

Anatomy of Failure

Why America Loses Every War It Starts

Manabrata Guha

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In a “critical notice” referencing Derek Parfait’s *On What Matters*, Michael Rosen fleetingly, but acutely, poses a question that is of some relevance to what follows. Rosen asks, “[are] book reviews—the ranking of others’ work, delivered in a tone of apparent omniscience—examples of . . . academic gatekeeping?”¹ This critical review does not pretend to engage in any kind of gatekeeping exercise—academic or otherwise. However, that still leaves the question of how to engage with Harlan Ullman’s text, *Anatomy of Failure: Why America Loses Every War It Starts* (Annapolis, MD: Naval Institute Press, 2017), Kindle version.

At the outset, it is best not to mince words. Ullman’s book is a challenging read. While the book is littered with some rather perceptive and profound observations, the reading experience is, at best, disjointed. One immediately obvious reason is the style of presentation, which reminds this reviewer of the explanatory notes that accompany the ubiquitous PowerPoint (or equivalent) presentation slide deck. More importantly, however, Ullman’s book is challenging because, in effect, it seeks to interrogate *how* we think about war and its conduct, which is far more disturbing, as it compels us to rethink the problem of war afresh. From a reviewer’s perspective, it is also challenging because—in a situation like what Rosen faced when reviewing Parfait’s work—Ullman’s book is almost impossible to review conventionally.² What should the reviewer do? Summarize its contents? That is very easily done. Over seven chapters—each addressing a specific event/strategic condition in US military history and interspersed with a number of “personal vignettes”—Ullman relentlessly pursues one key question: “Why, given what we believe is the greatest military in the world, [is] our [the American] record in war and military interventions . . . so failure prone?” (p. vii) However, such an exercise in

summarization would only serve to reduce Ullman's thesis and, more importantly, its import to mere slogans and "calls for action," which, while providing catchy "sound bites," will only perpetuate the very condition that Ullman writes against. That said, ironically, it appears that Ullman is himself not above a bit of sloganeering—case in point: "the brain-based approach!"

Then there is the question of "assessment." How does Ullman's work stack up against the plethora of books and articles that investigate and examine the US strategic military capability and its effectiveness in actual use? While it is possible to cast Ullman's thesis within an even more fine-grained evidential background than what he provides, the core problem highlighted in this book cannot be denied—though it should be noted that such an exercise is also not unique to him. Others, in different ways, have addressed these and related matters. Moreover, it would be wrong to assume that American strategy and security managers are not fully cognizant of this less-than-stellar history of US strategic military power. However, what is unique about Ullman's work is his call to reevaluate the very foundations on which American (and, by extension, Western) strategy making/war waging rests. While we will have occasion to assess how far his call for a reevaluation goes, a question that is tempting to pose in the immediate context is whether Ullman's book endures or not. That, in my opinion, would be an inappropriate question given the explicit and implicit stakes involved. What is in no doubt, however, is that Ullman highlights a matter that is not only of pressing concern for America's strategy and security managers but also one that is, most certainly, a matter of high interest for their counterparts globally—friendly *and* adversarial.

Regardless, as Rosen points out, "the idea that one should just recommend a work and leave the rest to the reader seems inadequate."³ Works such as Ullman's—though engaging with a very serious topic—also run the risk of being dismissed as being mere "pop(ular)" or "folk" commentaries on war, strategy, and politics, and as such, they are open to misinterpretation leading to the obscuring of what I refer to as the "metastrategic armature" that underwrites such efforts.⁴ Surely, when the stakes are so high, a more nuanced engagement with such books is necessary, and Ullman's latest effort is no exception. Like Rosen, therefore, while I will not shirk the responsibility to engage with Ullman's work with care, I will begin by clarifying a few preliminary points that may enframe my engagement with his work better.

First, my original intention was to write a combined critical review essay on Ullman's book and Rufus Phillips' memoir.⁵ My reasoning was not as obtuse as it may

appear to be at first glance. Phillips' account suggests that a growing disjoint between its political and military strategies wracked the US strategic effort in Vietnam. And, while Phillips' focus is primarily on the shortcomings and failures of the former, his account provides a close look at how this disjoint manifested itself—needless to say, to the detriment of the overall American effort in Vietnam—at every level, i.e., from the strategic to the microtactical. In effect, Phillips' memoir serves to not simply elucidate Ullman's chapter on Vietnam in detail but also to forcefully reiterate Ullman's contention that US strategy making was not (and is not)—in Ullman's terms—"brains-based." Further, as Ullman notes, his own experience in strategic-military affairs began with his service in Vietnam, which he describes by means of three "personal vignettes" in the introduction, which only serves to confirm an obvious congruence and overlap between the two texts. However, repeated close readings convinced me that a combined review would not—indeed, cannot—do justice to either book, which would be tragic given that both deserve our close attention. Thus, my decision was to focus only on Ullman's text.

Second, Ullman's principal concern in the book is about "the larger reasons for failure and the damning impact of the absence of sound strategic thinking." (p. viii) Ullman is under no illusion—and he leaves the reader under no illusion—that the American strategic-military posture is flawed, and he fleshes out his contention in the 236 pages of his book. It is important to mention here that Ullman's argument is not that the American strategic-military establishment is staffed with and by dullards. Indeed, he clarifies, "There is no doubt that today's American military is by orders of magnitude more professionally competent, committed to service, and able" than ever before in the country's history. Instead, Ullman posits that the American strategy-making process has become rote. It has become subservient to technology, it has become bureaucratic and, consequently, sluggish, given the interagency struggles that ensue during the strategy-formulation and execution process—leading to strategic failures.⁶ That being said, we should also not fail to recognize and appreciate that the "strategy-making process" is not simplistic, linear, or iterative. It is a multidimensional, multidomain, and multimodal exercise, particularly in the context of the modern nation-state and of the globalized (and increasingly informationalized) world that we currently inhabit and that we can look forward to inhabiting in the near- and mid-term future. Equally, we should also remember that strategy making is also not a "freewheeling" exercise. It is not so in the context of commercial or social enterprises, and it is certainly not so in

the case of nation-states. In effect, the strategy-making process is, to use Rousseau's phrase out of context, "bound in chains." The chains that I am referring to here, which Ullman also invokes, albeit indirectly, are not simply those of technology, the weight of institutions and bureaucracies, among others, they are also the cognitive-conceptual frameworks within which the strategy-making (or any other) process unfolds. In this sense, these cognitive-conceptual frameworks serve as a metastrategic armature, which shapes how we understand concepts such as "victory," "defeat," "friend," or "enemy"; how we engage with technology; how we develop strategies, doctrines, and tactics; and how we design and operationalize institutions. As such, this metastrategic armature plays *a foundational role in how we make strategic sense of the world and how we respond to it strategically*.

