animate their provocation. For example, opponents with the goal of territorial expansion, or with fears that would otherwise drive them to a pre-emptive strike, must have the pragmatism and felt freedom of decision-making to stand down from attack in favor of abiding by the demands placed on them by U.S. deterrence redlines and threats. The problem, of course, is that opponents may not have that pragmatism or felt freedom to stand down – regardless of the

character of the U.S. deterrence strategy. This is an inconvenient truth confronting tailored deterrence, and any other form of deterrence.

Examples in history of opponents who appear not to have had the felt freedom to pragmatically stand down, even in the face of highly lethal threats, are many and varied. In some cases, leaders have been *unwilling* to stand down from decisions and actions that appear to have been irrational given the potential consequences they faced. The reasons spurring leaders on in such cases have been, *inter alia*, spiritual, ideological, the preservation of national pride/honor, and/or deeply personal.

It is attractive to believe that leaders will not behave in this fashion, i.e., that some form of deterrence can be made to “work” because foreign leaders ultimately will prove to be rational, in a familiar/predictable manner, and “every nation has its price when it comes to being deterred.”⁹ But that appears not to be the case.

As noted above, leaders can define rational or reasonable behavior very differently, and thereby make decisions that follow an idiosyncratic thought process and appear to be irrational. Experience throughout history offers many vivid examples, including, *inter alia*, the islanders of Melos in 416 B.C., Adolf Hitler and his reoccupation of the Rhineland in 1936, the Japanese War Minister in 1945, the Cuban leadership in 1962, Arab leaders in 1973, and Iraq’s Saddam Hussein in 1991.¹⁰

In short, historically, it appears that opponents’ decision-making dynamics at work have periodically rendered deterrence inherently unpredictable and problematic regardless of the redlines and plausible consequences. The frequent assertion that a rational opponent will be an inherently deterrable opponent is a dangerous misnomer. In some cases, opponents’ decision-making may effectively be immune to external deterrence threats and redlines. Indeed, in extreme cases, leaders actually have made decisions that appear intended to contribute to the destruction of the societies for which they were responsible, including Adolf Hitler in the “Führer Bunker” in 1945.¹¹

It is critical to emphasize that this challenge to deterrence has to do with the insulation of some opponents' decision-making to deterrence threats, not the specifics of the threat. This is the most fundamental challenge to successfully operationalizing tailored deterrence, and any other deterrence strategy. The incomparable strategist Sun Tzu identified effective deterrence as the highest form of strategy: "Achieving victory in every battle is not absolute perfection: neutralizing an adversary's force without battle is absolute perfection."¹² However, deterrence of any form is not always practicable. This suggests the great potential value of hedging deterrence strategies by casting as wide a net as is reasonably possible, including via conscious tailoring, but also to hedging against the real possibility that deterrence will fail or simply not apply given opponents' decision-making parameters. The critical questions in such potential cases are: Is the opponent likely to be subject to deterrence effect under the circumstances of the engagement? How prepared is the United States for deterrence failure? How much should be invested, and in what ways, in that preparation? And how should those preparations be integrated with tailored deterrence strategies, *i.e.*, strategic deterrence/defense integration? The open history of U.S. planning in this regard is a decidedly mixed bag.

What Advantage Tailoring?

What is a potentially unique advantage of efforts to tailor deterrence given this fundamental challenge to deterrence in general? That advantage may, on occasion, be profoundly important. The efforts to understand opponents in context mandated by tailoring, as described above, can help us to recognize when and why an opponent may *not* be subject to our deterrence tools. Expecting deterrence to "work," when, in fact, only physical control of the opponent would advance U.S. goals, can lead to placing priority on the wrong strategy for the opponent and occasion. In such cases, confidence in any plausible formulation of deterrence to achieve U.S. goals could be a lethal mistake – other strategies must take precedence.

Efforts to tailor deterrence can help us to recognize when deterrence should, or should not, be the priority strategy. Key questions to address in this regard include, *inter alia*: do we know with whom we need to communicate and can we communicate reliably with them? does the target of our communication understand our redlines and fear the associated threats? are our redlines and threats *as perceived by the opponent* credible (or as Herman Kahn put it, “not incredible”) both in the operational sense and as the opponent perceives our will to execute those threats? does the opponent have the “space” in its decision-making to stand back from the behavior we seek to deter, or is pragmatism by the opponent unlikely under the circumstances?¹³

If even one of the answers to these questions is “no,” the prospects for deterrence functioning as we envision are likely to be reduced; if many of these questions are so answered, deterrence may not be the optimal strategy. The crucial question then is, what is the alternative to deterrence?¹⁴ Recognizing the difference is no small advantage and efforts to tailor deterrence can help us to recognize that difference.

Should we expect to be able to address any of these key questions with complete confidence? Of course not. As this author concluded in 2001, “Accumulating pertinent information about a challenger will never be complete, and the relevant information is likely to change over time.”¹⁵ This is the norm. Few questions in the realm of national security can be answered with complete confidence, yet significant decisions hang on our best approximations. For example, we likely do not know precisely how many nuclear weapons Russia, China or North Korea possess, or their respective war plans for nuclear employment. But we plan, nevertheless, based on what we conclude is most likely. That said, there are indicators of how the key questions noted above may be addressed and answered to the imperfect degree possible – of course, we must actually look for those indicators.

In short, tailoring is not a magic wand that can ensure the predictable functioning of deterrence; nothing can do that.

Nevertheless, it is a practicable option that is valuable for its potential to increase the opportunities for recognizing when deterrence may not apply, and to reduce the probability of deterrence failure that follows from failing to understand, to the extent possible, how to deter those enemies whose decision-making is susceptible to deterrence.

Previous Approaches to Deterrence

The value of tailoring becomes more compelling when compared to the previous U.S. approach to strategic deterrence. That approach, in broad terms, presumes that there exists a universal mode of thinking that makes a single form of deterrence predictably reliable; as a consequence, all rational opponents will adhere to similar interpretations of, and responses to, U.S. deterrence strategies.