Third, and related to the above, while it may not be confidence inspiring in some quarters to invoke former Secretary of Defence Donald Rumsfeld, nevertheless, it is necessary to pay heed to his call to *change how we think about war*.⁷ Ullman issues a similar call when he presents us with an awkward term—*brains-based strategy*—and a stern admonishment to "use the matter between our ears." In this sense, it is worth observing that Ullman—like Rumsfeld—is not recommending a specific strategy; *instead, he is recommending an approach to strategizing*.

My aim in this critical engagement with Ullman's work is to suggest that Ullman's argument, despite whatever reservations we may have, seeks to draw our attention to a subtle and metastrategic question—namely, *how* to strategize. This is not simply a process-related question; rather, it is, at its most potent—but also at its most subtle—an opportunity to investigate the nature and constitution of the aforementioned metastrategic armature, which I contend underwrites the strategy-making process. Second, I examine a few of the elements that Ullman identifies as constituting his notion of *brains-based strategy* and assess their resilience when examined against the very criteria that Ullman proposes. Third, I reiterate Ullman's assertion that we are in a state or condition of existence marked by fast-paced transformations in not only strategic-military affairs but also, to steal a phrase from Michel de Certeau, in the very "practice of [our] everyday life."⁸ These transformations, which are changing the nature of the emergent battlespace in ways that were the preserve of science fiction just a decade or two back, compel us to reinterrogate "how we think about war" in the twenty-first century. I will conclude by pointing out that while Ullman's solution—the "brain-based approach to strategy-making"—may have its shortcomings (principally, falling victim to the "blind-

ness of insight” trap), that does not undermine, however, the critical importance of the call that he issues, which merits our most urgent attention.

The Foundational Concerns

In May 2015, at an event where Ullman was presenting his last book, he had an exchange with a conferee, which he reports as follows:

Conferee: Can you also explain why it is that the United States has lost every war it has started since 1945? Is it because government fails, or something else?

HKU: Your question is my next book. The simple answer is that no matter who or what party is in power and whether the president is seasoned or inexperienced, ideology, political expediency, and failure to pose and answer difficult questions or to challenge basic policy assumptions too often dominate and become surrogates for sound strategic thinking.

Nor do we always fully understand the issues and consequences of action and inaction. Vietnam was the most blatant example. The second Iraq war is another. And the intervention in Libya in 2011 is a third. “Every time we initiated using force without just cause or legitimate provocation, the results at best damaged our security and at worst were far more destructive. Unfortunately, every administration since Vietnam, less one—that of George H. W. Bush—ignored or did not understand this reality.

Without a major revolution in how the nation provides for the common defense and its security, do not expect the future will prove any more successful than the past five decades when we decide to commit force to protect or advance our interests. The most worrying possibility is that this propensity to start wars and use force for the wrong reasons may now be deeply embedded in the nation’s DNA.

That does mean we should not use force when we must. But we must be certain when we do use force that it is for the right reasons and in our national interest. (p. 23, emphasis added)

This, effectively, is a summary of the core issues that appear to animate Ullman’s concern, and it is only fair that we engage with them head-on.

Ullman, quite reasonably, contends that the use of force must be chosen as a course of action if, and only if, the “reasons” are “right,” and when it is in the (American) “national interest.” Considering that, notionally, these are the basic principles on which any nation-state—ideally—wages war, Ullman is not making a point that is outside the norm. However, Ullman elides a critical concern; namely, nation-states often confront situations where the *right reasons* may conflict with *national interest*. This conflictual condition does not seem to merit much of

Ullman's attention. That said, the critical issues at stake here are (1) what constitutes *national interest* and (2) what is meant by *right reasons*. Let us assume—not without foundation and as a bare minimum—that *national interest* involves (a) the protection of the territorial integrity and political sovereignty of the nation-state, (b) the provision of sociocultural and economic security for the citizens, and (c) ensuring that (a) and (b) are protected and, to the extent possible, furthered. However, the case of “right reasons” gives us reason to pause. If considered in the context of national interest as described above, then any act that furthers this national interest is always the right reason.⁹ Ullman confirms this when he asserts that “every time we initiated using force without just cause or legitimate provocation, the results at best damaged our security and at worst were far more destructive.” (p. 23) In the process, we also see how Ullman, albeit tacitly, is suggesting that the use of force for a “just cause,” which may, at times, even transcend the requirements of national interests, is also a right reason. This is consistent with the duties and responsibilities that a nation-state assumes as a responsible member of the international state system. Nevertheless, at the same time, it is important to recognize that it is also a pathway to interventionism. I am highlighting this specific point because it ties in what Ullman mentions at the beginning of his reply to the conferee. Ullman says sound strategic thinking should be free from influences of ideology and political expediency, which he then cojoins with his call to interrogate the underlying assumptions on which policy (strategy) is based. Ullman's insistence on this point—and we come across this theme or a variation of it—repeatedly throughout the text, could lead us to conclude that, perhaps, he is invoking a monochromatic political and strategic landscape wherein there is total and absolute unanimity on the notion of right reasons. Nevertheless, the question stands: can “sound strategic thinking” be kept away from ideological, political, cultural considerations? Indeed, one is pressed to ask: is not the determination of which reasons are *right* (or otherwise) also a function of ideology, political systems, cultural dispositions, and institutional imperatives? In the real world, it is impossible to sanitize the strategy-making process from such considerations unless one presumes a condition wherein strategy is divorced from politics. However, this would result in an untenable situation; principally because if, as Clausewitz asserted, “war is an extension of politics by other means,” then it is unavoidable that the strategy-making process will remain untainted by the specter of politics in the applied and abstract senses of the term. Nevertheless, let us, for the moment, give Ullman the benefit of the doubt and assume that what he is referring to are the partisan politi-

cal struggles that strategy makers often must contend with that are internal to the political system of which they are a part. This, to some extent, is understandable, particularly in the context of Ullman's firsthand experiences during the Vietnam War. Reality, however, dictates that any strategy-making process will inevitably be subject to the internal pulls and pressures of a variety of constituencies: political, bureaucratic, cultural, among others.¹⁰ Wishing them away is only possible under a system of government that is authoritarian and dictatorial, which would undermine the very basis of the American (or any democratic) political system.¹¹ Again, giving Ullman the benefit of the doubt, let us assume that what he is calling for is a consensus between the various constituencies involved to reach a common ground—defined by national interest and the right reasons—which is bereft of such partisan political activities. But then again, it is also necessary to recognize and appreciate that such pulls and pressures often serve as checks and balances against the wanton use of executive power and privilege, with the caveat that such checks and balances should not stymie the strategy-making process, particularly under wartime conditions.¹²

Notwithstanding, Ullman makes a larger, more controversial, point, contending that “successive administrations of both parties, despite asserting that force was a last resort, too often turned to force as the first resort of policy, ignoring or marginalizing other tools of government.” (p 23) He goes on to assert that “the United States . . . [seems to be] incapable of applying sound strategic thinking and judgment, of treating the causes and not the symptoms of crisis, threats, and challenges to security and well-being—and always with predictable and unwanted results.” (p. 23) This leads him to ask what, to me, is a key question: “Has this propensity of failure become permanently grafted onto America’s political DNA? Is failure a product of a political system that is seemingly unable or unwilling to govern...? Or do today’s multifaceted, complex, and numerous challenges, some of which defy solution, simply exceed the capacity of any individual and administration, no matter how capable, to respond effectively?” (p. 23) It is at this point that Ullman veers into dangerous territory. He asserts,

Each of the post–World War II presidents, from Harry Truman to Richard Nixon, with the exception of JFK, was reasonably prepared to assume . . . high office. While Truman may not have possessed obvious, outward qualifications for the presidency and had been excluded by Roosevelt from may decisions. . . few presidents read more history or knew more about every prior presidency. Dwight D. Eisenhower, Nixon, and Gerald Ford likewise were seasoned. . . . Jimmy Carter was the first president whose resume could be called into question regarding his fitness to assume the office on Day One. (p. 26)

While pointing out Kennedy's inexperience in presidential-level activities, Ullman grants him a pass by noting, "The young Kennedy's charisma and selection of the so-called best and brightest for his team offset his lack of experience." (p. 26) He similarly gives a pass to Ronald Reagan, asserting, "He had twice been governor of a state with a gross domestic product larger than those of most countries and had presided over the Screen Actors Guild for many years [!]" (p. 26, emphasis added)¹³ Ullman is critical—to the point of being disparaging—of the presidents that followed Kennedy, with the exception of George H. W. Bush, for whom he reserves his highest praise, stating that he "was as qualified as any president in recent history . . . how he and his administration dealt with the implosion of the Soviet Union, made Europe 'whole, free, and at peace,' and ejected Saddam Hussein from Kuwait in 1991 are textbook cases of the application of sound strategic-thinking and judgment." (p. 26) However, is this a valid assessment even by Ullman's own standards? When considered superficially, Ullman may seem to have a point. Nevertheless, consider also the facts that the implosion of the Soviet Union has now led to the rise of an aggressively authoritarian Russia, which has—or so it is alleged—materially intervened in and disrupted the American democratic process; Europe is gradually becoming a "new" battleground, where a newly resurgent Russia is increasingly flexing its muscles; and, Iraq has degenerated into a quagmire that oscillates between violent sectarian violence and an uneasy peace between rival factions. Ullman, of course, can (and probably will) argue that the advantages accrued by the actions of Pres. George H. W. Bush have been squandered by later administrations. Yet, one cannot escape the facts that (1) strategy is a long-term activity and should be—in Ullman's own terms—planned and engaged in accordingly and (2) the reality is that it is impossible to predict the effects that the design and implementation of a strategy will or may have in the long term.

So, to what does Ullman ascribe this apparently shoddy history of American strategy making? He lists five points:

1. Lack of a sense of history;
2. Unachievable aspirations and objectives;
3. Insufficient knowledge and understanding of situations;
4. Group think, which eliminates the "challenging of assumptions and arguments"; and

5. Politicization of issues that are at stake. (p. 214)

In addition to these, Ullman attributes the progressive decline of American strategy-making ability to a “broken government,” which he attributes (correctly, in some measure) to the increasingly polarized conditions afflicting the domestic American political scene and to structural deficiencies such as the constitution of the National Security Council and the office of the Joints Chiefs of Staff, among others. While some of Ullman’s concerns ring true, the manner in which he presents them takes away from the force of his argument. Thus, for example, using the Iraq War of 2003 as an example, Ullman notes that Pres. George W. Bush’s aim to “transform the geostrategic landscape of the Middle East” (p. 214) is reflective of an unquestioned belief in American exceptionalism, a flawed ideology, a sense of moral superiority, and confidence in the ability of the US military to resolve complex political, socioeconomic, religious, and cultural divides and conflicts. (p. 214) While the strategic rationale underwriting the younger Bush’s administration’s strategic-military efforts in Iraq was and remains eminently questionable, it is also worth bearing in mind that post–World War II, as the world segued into the Cold War, the United States remained the sole and paramount global power. With the Soviet Union battered after its brutal victory over the Axis forces, it fell to the United States to take the place of the British Empire, which could not sustain itself in the aftermath of the war, and to take the lead in the reconstruction of a shattered Europe. Matters were made more acute by the growing perception—not unfounded—that, while devastated, the USSR did not hesitate to extend its influence over nation-states that were, at the time, emerging from under the yoke of colonialism. To combat such a turn of events, the United States had no choice but to step into a role that has been often described in terms of the *world’s policeman*. Now, Ullman makes an important point. He suggests that to assume that the United States will continue to carry the burden of being the world’s policeman into the twenty-first century is untenable and unfair. Understandably, Ullman calls for America’s allies to shoulder a part of the responsibility, particularly in the context of dealing with violent pan-global insurgencies fostered by entities like the Islamic State (IS)/Da’esh, among others. The same logic applies to the Korean peninsula; though, in that specific context, the matter on hand requires a more nuanced stance given the role played by nuclear weapons and the presence of their long-range delivery systems.

Further, Ullman does not hesitate to point out—again, correctly—that with the collapse of the USSR and the advent of the twenty-first century, the strategic com-

mons has lost the comfortable bipolarity that the world had segued into after the World War II. While this is not, per se, a new observation, given that this has been debated across academic journals ad nauseam, Ullman's call to recognize the ramifications of this—he refers to it as the “No World Order”—is important and worthy of our consideration. Ullman's litany of complaints, with the exception of the American involvement in the First Gulf War, continues across multiple administrations. The theme is always the same; namely, the presidents were/are underqualified, America has developed a propensity to engage in *unproductive wars*, and the American national security establishment is not brains-based and is held hostage to partisan party politics and to the inertia of the bureaucracy—among other problems.

The Brains-based Approach

Arguably, the last two chapters of Ullman's book represent a summary of his core thesis. In them, he tells us “how to win,” and it is not surprising that his solution is the “brains-based approach to sound strategic thinking.” According to Ullman, this approach consists of “three parts: complete knowledge and full understanding of all aspects of the problem set and solutions; a mind-set that is based on the realities of this, the twenty-first, century and not the last one; and a focus on affecting, influencing, and controlling the wills and perceptions of real and potential enemies.” (p. 211) It is worth pointing out that Ullman's insistence on cultivating and employing a twenty-first-century mind-set is not at the expense of a sense of history. Indeed, Ullman argues “history counts.” However, unfortunately, he does not pursue this line of thinking in any systematic manner by which the reader can profit. Instead, after a few perfunctory statements, he launches into a rehashed version of his complaints, with which the reader, by now, is very familiar.