An example of this past presumption regarding deterrence can be seen in the unmitigated confidence that U.S. officials and academic commentators had that holding opponents' societal assets (*e.g.*, population and industry) at risk would effectively deter any "sane" opponent – as if all opponents would reason similarly and be deterred by a similar threat.¹⁶ On the basis of such an expectation, the U.S. strategic force arsenal could be reduced to those forces required to threaten retaliation against an opponent's society – typically considered a modest level of capability given the extreme vulnerability of societal assets to nuclear weapons. And, indeed, Secretary of Defense McNamara employed such a declared measure of force adequacy, which he referred to as "Assured Destruction," to constrain and limit U.S. spending on strategic forces.¹⁷

Similarly, some contemporary critics of tailoring deterrence tend to seek a reduced definition of U.S. force adequacy. Consequently, they find fault with tailoring as a requirement and harken back to the expectation that a less demanding standard of adequacy will provide effective deterrence reliably against any "sane" opponent. The inherent risk of such an approach, of course, is that some opponents are likely to be deterred most effectively by threats to values other than highly-vulnerable societal assets and, consequently, the more

demanding measure of adequacy associated with tailoring is required for U.S. deterrence capabilities.

For example, the need for a more expansive definition of nuclear force adequacy can be seen in the Carter Administration's conclusion that to deter Moscow most effectively required that the United States hold at risk what Moscow's leaders valued most: their political control and military assets.¹⁸ This conclusion regarding the necessary type of threat to deter Moscow appears to have been carried through in U.S. policy application and has been reaffirmed repeatedly since.¹⁹

The fundamental question now is not whether tailoring is the preferred policy guideline. That much has been decided. The questions posed by a requirement to tailor deterrence are: 1) How broadly should the adequacy standard be for U.S. forces to be deemed adequate to tailor deterrence per the range of opponents and threats?; and 2) How do we operationalize the needed deterrence threats, *i.e.*, create and communicate the threats deemed most effective for deterrence? The answers to those questions will shape the breadth and scope of the U.S. force posture mandated by the requirement to tailor deterrence.

The Need for Tailoring: A Long History

It should be recognized that "tailoring" deterrence is not a new or even recent idea. The need to "tailor" by name generally was not seen until the 1990s and its adoption as operational guidance can be found in unclassified U.S. Strategic Command documents a decade thereafter.²⁰ Beginning in the early 1980s, this author advanced the rationale for deterrence strategies to be predicated on an understanding of opponents' unique characteristics – *i.e.*, tailoring – and, in 1989, used historical illustrations in an unclassified article to help explain the need to do so.²¹ However, the policy direction to adapt strategic deterrence to the particular goals and perceptions of the Soviet leadership can be seen earlier, including in the (now declassified) 1974 "Schlesinger Doctrine" and related nuclear

employment policy,²² and in the Carter Administration's Presidential Directive-59 and Countervailing Strategy.²³

The intellectual roots of the need to adjust U.S. policies to an understanding of the unique decision-making factors underlying enemy behavior can be seen decades earlier. In 1964, the Group for the Advancement of Psychiatry's study entitled, *Psychiatric Aspects of the Prevention of Nuclear War*, concluded that deterrence strategies predicated on the presumption of universal behavioral patterns and rationality rest on "dubious psychological assumptions."²⁴ And, as early as 1951, an incomparable scholar at RAND, Nathan Leites, authored a ground-breaking study assessing the unique factors underlying the Soviet leadership's decision-making and the importance of understanding them for U.S. policy.²⁵

In short, the use of the term "tailoring" goes back several decades; U.S. operationalization of the concept appears decades earlier, and the intellectual roots for doing so go back to the early years of the Cold War. The full history of this profound evolution in the conceptualization of deterrence and in U.S. policy is yet to be written, although several partial endeavors to do so have been published recently and are now ongoing.²⁶

Does Deterrence Tailoring "Work"?

Has tailoring made the difference in U.S. deterrence working or failing? We do not know the answer to that question because effective deterrence often provides little evidence to enable a conclusion about causation. When deterrence "works," nothing much may appear to happen, and the explanations for a provocation that did not occur can be varied and undisciplined by evidence.

That said, we know that strategic deterrence has not failed catastrophically since the U.S. adopted tailoring as a stated or unstated deterrence requirement, including through some stressful periods. Any recommendations to move now in a different policy direction should, somehow, offer a convincing rationale as to why it would

provide a more effective basis for deterrence. There are contemporary recommendations for change that essentially ignore or dismiss the need to tailor deterrence. Instead, they appear intended to reduce the adequacy standard for U.S. force posture requirements as the route to lower U.S. nuclear force numbers.²⁷ None of these offers a plausible explanation of why/how the recommended change would serve the priority task of strengthening deterrence in a challenging time – indeed, that does not appear to be the goal.

Conclusion

In conclusion, the history of the evolution of U.S. deterrence policy to include tailoring has not yet been written, but its origins run far earlier than most commentaries recognize – as does U.S. operationalization of the concept. Tailoring has limitations and unavoidable challenges, as do all approaches to deterrence; it is not a “silver bullet.” In addition, to the consternation of some, tailoring deterrence suggests the need for more diverse nuclear capabilities than under past concepts, such as “Assured Destruction.” That acknowledged, tailoring is an innovation in U.S. policy, accepted on a bipartisan basis, that has the potential to help Washington avoid making mistakes in its efforts to deter, including in discerning when deterrence may not be the optimal strategy. Given the zero tolerance for strategic deterrence failure, helping to avoid mistakes via tailoring U.S. deterrence strategies is a high priority. A separate, related priority is to integrate tailored deterrence with measures that hedge against its possible failure.

* * *

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Notes for Dr. Payne's Essay

- ¹ See, e.g., Keith B. Payne, "Understanding Deterrence," in, Payne, ed., *Understanding Deterrence* (Routledge, 2013), 3-37.
- ² Gordon Craig & Alexander George, *Force and Statecraft: Diplomatic Problems of Our Time*, 3rd ed. (Oxford University Press, 1995), 188.
- ³ Peter Karsten, Peter Howell, & Artis Allen, *Military Threats* (Greenwood Press, 1984), p. xii.
- ⁴ See, e.g., Keith B. Payne & James Schlesinger, *Minimum Deterrence: Examining the Evidence* (National Institute Press, 2013), 3-8 & 9-13.
- ⁵ Sun Tzu, *The Art of War*, Research and Reinterpretation by J. H. Huang (William Morrow, 1993), 52 & 161.
- ⁶ See, e.g., Keith B. Payne, *The Fallacies of Cold War Deterrence and a New Direction* (University Press of Kentucky, 2001), 98-114; Sean P. Larkin, "The Limits of Tailored Deterrence," *Joint Forces Quarterly*, 4th Quarter, Issue 63 (2011), 47-57.
- ⁷ See the discussion in, Keith B. Payne, *Chasing a Grand Illusion: Replacing Deterrence With Disarmament* (National Institute Press, 2023).
- ⁸ See William J. Perry and James R. Schlesinger, et al., *America's Strategic Posture* (Washington, D.C.: U.S. Institute of Peace, 2009), xvi & 17.
- ⁹ See testimony of Gen. Eugene Habiger in, U.S. Senate, Committee on Armed Services, *Department of Defense Authorization For Appropriation For Fiscal Year 1999 and The Future Years Defense Program, Part 7, Hearings*, 105th Congress, 2nd Session (U.S. Government Printing Office, 1998), 494.
- ¹⁰ For lengthy discussions of these examples, see Keith B. Payne, *Deterrence in the Second Nuclear Age* (University Press of Kentucky, 1996), chapters 3 & 4; and Payne, *The Fallacies of Cold War Deterrence*, 39-73.
- ¹¹ *Ibid.*, 71-72.
- ¹² Sun Tzu, *The Art of War*, 48.
- ¹³ In 1996, a longer list of such key questions was originally presented in Payne, *Deterrence in the Second Nuclear Age*, 126-127.
- ¹⁴ As discussed in, Payne, *The Fallacies of Cold War Deterrence*, 107 & 109-110.
- ¹⁵ *Ibid.*, 101.
- ¹⁶ See, e.g., McGeorge Bundy, "To Cap the Volcano," *Foreign Affairs*, Vol. 48, No. 1 (October 1969), 9; see also Robert Jervis, "Why Nuclear Superiority Doesn't Matter," *Political Science Quarterly*, Vol. 94, No. 4 (Winter 1979-1980), 618.

- ¹⁷ As discussed in Henry S. Rowen, "Formulating Strategic Doctrine," Commission on the Organization of the Government for the Conduct of Foreign Policy, Volume 4, Appendix K, *Adequacy of Current Organization: Defense and Arms Control* (U.S. Government Printing Office, June 1975), 227.
- ¹⁸ See testimony by Secretary of Defense Harold Brown and the "Administration's Responses to Questions Submitted Before the Hearing," in U.S. Senate, Committee on Foreign Relations, *Nuclear War Strategy*, Hearings, 96th Congress, 2nd Session (Top Secret hearing held on September 16, 1980; redacted and printed on February 18, 1981). (U.S. Government Printing Office, 1981), 10, 16, 25, & 29-30.
- ¹⁹ See, e.g., President's Commission on Strategic Forces, *Report of the President's Commission on Strategic Forces* (April 1983), <http://web.mit.edu/chemistry/deutch/policy/1983-ReportPresCommStrategic.pdf>; see also Madelyn R. Creedon, Jon L. Kyl, et al., *The Final Report of the Congressional Commission on the Strategic Posture of the United States*, October 2023, <https://www.ida.org/-/media/feature/publications/a/am/americas-strategic-posture/strategic-posture-commission-report.ashx>.
- ²⁰ Department of Defense, *Deterrence Operations: Joint Operating Concept* (DO JOC), Version 2.0 (August 2006), 3 & 25, https://www.jcs.mil/Portals/36/Documents/Doctrine/concepts/joc_deterrence.pdf.
- ²¹ See Keith B. Payne & Lawrence Fink, "Deterrence Without Defense: Gambling on Perfection," *Strategic Review*, Vol. 16, No. 1 (Winter 1989), 25-40.
- ²² See the discussion in Kyle Balzer, "'Knowing Your Enemy': James R. Schlesinger and the Rise of Tailored Deterrence," *Journal of Policy & Strategy*, Vol. 4, No. 3 (2024), 39-54.
- ²³ See Secretary of Defense Harold Brown, in *Nuclear War Strategy*, 10 & 16.
- ²⁴ Group for the Advancement of Psychiatry, Committee on Social Issues, *Psychiatric Aspects of the Prevention of Nuclear War*, Report No. 57 (September 1964), 268.
- ²⁵ See Nathan Leites' RAND study from 1951 in, Nathan Constantin Leites, *The Operational Code of the Politburo* (RAND Corporation, 2007).
- ²⁶ See, e.g., Sarah Faris, *Tailoring Deterrence: What and Why?*, National Institute for Public Policy, *Occasional Paper*, Vol. 5, No. 11 (November 2025); Balzer, "'Knowing Your Enemy': James R. Schlesinger and the Rise of Tailored Deterrence," 39-54.
- ²⁷ See, e.g., William J. Perry and Tom Z. Collina, *The Button* (BenBella Books, 2020); see also Stephen Walt, "The Quest for Nuclear Superiority makes No Sense," *Foreign Policy* (June 25, 2026), <https://foreignpolicy.com/2026/06/25/nuclear-arsenal-modernization-weapons-no-sense/>; Keir A. Lieber and Daryl G. Press, "US Strategy and Force Posture for an Era of Nuclear Tripolarity," *Issue Brief*, Atlantic Council (April 2023), <https://www.atlanticcouncil.org/in-depth-research-reports/issue-brief/us-strategy-and-force-posture-for-an-era-of-nuclear-tripolarity/>.

From the Great War to Ukraine: Adapting to the Changing Character of War

by

Paul R. Dodge

Introduction

Modern militaries face the continual challenge of preparing for the next war, which requires deciding what capabilities to field, in what quantity, and how the force will employ them. Getting this wrong could lead to deterrence failure and greater casualties.

Prior to the start of the First World War, the United States Army was woefully unsuited for the realities of modern war that were about to be unleashed in Europe. Once the war was underway, the neutral United States failed to adapt and prepare. The U.S. Army squandered another opportunity as it trained vast numbers of troops after the US declaration of war in 1917. To invoke Carl von Clausewitz, the Army did not keep up with the changing character of war, which stemmed from the impact of modern artillery, machine guns, aircraft, chemical weapons, and tanks.¹ A detailed look at US military reports from the 1914 outbreak of the Great War showcases how Washington could have avoided many thousands of casualties in 1917 and 1918.