Nevertheless, it is also in this section that Ullman introduces some of the more interesting points/issues that warrant our attention. Thus, for example, Ullman brings up the topic of deterrence and asks how and in what ways the concept of deterrence is valuable or even applicable in the twenty-first century. Observing that the world is now more interconnected than ever before and the loss of the bipolar system that collapsed with the dismantling of the USSR, Ullman makes a forceful and thought-provoking point when he asserts, “A new definition of deterrence must also be fashioned for so-called peer competitors.” (p. 221) Former Secretary of Defense Ashton Carter, in 2016, proposed a “four plus one” threat matrix involving “the four main contingencies for which the Pentagon was to be prepared

. . . (a resurgent) Russia, China, North Korea, and Iran. . . The ‘one’ refer[ing] to IS.” Ullman observes—not without reason—that “given this planning guidance, it followed that the services would attempt to identify what it would take to deter and if necessary to defeat such an adversary if war were to come.” (p. 221) He finds this as being an instance of “inadequate and flawed strategic thinking.” According to Ullman, “Planners were asked . . . to employ mindsets and concepts of the twentieth century to deal with twenty-first century issues.” (p. 221) His contention is not without merit. Is the concept of deterrence relevant, particularly in the context of terrorist insurgents like the IS? And, if yes, how and, more importantly, by what means can such organizations (and movements) be deterred? These remain major unresolved questions in strategic-military affairs given that what is at stake is not simply the matching of weapons systems and capabilities but, more importantly, of influencing hearts and minds. Ullman then goes on to make a curious, but dubious, recommendation in this regard. He suggests—here reiterating his assertion that history counts—that perhaps one way would be to revisit how given that in “terms of historical comparisons, the decades between the 1880s and 1920s were far more rife with terrorist attacks, including the assassination of kings, tsars, prime ministers, and presidents.” (p. 223) While it is certainly the case that such events marked the last decades of the nineteenth century and the early years of the twentieth, to equate them to the rash of planetary-scale violent insurgencies that are underway in the twenty-first century would be inappropriate and inaccurate. Even a cursory glance at the historical records of the time shows that the revolutionary movements marking the late immediately preceding centuries were driven more by independence movements, which are markedly different in nature and character from the rationale that appears to underwrite modern-day insurgencies and terrorist movements. In sum, therefore, while Ullman’s assertion to pay attention to history is laudable, it is important that in the process we should not misread and misunderstand history and the lessons that it holds up for us.

More than anything else, the tripartite constituents of Ullman’s brains-based approach are interesting and revealing, and it is worth paying attention to them, particularly in the context of our increasingly informationalized world. In the first instance, Ullman suggests that a “complete knowledge and full understanding of all aspects of the problem set and solutions” is a necessary prerequisite for sound strategic thinking. This is not as unique a proposition as Ullman may make it out to be. Consider, for example, the dominant battlespace knowledge (DBK) and full-spectrum dominance (FSD) models.¹⁴ While both invoke a knowledge-centric

model in the context of strategic-military affairs, they have also invited sharp criticism for the lack of modesty with which they—particularly the FSD model—invoke the notion of *knowledge*. Even so, it is interesting to note, particularly in the case of the DBK model, that the use of the word *dominant*—as opposed to *complete knowledge*—suggests that the designers and proponents of this and similar models were sensitive to the fact that the fog of war ensures that complete knowledge of the battlespace (or, alternatively, of the global strategic commons) is impossible to achieve. Granted that with the advent of the network-centric model of warfare coupled with recent advances in sensor-technology, data sciences, machine learning, and artificial intelligence systems, our knowledge of the world and our ability to catalogue it has grown exponentially. Nevertheless, the notion of *complete knowledge* remains a misnomer simply for the fact that the world and its constituents are not closed systems; rather, they are open systems, which are constantly in a state or condition of transformation. As such, the “known unknowns” and the “unknown unknowns” remain real and potent barriers to the acquisition of complete knowledge. However, what leads Ullman to argue for complete knowledge? Aside from it being a desired ideal, it is also reflective of the mind-set that Ullman brings to the argument, which is a matter that we will explore in the following section of this essay.

The second constituent of the brains-based approach is the development and cultivation of a mind-set that is more in sync with the twenty-first century. Ullman’s call to revisit the concept of deterrence in the twenty-first century is, in part, motivated by this concern. In principle, one cannot help but agree with Ullman. However, what constitutes a twenty-first century mind-set? While it is undeniable that rapid advances in information technology and the computational sciences have triggered, in part, what Gernot Böhme refers to as “invasive technification,” it is still unclear as to how these trends have impacted the way by which we cognize the world, particularly in the strategic-military context.¹⁵ Further, it has been argued that as the process of globalization intensifies leading to the emergence of what Kenichi Ohmae referred to as “the borderless world,” there is a renewed assault on the concept of the nation-state.¹⁶ Nevertheless, the mainstay of the international system remains the nation-state. Even the rash of planetary-scale insurgencies and other nonmilitary emergences such as global pandemics, natural disasters, and flows of population fleeing areas of violence, famine, and such, have not fundamentally broken the concept and architecture of the nation-state, though it may have weakened it. How then are we to pay heed to Ullman’s call for the cultivation of a

twenty-first century mind-set? Given that for Ullman “national interest” in the American context is a key concern, we can see how he contradicts himself if we assume that at least one element of the twenty-first century mind-set—particularly in the strategic-military context—is the emergence of a “borderless world.”

The third constituent of Ullman’s solution is a “focus on affecting, influencing, and controlling the wills and perceptions of real and potential enemies.” This has a lineage that can be drawn back to a 1996 text that he coauthored with James P. Wade and others from the Defense Group Inc.¹⁷ That text, titled *Shock and Awe: Achieving Rapid Dominance*, was primarily an analysis of military operations that are specifically designed to radically undermine an adversary’s war-waging ability by the imposition of overwhelming force.¹⁸ Some of the examples that the authors of that text include in their analysis are the so-called Blitzkrieg operations undertaken by the Wehrmacht during the Battle for France in 1940, the atomic bombings of Hiroshima and Nagasaki, the Battle of Grozny (1994–95), and the Iraq War of 2003. For our purposes, however, it is necessary to recognize that “*shock and awe*” was a doctrine that was identified as being applicable at the military-operational level. The key idea of this doctrine was to impose a cognitive overload on an adversary, which would cripple its war-fighting capability. As Ullman himself explained in an interview with *CBS News*, “You’re sitting in Baghdad and all of a sudden you’re the general and 30 of your division headquarters have been wiped out. You also take the city down. By that I mean you get rid of their power, water. In 2, 3, 4, 5 days they are physically, emotionally and psychologically exhausted.”¹⁹ It is also important to recognize that such a design can work within a battlespace that is limited in scope and extent, though its trickle-effects should be felt across the myriad of adversarial capabilities. This is evident from the examples that Ullman and Wade provide in their collaborative work.

Against this backdrop, we are compelled to ask: what does Ullman mean when he says, “focus on affecting, influencing, and controlling the wills and perceptions of real and potential enemies?” Notice, in this context, his invocation of *potential enemies*. This suggests that he is attempting to apply the doctrine of shock and awe beyond the confines of the battlespace to a wider strategic landscape. Again, there is some merit to this. However, such a posture will involve factors that include, but which are not limited to, the military and its use of force. It will involve a kind of diplomacy that can create and sustain a strategic narrative that will convey to friends and foes alike of America’s consistency, its resilience, and its principled stance in the use of force. When considered in this light, and when cast against

Ullman's contention that America's use of force has often been misapplied, one can appreciate the import of what Ullman is trying to convey. Yet, as I have observed over the course of this essay, Ullman hobbles his own efforts given the manner in which he presents his case.

The "Blindness of Insight"

The tragedy of Ullman's latest effort lies in the fact that while he provides us with some truly thought-provoking concepts and ideas, he does not develop them to their fullest potential. I have remarked on his questioning of the concept of deterrence in the twenty-first century, his insistence on disrupting the cognitive capabilities of adversaries by the use of shock and awe, and his emphasis on developing a mind-set attuned to the twenty-first century. These are all valuable insights. Nevertheless, they are not, per se, new. In addition to this, in the process of offering us these insights, it appears that Ullman falls victim to the very point with which he began his exposition—namely, an inability to interrogate the foundations on which his propositions stand.

Recall Ullman's insistence on interrogating the fundamental assumptions that underwrite strategy and policy. It then behooves us to query the assumptions on which his own prescriptions stand. Let us take, by way of an example, his insistence on the need for "complete knowledge and full understanding of all aspects of the problem set and solutions." As discussed above, the notion of *complete knowledge* in the context of an understanding of the world as an open system is a misnomer. Yet, Ullman is insistent on this. It, therefore, falls on us to ask what allows Ullman to make this assertion.

James Gibson, in his insightful book titled, *The Perfect War: Technowar in Vietnam*, informs us that, according to Henry Kissinger,

American foreign policy [and, by extension, strategic policy] has been based "on the assumption that technology plus managerial skills [gives] us the ability to reshape the international system and to bring domestic transformations in 'emerging countries.'" He indicates that there are virtually no limits to this technical intervention in the world: "A scientific revolution has, for all practical purposes, removed technical limits from the exercise of power in foreign policy." Power thus becomes measured solely in technical terms: political power becomes physically embedded in the United States' large, efficient economy, its war production system capable of creating advanced war machines, and its economic-managerial science for administering these production systems.²⁰

Despite Ullman's cautionary note on being subservient to technology, it is obvious that he is grounded within a scientific-technical construct, which is, in turn, a consequence of "a scientific revolution, which has, for all practical purposes, removed technical limits from the exercise of power."²¹ Thus, as Gibson reports, power "is measured solely in technical terms." Ullman makes this assumption without being explicit about it. At the cost of a minor diversion, it is worth pointing out that Martin Libicki, among others, have also made a similar point:

... even with stealth, everything ultimately can be found. All objects have mass and thus gravity. Every object moving in a medium creates vortices and must expend energy to do so. If nothing else, objects of a certain size have to occupy some space for some time. A set of sensors placed sufficiently close together can, in theory, eventually trap everything by getting close enough. A line of sensitive receivers placed close together will find its line-of-sight to a beaming object cut if a bomber – no matter how stealthy—rolls past . . . sensors of certain minimum discrimination placed close enough together can, at some epsilon, catch anything.²²

As is evident, when cast within a "grid of intelligibility," the ideal of attaining complete knowledge is an easy trap into which to fall. However, is the casting of such a grid of intelligibility possible? Confining ourselves to the strategic-military context, such a possibility would mean the solution of the fog-of-war problem that Carl von Clausewitz had identified, which remains the holy grail for military theorists and strategists. Currently, even with the considerable advances that we have made in the computational and data sciences and in the field of artificial intelligence and sensor-technology, this remains beyond our reach. Former Secretary of Defense Rumsfeld recognized this when he noted that the intractable problem afflicting strategic-military affairs is the problem of the "unknown unknowns."²³ Indeed, the case of the unknown unknowns is the extreme. As Slovenian philosopher Slavoj Žižek has astutely pointed out, we even have problems with "the unknown knowns;" that is, often we are ignorant of what we know!²⁴ Thus, while there is no denying the fact that strategy and military operations are knowledge- and information-based activities, striving for, in Ullman's terms, "complete knowledge and full understanding of all aspects of the problem set and solutions" is untenable. Indeed, such a pursuit would be dangerous for, in the first instance, it will require us to become overly dependent on technology, which is a state of affairs that he himself critiques. Moreover, we would run the danger of taking for granted that the grid of intelligibility constitutes the world-as-such; thereby, exposing ourselves to the trials and tribulations when we are confronted by the unknown unknowns.

As we have seen, Ullman's brains-based approach also includes that curious call to adopt a twenty-first century mind-set, meaning not to be held hostage to the past. This does not mean jettisoning a sense of history and being insensitive to the lessons that history teaches us. What it does mean, however, is the ability to create new concepts and constructs that are more attuned to the time. Take, for example, the German operations during the Battle for France in 1940 and in the early stages of the German invasion of the Soviet Union. During those operations, German military theorists and planners were able to mate three distinct technologies—the tank, the radio, and short-ranged aircraft deployed as flying artillery—coupled with an expanded understanding of their *Stoßtrupp* tactics, to create conditions that threw their adversaries off balance.²⁵ Particularly in the case of the Battle for France, in addition to the unexpected thrust through the Ardennes, this combination undermined the Allied war-waging ability to the extent that France had to sue for peace. It is important to note that in addition to these German initiatives, another crucial element that marked the Battle for France was the rigidity that the Allied High Command displayed both in terms of preparing for war and when confronting the German military juggernaut. The evidence for this lies in the French reliance on the Maginot Line and their expectation that any German offensive would take the shape and form of the great offensives of World War I, marked by massive artillery barrages and frontal infantry assaults. This expectation was rudely disrupted as the Germans bypassed the fixed defenses of the Maginot Line and struck deep into the Allied interior, which resulted in, first, a command paralysis and, shortly thereafter, into a collapse of the Allied war effort on the European continent. What this example serves to highlight is how the Allied insistence on following the doctrinal lessons of the past (of World War I) led them to face a military disaster.