Contemporary discussion of the rapidly changing character of war tends to invoke the war in Ukraine. As Russia's invasion continues unabated, the character of the war, as well as doctrine and weaponry, are evolving rapidly. Innovation is the norm as both sides strive for advantage by adapting cutting-edge technology, off-the-shelf parts, or unprecedented tactics. Techniques and doctrine have gone through several major changes. As explored below, Western

analysts continually fret over how the United States and NATO forces would fare in a future conflict featuring many of the “gamechangers” now regularly making headlines. This debate, often focusing on the advent of “drone warfare,” focuses on the extent to which Western militaries should adapt, and whether they are adapting fast enough.

In this context, an examination of World War One reports from the front can illuminate how U.S. force planners should navigate the challenge of equipping and training forces for modern conflict. Overall, the north star for U.S. defense planners in today’s evolving security landscape should be to maintain a healthy dose of humility regarding how Western forces would fare amid the sort of bleeding-edge technology and tactics that have been on display in Ukraine and Iran, while at the same time avoiding the urge to over-optimize for drone-centric campaigning at the expense of key traditional platforms. Advanced aircraft, long-range strike systems, as well as space-enabled domain awareness and targeting will continue to be the center of gravity for the highest-consequence conflict scenarios in the near- to mid-term. Critically, the U.S. military must improve its ability to adapt on the fly, once the conflict has begun, because contemporary conflicts have demonstrated major changes over the span of mere weeks. If the U.S. military prepares for drone-based warfare in its current manifestation, it will remain perpetually behind the curve.

Dispatches from the Front

From 1914 until 1917, the neutral United States failed to make even limited but prudent force planning changes, such as improvements to US Army doctrine. This failure was not the result of insufficient information on the horrors of the Great War. Press reporting on the war was widely available, and U.S. leadership also had access to *military* details on the devastating nature of modern combat as well.

Among the most important sources of information in the early months of the war were the official reports of the U.S. military attaché in Paris, Major Spencer Cosby. An exploration of his dispatches

reveals an officer who was dutifully warning Washington of how unprepared US forces were for modern combat. As the world watches the drone revolution play out in Russia's war against Ukraine, Cosby's numerous reports from the early days of the Great War highlight what can happen when a nation fails to make even basic preparations for the evolving character of war, despite having plenty of information and warning.

From 1914 to early 1917, Cosby sent from Paris regular and detailed reports to Washington on everything from the overall progress of the war to major battles, leadership changes, tactics, trench design, casualties, societal changes, and even the minute details of uniforms and wire cutters. This trove of information has been used by a few historians but has not been described in detail. Michael Neiberg studied Cosby's reports and observed that scholars previously believed the United States did not even have a military attaché in Paris in 1914, until approximately 2011 when the original papers were found in private hands.² Richard Faulkner, in his work on the American Expeditionary Force (AEF), notes that numerous military reports were coming in from Europe and cites Cosby's reports as proof that some in the U.S. Army were closely following military developments.³ Besides this relatively recent scholarship, one enterprising war college student managed to find Cosby's reports reproduced at the National Archives in 1999.⁴

The Spencer Cosby Collection is now stored at the U.S. Army Heritage and Education Center in Carlisle Barracks, Pennsylvania, and spans hundreds of pages. This article will explore his major observations on the changing character of war in the crucial first months of the conflict.⁵

Born in 1867 and eventually attaining the rank of colonel, Cosby was well-suited to report on the Great War, perhaps by an accident of history. Graduating first in his class at West Point in 1891, he became an officer in the U.S. Army Corps of Engineers: a specialty that became critical for observing the advent of trench warfare. Cosby was also well connected. He served in several high-profile positions prior to the war,

including as President William Howard Taft's military aide and the Superintendent of Public Buildings and Grounds for Washington, DC. In these roles, he organized the planting of the city's famous cherry trees, donated by Japan.⁶ Cosby was a known quantity to the Woodrow Wilson Administration as well, later serving as aide and interpreter to French General Joseph Joffre on his visit to meet with President Wilson in April 1917.⁷ He was a promising military officer whose star was rising, assigned to one of the most prestigious foreign posts of the era. In the small world of Washington and the War Department of the early 20th Century, Cosby was an authoritative source at the outbreak of the first major European war in decades.

A Barbarous War

Cosby's first war dispatches, starting in late August 1914, note that he and the embassy staff had been extremely busy assisting U.S. citizens fleeing France. By September 7, the advent of aircraft in war was apparent, as he states German planes had flown over Paris each day in the previous three weeks, conducting "bomb throwing" on the city. On September 6, he drove along the outer defenses of Paris. Cosby spoke to retreating French dragoons who showed "not the slightest hint of demoralization." So far, the war may have appeared like many before it, except for the incessant but merely annoying attacks of "aeroplanes."

On September 10, Cosby conducted his first visit to the war zone. He would eventually conduct seven such visits, usually as part of a formal and all-expense-paid French army excursion with other neutral nations' officers.⁸ Cosby had an immediate sense of the war's brutal impacts on civilians. General Joffre hosted Cosby and the other attachés at his chateau headquarters for the Battle of the Marne, intending for them to see the effects of the German invasion and "how they made war." French officers gave Cosby journals found on dead or captured Germans, stating they had shot women and children. Passing an "endless" stream of refugees, Cosby's motorcade moved into areas where "not more than one third of the buildings remained intact." Dead soldiers were seen "in all directions," and Cosby noted

it was far easier to spot the French casualties because “the invisibility of the bluish gray field uniforms of the Germans have given them a great advantage.” Amidst the evidence of looting and wanton destruction, he interviewed civilians who witnessed German troops firing into a “mass of women.” He would later visit the Second Army commander, General Edouard Castelnau, who told him the Germans had used captured French troops as human shields to cover trench digging. Cosby stated, “A war in which such barbarous methods are employed is terrible.”



Figure 1 – On his first battlefield tour, in September 1914, Major Spencer Cosby took this photo and wrote, “Scene along the line...of the fight between the 90th French Infantry and the regiment of the Imperial Guard, which took place just outside of La Fère Champenoise.” His personal vehicle is visible in the background. (Source: US Army Heritage and Education Center, public domain.)

“Like the Sweep of a Mowing Machine”

On September 24, 1914, Cosby wrote the first of many “progress of the war” summary reports. In these notes and future readouts of battlefield trips, he repeatedly pointed out the enormous impact of firepower on the conflict and the ineffectiveness of infantry attack.