We can point to the recent Chinese efforts to construct an antiship ballistic missile defense system to protect their eastern seaboard from the powerful US carrier battlegroups as another case in point. Again, in this instance, Chinese military theorists and scientists have been able to mate three “old” technologies—namely, an over-the-horizon radar, a ballistic missile, and a maneuverable warhead—to create a “system” that, even if not tested under battle conditions, has given enough concern to the US Navy reason to pause.²⁶ Here again we find Chinese military strategists—operating within the confines of an age-old concept, namely, the antiaccess/area-denial concept—creating a concept of operations that is “new.” A last example will serve to reiterate the point. Recently, the Armed Forces of the United States,

specifically the US Army, has been at the forefront of the development of what has been referred to as the concept of Multi-Domain Battle/Operations (MDB/O). It is interesting to note the reasoning offered for this initiative. Advocates have argued, “Potential adversaries are closing the technology gap with the United States and developing strategies to keep U.S. forces at bay.”²⁷ Further, it has been assessed that “separatist forces [are] able to gain air superiority via the land, without even an air force . . . they are] able to take down large land forces with a combination of electronic warfare, cyber, autonomous systems, drones, et cetera—not with a close-in battle.”²⁸ In short, the conclusion is that the US strategic-military establishment requires “urgently”—depending on who is asked—“a very difficult-to-fracture concept.”²⁹ The MDB/O concept is, perhaps, the most powerful example that serves to reiterate Ullman’s point. Noting that the use of emergent weapons systems and capabilities transcend the traditional domains in which they have been hitherto used, the US military is increasingly cognizant of the fact that when employed creatively in a cross-domain manner, such capabilities can effectively erode the combat worthiness of First-World militaries. Thus, to respond to such challenges, which are notionally twenty-first-century in character, the Armed Forces of the United States have determined that they are in need of a battle concept that can not only address such challenges but which can also present potential adversaries with a concept of battle that is difficult to contend. In this way, it could be argued that the Armed Forces of the United States are slowly but surely breaking away from the past and becoming responsive to the problems and prospects of twenty-first century (or, more modestly, *newer*) models of warfare.³⁰

Thus, when Ullman calls for adopting a twenty-first-century mind-set, what he is cautioning us about is not to *always* fall back onto the comfort of resorting to the tried-and-tested means of operating that, while effective in the past, are also predictable and thus “fracture-able” by potential adversaries. The key word here is *always*. It is true that some of the future wars of the twenty-first century will continue to be fought using the ways and means of the last century. However, that is not—or, should not be—the rationale for abandoning efforts to design newer strategic, operational, and tactical models. This is good advice and one that all militaries, including the Armed Forces of the United States, will be required to internalize if they are to succeed in addressing the strategic-military concerns of the future. We should also note that as the process of such research and development gets underway, there should also be a concomitant transformation in the institutions tasked with managing the American strategic-military capability. An early start to

this was proposed with the theory of network-centric warfare and the force transformation project, wherein it was suggested that if the critical need for a military force is to be agile and responsive, then, among other things, the stovepiped command-and-control institutions should be flattened to reduce the long chain of command.³¹ Of course, this is easier said than done. All military institutions are built on a foundation of trust, reliability, and the tried-and-tested means by which military force is employed. Thus, to transform radically the design of such organization would be fraught with danger. Ideally, transformation in the strategic-military context, while being revolutionary in nature, should be evolutionary in character. In other words, the way to transform is in incremental stages.³² Equally, it should be noted that *transformation* is a process and not a goal. Thus, to expect a finite outcome of the transformation process is futile, and insisting on such outcomes can only prove to be counterproductive. Ullman, it appears, is not convinced by this. Indeed, he appears to be sharply critical of the force transformation initiative. (p. 147) His observations on this matter suggest that, like many others, he considers the transformation project as being teleologically driven, which only serves to, in the first instance, highlight his underestimation of the nuances of transformation as a process.

With the exception of his (misguided) ideas about force transformation, Ullman's call for the cultivation and adoption of a twenty-first-century mind-set cannot be faulted. If there is a shortcoming, then it lies in the fact that he does not engage with these ideas in a sustained and consistent manner. However, there is an aspect of the twenty-first-century mind-set theme that Ullman completely elides. While he flags the increasing informationalization of the world that is currently under way, he remains silent about the sociotechnical ramifications of this process. Thus, for example, he does not account for the ways by which the human condition is segueing from pyramidal to more distributed forms of organizing and from the platform-centric model to the more network-centric model of cognizing things and objects. These transformations in our practice of everyday life are having a subtle, but undeniable, impact on strategic-military affairs. Thus, what we see emerging are ensembles of information and communication networks *with lethal capabilities*.³³ Interestingly, such ensembles include the Soldier, who is increasingly transforming into what can best be referred to as a *weaponized cyborg*. Note that here I am not simply referring to computationally underwritten and protocologically organized entities. Rather, the reference is to what the philosopher Luciano Floridi refers to as informationally embodied organism or "inforgs," which, he

contends, is an emergent consequence as the “threshold between here (analogue, carbon-based, offline) and there (digital, silicon-based, online) is fast becoming blurred.”³⁴ These are considerations that not only distort the existing cognitive frameworks by means of which we understand and render the concept of war and of combat but are also emergent indicators that the very design of our current strategic-military systems are fast becoming outdated and outmoded. “This is not because such systems do not and are not employing cutting edge technology. Rather, it is because the organizing principle of the military *per se* is now [increasingly becoming] defunct.”³⁵ Thus, if we are to truly take Ullman’s call for adopting a twenty-first-century mind-set seriously, then it is not enough to merely call for superficial transformations in our strategic-military practices and institutions. Instead, what is required is an intensive effort from the ground up that will take into account some of the subtler and deeply transformative sociotechnical processes that are currently underway. However, to do this would challenge the geocentric model of strategic-military affairs to which Ullman appears to remain beholden. In this sense, he again falls short of standing true to his own call to question the fundamental assumptions that underlie his recommendations. In short, the matter—conceptually speaking—is not as simple as he may make it out to be.