This evidence was notably contrary to the prevailing doctrine of infantry attack and bayonet tactics then dominant in the French, American, and other armies.⁹ US pre-war doctrine was meager and outdated, as was that of the other major powers. By the time the United States entered the war in 1917, the AEF would, despite years of Cosby's reports, adopt U.S. General John Pershing's nebulous "open warfare" concept that favored infantry attack and marksmanship.¹⁰ Cosby had warned that both sides were making "extensive" use of heavy artillery and employing aircraft to reconnoiter targets. Steady shelling then followed to "sweep gradually but effectively all the ground occupied by the hostile troops." Regarding machine guns, he stated, "[t]hey are everywhere in evidence, are well handled, and their effect is most destructive." The Germans were likewise in awe of French artillery.

Interlocutors repeatedly told Cosby that the war involved "enormous losses" and featured "mass carnage." The true indication of the changed character of the Great War came on October 7, 1914, when Cosby enclosed the report of his U.S. embassy colleague Mr. Eric Wood from his visit to the front. Wood marveled that the 17th Regiment of French infantry charged across an open field, with no cover, losing half of its men to eight German guns and some infantry. He saw one instance of 60 dead French infantrymen on the field, describing them as "monstrously conspicuous" in their red uniform pants. Recognizing the overwhelming lethality of artillery in this war, Wood stated that all were killed by shellfire and added that "the dead lay in one straight row like the sweep of a mowing machine." Elsewhere, a German attack was repulsed with "frightful losses" to such an extent that "the Prussian Imperial Guard does not exist today," judging by the heaps of dead and wounded. Specifically, he witnessed 600 German casualties in a field of about six acres.



Figure 2 – Cosby wrote, “The French infantrymen who took refuge behind a stack of grain on a field across which bullets swept like a wind. The bullets of course circulated through the pile of straw without any hindrance - with fatal effect to the three men.” Note the shattered rifle stock. (Source: US Army Heritage and Education Center, public domain.)

Overall, observers were quickly concluding that this was no ordinary war. Artillery, machine guns, and the already obsolete “mitrailleuse” volley guns were utterly devastating to the point that traditional forces and tactics were obsolete. A French captain expressed to Wood that “this war had proved that infantry could not exist in the presence of such weapons.” In numerous cases, French attacks were “literally annihilated.” Cosby also reported the French officer as stating, “The infantry of both sides are singularly ineffective, showing no good qualities except to get itself killed.” He noted that both sides actually showed “contempt” for the opposing infantry.

Beyond the lethality of warfare, Cosby gave extensive technical and operational detail on what he considered the most salient technologies of this war: artillery, aircraft for reconnaissance and artillery spotting, automobiles, and, of course, trench warfare. On October 10, 1914, he wrote, “[t]wo distinguishing new features of the war over previous ones are use of aeroplanes and automobiles.” He

later added, “[s]ecrecy as to the main bodies of troops had been rendered impossible by the aeroplane.” Throughout his time in France, Cosby would visit numerous airbases and interview pilots, reporting on tactics, ideal aircraft characteristics, mounted guns, bombs, and even aerial darts. His efforts also included witnessing early French countermeasures: camouflage, deception, anti-aircraft, and air-to-air combat techniques.

Regarding automobiles, Cosby marveled at the rapid mechanization of forces to move whole divisions, supplies, and the wounded. In October 1914 he wrote, “[e]normous use is made of automobiles of all kinds for the most varied purposes. Too much stress cannot be laid upon the important part played by motor vehicles.” Here he urged Washington to understand that

... [t]he importance, the absolute necessity, is manifest of making now, in time of peace, a careful study of plans for the use of motor cars, trucks, and tractors by our army in time of war.

These factors notwithstanding, Cosby still stressed the dominance of artillery. “The overwhelming importance of the role played by artillery cannot be too often or too strongly insisted upon,” he wrote in March 1915. In November 1914 he reported that one French officer “believes that artillery is responsible for the greater part of the losses to the enemy during the war ... he would not be surprised if it went up to 75%.” Another French interlocutor warned of flaws in pre-war assumptions on artillery ammunition consumption rates: “The use of artillery ammunition has been so much greater than anyone had ever anticipated.”

From Cosby’s report dated October 29, 1914, it was apparent to him that trench warfare had fully set in. Positions remained “unchanged” over the past month and each side was now “strongly entrenched.” Reports over the following months repeat that there had been no appreciable change in the lines, that attacks were “vain,” and losses “enormous.”

In February 1915, a Cosby report gives an indication that the French had now formally recognized the overlapping challenges of trench warfare. A Tenth Army officer stated, “It was impossible to make a serious attempt to break through ... even if it were possible for the infantry to advance, the artillery could not follow.” Cosby summarizes another French officer in saying that if a machine gun “is given anything of a field of fire and a fair chance in numbers, he does not believe it can be taken by an infantry charge.” When the Germans attack, the French officer stated that, “The first line may sometimes by surprise reach its objective, but if a second line attempts to follow, it is mowed down by our artillery.”