The third constituent of Ullman’s brains-based approach involves, as we have seen, focusing “on affecting, influencing, and controlling the wills and perceptions of real and potential enemies.” It should come as no surprise that influencing the will and perception of an adversary is critically important, especially under battle conditions. Indeed, as Ullman and Wade point out in their collaborative work, the imposition of shock and awe is an age-old military practice as is evidenced by ancient works on war such as Sun Tzu’s classic *The Art of War*, wherein a general’s strategic and operational acumen was determined by his ability to compel an adversary to capitulate before battle is joined. Numerous such examples abound in history, where, when faced with the weight of firepower, coupled with the art of maneuver, armies have been out thought and compelled to capitulate. This has resulted in the identification of what is often referred to as the *cognitive battlespace*, wherein the aim is to do precisely what Ullman mentions.³⁶ However, he, again, does not engage with this topic with the seriousness that it warrants. His recommendations are desultory and superficial, and his skimming over the issue undermines his assertions regarding the development and cultivation of a twenty-first-century mind-set. However, the matter is not one to be taken lightly. Thus, as Alexander Kott, chief scientist of the US Army Research Laboratory observes,

“What if the true weak link of the information age force is not the hardware of machines, but the software of the human mind? And if so, could it be that the entire conceptual structure of the information revolution, at least as it applies to military affairs, is built on sand, on the notorious fickleness of human cognition?”³⁷ Such matters cannot be passed over by glib suggestions that include the setting up of a “twenty-first-century equivalent of Bletchley Park” or to reiterate the importance of “data mining” to derive information and knowledge on potential enemies.” (p. 233) Leaving aside the complexities of the cognitive sciences and associated technologies involved, influencing the will and perception of an adversary requires, among other things, an empathy with the adversary—of his culture, of his cognitive frameworks. While this is true in the close confines of the battlespace, it is even more relevant when applied in the context of the wider strategic landscape. Ullman is correct when he points out that purely military means are not enough to influence an adversary, though it is instrumental in instilling a sense of “awe” in him. Nonmilitary means that necessarily involve diplomacy (including cultural diplomacy), geo-economics, and such, are equally critical constituents when developing a strategic posture that aims to engage in a battle of cognition. One must also contend with the fact that as this process gets underway, the concept of the battlespace will also expand. In this context, Ullman refers to the Russian “active measures” involving “interference in the domestic politics of many democracies,” (p. 238) most recently, as alleged, in the United States. However, it worth pointing out that as far back as in 1999, two Chinese People’s Liberation Army colonels had (unofficially) invoked the concept of unrestricted warfare, which referred precisely to the expansion of the battlespace. Indeed, the two Chinese military officers had even gone to the extent of observing,

If we acknowledge that the new principles of war are no longer “using armed force to compel the enemy to submit to one’s will,” but rather are “using all means, including armed force or non-armed force, military and non-military, and lethal and non-lethal means to compel the enemy to accept one’s interests.” This represents a change. A change in war and a change in the mode of war occasioned by this. So, just what has led to the change? What kind of changes are they? Where are the changes headed? How does one face these changes?³⁸

This highlights not only the depth and intricacies involved when considering the prospect of influencing and affecting the will and perception of an adversary; it also suggests the ways by which a near-peer competitor is thinking about such matters. Measured against this, Ullman’s rumination on the subject fall short.

Conclusion

As we have seen, Ullman correctly identifies a number of themes and issues that afflict the current and prevailing US strategic-military establishment and posture. In fact, it cannot be denied that the call that he issues is a valid, indeed, an urgent one. While his presentation of his ideas detracts from the force of the material he presents, that is not a good enough reason to dismiss his latest effort for, in addition to some of the points that we have occasion to engage with above, Ullman also pays attention to some other critical issues that we have not examined—namely, the budgetary issues that he foresees will impact the American strategic-military posture, the problems associated with what he refers to as the “hollow force” issue, and so forth. These are important considerations, and ignoring them will serve the US strategic-military establishment poorly.

Ullman deserves credit for highlighting these and other issues boldly and without reserve, though some of his more offhanded and scathing remarks, which are littered throughout the book, are somewhat in poor taste. Nevertheless, as I have mentioned from the outset, while the book is a challenging read, it deserves our close attention—if not for any other reason but for the fact that it invites us to re-interrogate the metastrategic armature that underwrites the US strategic-military posture. In this sense, it represents a sincere call to reshape the US strategic-military establishment in a manner that will best serve the interests of the country in the twenty-first century. **JIPA**

Notes

1. Michael Rosen, “Non-Religious Ethics? A Critical Notice of Derek Parfait, On What Matters,” *International Journal of Philosophical Studies* 21, no. 5 (2013): 755–72, <https://dash.harvard.edu/bitstream/handle/1/12967839/On%20What%20Matters%207%20November%202013.pdf?sequence=1>. Contrast this with the position taken by Thomas S. Nichols with reference to “peer review” in the context of “expertise.” Clearly, Nichols understands the “gate-keeping” function that Rosen draws our attention to in a positive sense, since he argues that one of the mechanisms by means of which “being an expert” is validated and confirmed is by peer review. See Thomas S. Nichols, *The Death of Expertise: The Campaign against Established Knowledge and Why It Matters* (London: Oxford University Press, 2017), 35.

2. *Ibid.* This reviewer was struck by how his own experience resulting from multiple readings of Ullman’s book paralleled what Rosen documented in his “critical notice” of Parfait’s work, though, it must be added, the two works are from different domains and they operate within and across different registers. Parfait’s work is, by some accounts (including Rosen’s), one of the greatest modern works of moral philosophy, while Ullman’s book is focused on strategic, military, and political affairs.

3. *Ibid.*

4. I use the word *armature* here to mean “a framework.” An alternate but perhaps more archaic word would be “architectonic,” which was famously used by Immanuel Kant.

5. Rufus Phillips, *Why Vietnam Matters: An Eyewitness Account of Lessons Not Learned*, Reprint Edition, (Annapolis, MD: Naval Institute Press, 2017).

6. This is reminiscent of the famous phrase “lions led by donkeys,” which was “used to describe the British infantry of the First World War and to blame the generals who led them. The contention is that the brave soldiers (lions) were

sent to their deaths by incompetent and indifferent leaders (donkeys)." See Nigel Rees, *Brewer's Famous Quotations*, (London: Weidenfeld & Nicolson, 2006), 23.

7. Donald Rumsfeld, "Transforming the Military," *Foreign Affairs* 81, no. 3 (May/June 2002), 29.

8. Michel de Certeau, *The Practice of Everyday Life*, trans. Steven Rendall (Berkeley: University of California Press, 1988).

9. Of course, there are a variety of values and morals involved in such instances, but for the purposes of this essay, I will set those aside without minimizing their importance.

10. In this context, it is instructive to read Graham Allison's and Phillip Zelikow's analysis of the Cuban missile crisis, which dissects how various constituencies within the American strategic-political-military establishment perceived and responded to the strategic problem posed by the presence of Soviet missiles in Cuba. See Graham Allison and Phillip Zelikow, *Essence of Decision: Explaining the Cuban Missile Crisis*, 2nd, ed. (New York: Longman, 1999).