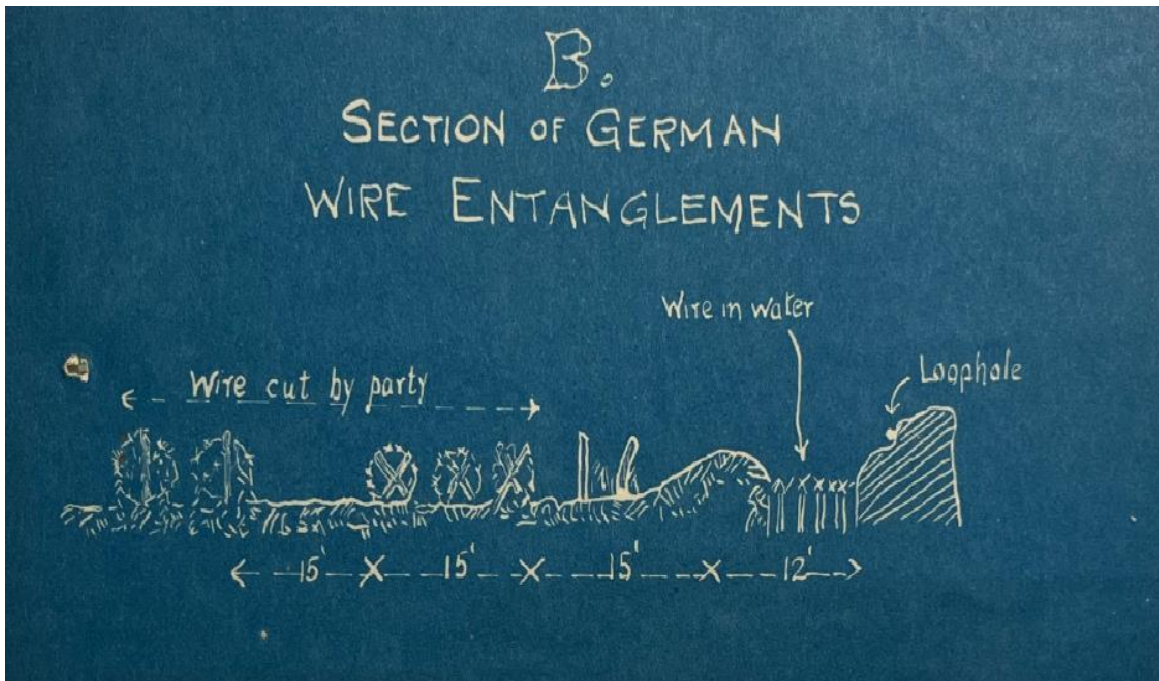


Figure 3 – A West Point engineer by training, Cosby sent back numerous technical drawings of trenches and defenses, detailing the relevant measurements, construction techniques, materials, camouflage, and drainage methods. (Source: US Army Heritage and Education Center, public domain.)

In March 1915, Cosby described the war as “a battle between artillery and engineers,” and wrote that the French told him,

... [t]he French field artillery is so superior to that of our adversary that it is nearly always able to break up the German formations while they are preparing for an attack. On the other hand, German engineers have so well located and designed their trenches and so obstructed the approaches ... that the French attack often fails to reach them. ... The present phase of the war ... is a siege operation on a large scale. Its conditions are likely to be repeated in every future campaign ... therefore these conditions are of interest.

A Timely War College Lecture

In a fitting summation of his war reports, the Spencer Cosby Collection includes his remarks for a presentation entitled “The Changes Brought about by the War in the French Army.” The venue for the speech was the Army War College at Fort McNair, in the present-day National War College’s Roosevelt Hall. The remarks are dated March 3, 1917, just one month before the U.S. declaration of war. This was, in fact, the same day the German government admitted in public that the Zimmerman Telegram was authentic: Berlin admitted it sought Mexico’s entry into the war on the side of the Central Powers, hoping it would attack the United States. There could now be little doubt that the United States would enter the war.

Cosby’s remarks outlined French “methods of attack and defense,” and he made the notable comment that he will only touch on recent developments, since the audience had “been made thoroughly familiar with them.” Thus, one may surmise that at this point in 1917, at least the small cadre of Army War College students was informed as to the realities of modern war. Cosby stated,

Mother Earth still offers to her harassed sons the best of all shelters. Since the earliest stages of the war the trench, with its accessories, has reigned supreme.

Continuing his remarks, Cosby breaks with the apolitical tone of his reports from Paris. The issue of enlarging and improving the U.S. military had been a politically charged topic since 1915, manifest in the Preparedness Movement led by Theodore Roosevelt and others.¹¹ In the fall of 1915, the Army staff had even been ordered by a furious Wilson to stop planning for European war contingencies.¹² By 1917, however, Germany had resumed unrestricted submarine warfare, and “preparedness” was perhaps safe ground for Cosby to address:

I find the opinion widely held here that this kind of warfare ... should be considered exceptional, that there is little likelihood of our own country ever being involved in it, and therefore that we should not attach too much importance to its lessons in our military preparations. This view I find to be erroneous. The preparedness which is essential to our national safety is against the contingency of war with one or more of the great powers. Every nation, including our own, must be prepared for such warfare.

While it seems clear that at least some among U.S. military leadership must have read Cosby’s reports, it is difficult to assess whether the top generals or senior civilian officials received or in any way acted upon this information. Given the lack of significant preparatory measures taken by the time the United States entered the war in April 1917, as well as the inadequacy of AEF recruit training prior to deployment to France, one could be forgiven for surmising that the United States had no awareness at all of the gravity of these new military dynamics. However, the Army had ample, accurate information from sources beyond Cosby’s reports – certainly enough to make serious changes.¹³

In fact, the United States had two chances to make improvements: prior to entry and during the 13 months between declaring war and first engaging in major combat operations.¹⁴ Both opportunities were squandered. By the U.S. entry into the war, American artillery, aircraft, and munitions were inadequate and existed in vastly insufficient quantities. Pershing’s troops received

hasty, shoddy training using outdated doctrine that entailed all of the pre-war assumptions once held by the European powers, particularly the importance and viability of massed infantry attack, the rifle, and the bayonet.¹⁵ In many cases, the lessons of French and British experience – the doctrine and training reflecting lessons learned from hundreds of thousands of casualties – were actively resisted and deemed ineffective or unsuited to the American way of war.¹⁶ In roughly 11 months of fighting, U.S. forces would sustain more than 300,000 casualties.¹⁷

While a massive increase in the size of the U.S. Army prior to 1917 was a political non-starter, the Cosby Collection proves that US leadership had the necessary information to at least modernize Army planning, doctrine, training, and leader development. The concrete details of modern war were available as early as the fall of 1914, and this information could have saved the lives of thousands of the U.S. “Doughboys” who would begin arriving in France in 1917.

Ukraine and Drone Warfare

One scholar of the Great War ultimately attributes the American refusal to make prudent military adaptations to “an unwillingness to believe the Army would soon have to fight on such a scale or in such an environment and an inability to devote the resources to preparing for possible operations in Europe while meeting other existing demands.”¹⁸ The situation facing the U.S. military today is unlike that of 1914 in that there is now general recognition that major war with great powers could involve the United States. The nation has a long tradition of involvement in foreign wars as a major power, which was certainly not the case in 1914. However, the early 20th Century challenges of competing demands and an unwillingness to adapt would certainly seem familiar to modern defense analysts.

There has been broad bipartisan agreement that the United States should prepare for a major modern war. This notion has comprised the core tenets of the 2014 *Quadrennial Defense Review*, the 2018 and 2022 U.S. *National Defense Strategies*, as well as senior defense

officials' comments under the second Trump Administration.¹⁹ The constant stream of publicly available information coming from the war in Ukraine, as well as close U.S.-Ukraine defense cooperation, has illuminated critical lessons for future warfare such as the ubiquity of unmanned systems of all types and the importance of having large quantities of critical munitions. Now, as in 1914, there is no shortage of information on the effectiveness of new weapons and novel employment methods for existing systems.

The question today is not whether to prepare but in what ways and to what extent. The civilian and military leadership in the Department of War must balance U.S. force development and planning decisions between at least two major potential warfighting challenges: China and Russia. Furthermore, they must also strike the right mix between costly, high-tech traditional platforms (*e.g.*, manned fighters, bombers, submarines, and ships) on one hand, and the numerous and cheaper “drone revolution” systems on the other.

Watching the war in Ukraine play out, analysts have much to consider and no clear indication of what the “decisive” technology in modern warfare is or will become. In terms of doctrine and tactics, the war is not a static trench conflict, as it is often assumed to be. The initial massed formations of Russian tanks and vehicles were stopped by anti-tank missiles and drones, which led to trench warfare, which eventually came to be breached by glide bombs, which then forced Ukraine to create distributed webs of defensive positions.²⁰ Ukraine's lightly manned positions then faced infiltration and shock troop tactics. At the time of this writing, Ukraine has again flipped the script by embarking on an extensive two-part strike campaign using large quantities of low-cost and increasingly long-ranged drones, aimed at strangling Russia's forces in Crimea and disrupting Russia's overall energy production.

The technological innovations have been rapid and numerous enough to warrant a dedicated study. The war has seen the advent of a wide range of innovations, such as first-person view (FPV) drones; unmanned surface vessels; anti-drone “coke cages” around vehicles;

fiber optic cable drones, motorcycle attacks; “armored” utility terrain vehicles (derisively called military golf carts); ungainly “mammoth” tanks festooned with improvised netting; pipeline infiltrators; offensives conducted entirely by robotic ground systems, and the “containerized drone warfare” seen in Ukraine’s June 2025 “Operation Spiderweb.” Spring 2026 has witnessed Ukraine’s effective use of imagery-based, jamming-proof terminal guidance for drones, empowered by artificial intelligence, in its strategy to isolate Crimea.

Expert views on this issue vary greatly. While the U.S. and Western militaries are watching and adapting, some commentators assert that these efforts are vastly insufficient.²¹ NATO has already “missed” the drone revolution, by some accounts.²² For those in this “drone camp,” unmanned systems of all types and ranges are dominating and will continue to do so, heralding a major evolution in the way militaries fight and field forces. For example, some experts assert that the “air littoral,” is a new zone where combatants must vie for supremacy using drones, and that traditional aircraft are largely decoupled from relevance to ground combat.²³

This camp tends to be highly skeptical of the value of expensive and advanced systems, many of which could or have fallen victim to cheap drones. Certainly, instances of “containerized warfare” such as Ukraine’s “Spiderweb” and Israel’s 2025 attacks on Iran have created serious force protection dilemmas, even for established militaries. When strategic bombers, key infrastructure, and air defenses deep within the home territory of authoritarian states are vulnerable to attacks originating from civilian sites or vehicles, Western nations must take notice. Furthermore, air and maritime drone strikes have also demonstrated the ability to threaten major traditional platforms operating in a deployed mode (not in bases), such as Russian surface vessels in the Black Sea.²⁴

A more cautious camp exists as well. The United Kingdom’s Chief of Defence Staff has warned against leaning in too far with “drone-tastic” thinking that neglects the value of traditional military platforms.²⁵ Some veterans have provided detailed accounts from

personal experience as to the limitations of FPV drones and do not recommend NATO rely on them.²⁶ Broadly, the skepticism of drone warfare sometimes implies or asserts that drones are so prevalent in the Ukraine war because neither side was ever able to bring to bear sufficient mass of traditional airpower and land forces.

For example, some defense commentators have noted that traditional artillery, mines, and long-range fires have achieved the bulk of the kills in the war, at least through mid-2025, with drones mostly providing clean-up services.²⁷ If this is true, then drones are useful and salient in modern war, but not particularly decisive. Western nations certainly should field increased drone and especially counter-drone capabilities. However, major platforms continue to offer irreplaceable capabilities, such as the ability to deliver stealthy and precise attacks against hard targets, as seen in U.S. and Israeli follow-on strikes against Iran's nuclear program.²⁸ Thus, it may be that the proven formula of traditional maneuver warfare enabled by advanced aircraft, long-range precision strike munitions, and highly mobile ground forces must still comprise the lion's share of nations' defense investments.

Indeed, it would be a highly risky proposition for any NATO member to go "all-in" on drone warfare, to the exclusion of established major platforms. However, it is also risky and perhaps arrogant to assume that "the West would do better." In other words, it is inadvisable to indulge in the conceit that the West would bring "proper" modern warfare to a conflict, whereas Ukraine and Russia have lacked modern doctrine, advanced technology, or sufficient professionalism from the start. Such an attitude would be the modern equivalent of the assumptions made by Americans training the AEF in 1917 and 1918, namely that European armies were bogged down in trenches because their troops lacked a sufficiently aggressive spirit and skill in rifle marksmanship.²⁹

Modern Force Planning

A third “hybrid” perspective in this debate provides the most useful and practical framework going forward. Namely, it may be the case that the U.S. military does indeed recognize the challenges, see the need to adapt, and have the right plan for doing so, but it must also be able to do so with speed and flexibility once a conflict has begun. The key characteristic of the Ukraine war has been and remains rapid adaptation.³⁰ This is the core lesson for Western planners. Technology and tactics are evolving too rapidly for there to be a discrete “right answer” at this stage, even when considering a possible conflict just a few years into the future. Military innovation is inherently an uncertain business. The demands of future warfare will require far more agility in acquisition and fielding, as well as the ability to field vastly greater quantities of munitions, than the US military has demonstrated for many decades.³¹

There seems to be little room to question this assessment, considering the setbacks in Western drone programs. Most egregiously, in July 2025, the U.S. Army proudly announced its testing of grenade-dropping drones, seemingly unaware that this capability was first used in war, against U.S. forces, almost 10 years ago by a non-state actor.³² During the September 2025 Russian drone incursions into Poland and Romania, NATO fighters only managed to shoot down a small fraction of the incoming aircraft, potentially providing further evidence of the West’s inability to adapt quickly.³³ The destruction of a U.S. E-3 Sentry airborne early warning and control system (AWACS) aircraft in March 2026 during Operation Epic Fury further revealed U.S. vulnerabilities.

Indeed, the machinery of the Pentagon moves slowly, akin to the proverbial huge oil tanker that can only alter its course by a degree or two at a time. The U.S. military first began its shift from a focus on counter-insurgency and counter-terrorism operations to preparedness for high-end conflict in 2014, reacting to Russia’s invasion of the Crimea region of Ukraine and China’s territorial assertions in the South China Sea.³⁴ The Secretary of War issues annual internal force

planning guidance directing the Departments of the Army, Navy, Air Force, U.S. Special Operations Command, and Missile Defense Agency (which together control the vast majority of Pentagon funding under their budget authority) on how to devote additional resources, where to maintain funding, and where to accept risk. Such guidance is the primary method by which the Department's civilian leadership shapes the capability, capacity, and readiness of the Joint Force. The Services' and components' leadership develop their annual budgets in response to such guidance, as well as their own priorities, observations, and institutional preferences.

Congress, of course, gets a say as well through oversight, legislation, and appropriations. Each year, the Department's top leadership makes the case for their force planning solutions, as reflected in the President's Budget Submission. They are often greeted by heavy skepticism, rooted in views akin to the camps described above, or in more parochial concerns. In particular, major, traditional platforms tend to generate far more jobs in Congressional districts than the manufacture of small drones and guidance software, and this increases the tendency in the Executive and Legislative branches to continue planning merely for conflicts that look like the last war.

All of this means that the pace of adaptation has been glacial and that much remains to be done in terms of preparedness for a high-end conflict with a peer competitor. Western defense leadership and force planners must extrapolate the lessons learned in Ukraine's land-centric conflict and apply them more broadly to future, larger-scale, and more advanced warfare, as opposed to today's war in Ukraine. In other words, rather than adapting to the current character of war, the Pentagon's planners must shoot ahead of the target while also improving the Department's ability to adapt *during* a conflict. This is a very challenging task. The goal is not to get everything right, but to sufficiently adapt and hedge in the highest-impact areas in order to reduce risk. Geography continues to matter in this regard. European NATO nations must prepare for a major war with a Russian military with relative mastery over drone warfare. Part of this mastery will have been driven by necessity due to extensive Russian casualties in

Ukraine, but also by the fact that land warfare lends itself quite naturally to numerous and relatively inexpensive drones.

The U.S. military, outside of the NATO context, must navigate a different dilemma. On a bipartisan basis, the US Joint Force continues its primary focus on preparation for a war with China in the Indo-Pacific, guided by several Administrations' defense strategies. While doing so, U.S. forces must certainly prepare for drone-centric warfare, but must not over-optimize for a conflict like the land war in Europe.

A U.S.-China conflict scenario, fought mostly in the air and maritime domains, would rely heavily on capabilities barely featured in Ukraine: submarines, aircraft carriers, fifth-generation fighter aircraft, surface combatants, stealth bombers, survivable space assets, the nuclear triad, and cyber weapons. Yet the need for both vastly larger stocks of key munitions and a far more robust munitions industrial base will persist in any conflict. To complicate matters, U.S. force planners must puzzle out how China might apply the extensive use of all types of unmanned systems to strengthen its anti-access/aerial denial network in the Pacific. On the flip side of the coin, the Pentagon is analyzing how the United States can utilize unmanned systems to enhance its distributed lethality efforts and fight within China's ever-expanding weapon employment zone. These challenges are distinct from the relatively short-range, drone-centric warfare in Ukraine.

Therefore, the key question for Western force planners is not *whether* to adopt a more drone-centric force structure, but rather *how* to adapt drone warfare technologies and tactics to the geostrategic conditions of the highest risk contingencies. Adding to this challenge, the lesson from the Ukraine war is that these adaptation efforts must be complemented by operational and technological flexibility once the conflict is underway; constant innovation will be essential. There is thus no clear destination or end point at which the force can ever be fully prepared for future war. As soon as the conflict begins, and as it progresses, the pace of technological innovation will drive the continually evolving character of war.

This framework should guide U.S. force planners as they direct the relative levels of investment by the Services in platforms and weapons systems. For the conflict scenarios with the highest stakes, particularly in the Indo-Pacific against China, the focus will need to remain on advanced aircraft, long-range strike systems, and undersea forces, enabled by robust data and targeting capabilities in the air and space. In the event of a major land war with a drone-centric power such as Russia, these capabilities will remain highly relevant in that they can ensure air dominance and strike critical logistics targets. Such an approach is the surest way to deter adversary power projection and aggression in the most strategically consequential cases. Yet the U.S. military must also identify the right hedges against drone warfare that make major platforms both more effective and survivable, and it must be prepared to shift these measures in near-real time. The swarms of drones will come, but traditional U.S. capabilities will still be the mainstay force in the near- to mid-term. These platforms will still be called upon to destroy major adversary forces and ensure that the enemy ends up short of fuel, power, communications, ammunition, and food.

Conclusion

Cosby's cables back to Washington failed to have an appreciable impact due to doctrinal stubbornness and a deep-seated societal belief that war could be avoided. His voice should have stood out amidst the worldwide war unfolding abroad. Today, the United States and European militaries have a long way to go in preparing for future war and are far from being able to prognosticate the right future force mix and doctrine. However, they have at least identified the need to change and are already far more prepared for contemporary warfare than the United States was in 1917.

Modern defense planners should approach the evolving character of modern warfare with caution and humility. After the U.S. declaration of war in 1917, as the Army began training vast numbers of troops, its officers were famously dismissive of lessons the Allies

had learned over years of heavy losses. They derided French and British training as overly cautious, and asserted that a focus on bravery, marksmanship, and offensive spirit would break the stalemate on the Western Front. They arrived with the same misguided hubris that animated the early-war armies of the Allies and Central Powers alike. The United States must not make such mistakes today.

There is no modern analog to Cosby in today's world, but there is a vast digital infosphere of media and think tank commentators, as well as innumerable official reports within the U.S. Government, warning that the United States is under-prepared for a wide range of new and unexpected forms of warfare. The daunting challenge facing the force development and planning community today is how to place the right bets on future technology for the most pressing scenarios, while modernizing or divesting legacy systems, and then convincing key Congressional leadership that the Pentagon has the right answers.

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About the Author

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The views expressed herein are entirely the author's own, and do not necessarily represent those of anyone else.

Notes

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