11. This could also include, particularly in democratic political systems, what is often referred to as condition of "constitutional dictatorship," which is declared when a state of emergency is invoked. It is also worth noting that such conditions rarely last for very long and often have negative consequences for those who invoke such conditions. A case in point was the state of emergency that was invoked by the then Indian prime minister Indira Gandhi., which lasted 21 months (from 1975–1977). The political consequences for Mrs. Gandhi, when free elections were called, were disastrous. See, for example, Kuldeep Nayar, *The Judgement: Inside Story of the Emergency in India* (New Delhi: Vikas Publishing House, 1977). On constitutional dictatorships, see Clinton Rossitor, *Constitutional Dictatorship: Crisis Government in Modern Democracies* (Princeton, NJ: Princeton University Press, 1948).

12. Ullman has what is evidently a strong opinion on the matter of checks and balances, which we will have occasion to revisit in due course.

13. Interestingly, Ullman leaves unsaid how and why Reagan's presidency of the Screen Actors' Guild prepared him for assuming the role of the President of the United States of America.

14. On dominant battlespace knowledge, see Martin C. Libicki and Stuart E. Johnson, eds., *Dominant Battlespace Knowledge* (Washington, DC: NDU Press, October 1995). *Full-spectrum dominance*, officially known as *full-spectrum superiority*, was defined, "The cumulative effect of dominance in the air, land, maritime, and space domains and information environment that permits the conduct of joint operations without effective opposition or prohibitive interference." See Joint Publication 1-02, *Dictionary of Military and Associated Terms*, 8 November 2010. This has come under sustained criticism from various quarters. See, for example, Jason Vest, "Missed Perceptions," *Government Executive*, 1 December 2005, <https://www.govexec.com/magazine/features/2005/12/missed-perceptions/20710/>. See also William F. Engdahl, *Full Spectrum Dominance: Totalitarian Democracy in the New World Order* (Boxborough, MA: Third Millennium Press, 2009).

15. Gernot Böhme, *Invasive Technification: Critical Essays in the Philosophy of Technology*, trans. Cameron Shingleton, (London: Continuum Press, 2012).

16. On "the borderless world," see Kenichi Ohmae, *The Borderless World: Power and Strategy in the Interlinked Economy*, (New York: HarperCollins, 1999). On the challenges faced by the concept of the nation-state, see, for example, Gurutz Jáuregui Bereciartu, *Decline of the Nation-State*, trans. William A. Douglass (Reno: University of Nevada Press, 1994); and Michael Mann, ed., *The Rise and Decline of the Nation State* (Oxford: Blackwell, 1990).

17. Harlan K. Ullman, James P. Wade, et al, *Shock and Awe: Achieving Rapid Dominance*, (Washington, DC: NDU Press, 1996).

18. Note: The doctrine of shock and awe is related to the concept of "decisive force," though Ullman and Wade do draw some distinctions between the two in terms of intent, design, manner in which force is applied, and so forth.

19. Harlan Ullman, interview by Sue Chan, *CBS Evening News*, 24 January 2003, <https://www.cbsnews.com/news/iraq-faces-massive-us-missile-barrage/>.

20. James William Gibson, *The Perfect War: Technowar in Vietnam* (New York: Atlantic Monthly Press, 2000), 34.

21. Interestingly, Ullman betrays this sentiment when he asserts, "What is missing today in our search for an effective national-security strategy is the geostrategic equivalent of $E = mc^2$." (p. 229)

22. Martin C. Libicki, *The Mesh and the Net: Speculations on Armed Conflict in a Time of Free Silicon* (Washington, DC: NDU Press, 1995), 30–31.

23. SecDef Donald H. Rumsfeld and CJCS Gen Richard Myers, "DoD News Briefing - Secretary Rumsfeld and Gen. Myers" (transcript, 12 February 2002), <http://archive.defense.gov/Transcripts/Transcript.aspx?TranscriptID=2636>.

24. Slavoj Žižek, "Rumsfeld and the Bees," *Guardian*, 28 Jun 2008, <https://www.theguardian.com/commentis-free/2008/jun/28/wildlife.conservation>.

25. An excellent account of how this came about is available in Mary Habeck, *Storm of Steel: The Development of Armor Doctrine in Germany and the Soviet Union, 1919–1939*, (New York: Cornell University Press, 2014).

26. See, for example, Zachary Keck, "China's DF-26 'Carrier-Killer' Missile Could Stop the Navy in Its Track (without Firing a Shot)," *National Interest*, 20 April 2018, <https://nationalinterest.org/blog/the-buzz/chinas-df-26-carrier-killer-missile-could-stop-the-navy-its-25493>; Terrence Kelly, Anthony Adler, et al, *Employing Land-Based Anti-Ship Missiles in the Western Pacific* (Santa Monica: RAND, 2013), https://www.rand.org/content/dam/rand/pubs/technical_reports/TR1300/TR1321/RAND_TR1321.pdf; and Andrew S. Erickson, *Chinese Anti-Ship Ballistic Missile (ASBM) Development: Drivers, Trajectories, and Strategic Implications* (Washington, DC: Brookings Institution Press, 2013).

27. Jon Harper, "Pentagon Pushing 'Multi-Domain Battle' Concept," *National Defense* (website), 4 October 2016, <https://web.archive.org/web/20161117220422/http://www.nationaldefensemagazine.org/blog/Lists/Posts/Post.aspx?ID=2319>.

28. Megan Eckstein, "'Multi-Domain Battle' Concept to Increase Integration across Services, Domains," *USNI News*, 4 October 2016, <https://news.usni.org/2016/10/04/multi-domain-battle-concept-increase-integration-across-services-domains>. The comment is attributed to Gen David Perkins, commanding general of the US Army Training and Doctrine Command.

29. Sean D. Carberry, "Officials: DOD Must Adapt to Multi-domain Warfare Model," *Federal Computer Week*, 4 October 2016, <https://fcw.com/articles/2016/10/04/multi-domain-warfare.aspx>.

30. For an extended discussion of the MDB/O concept, see Manabrata Guha and David Galbreath, *The Multi-Domain Battle Concept: A Preliminary Assessment*, (New Delhi: Center for Joint Warfare Studies (MoD), 2018), *forthcoming*.

31. See, for example, David S. Alberts, John J. Gartska, and Frederick P. Stein, *Network-Centric Warfare: Developing and Leveraging Information Superiority* (Washington: CCRP, DOD, 2003), <https://apps.dtic.mil/dtic/tr/fulltext/u2/a406255.pdf>.

32. See, for example, Manabrata Guha, *Indian Strategic-Military Transformation: Revolutionary in Nature, Evolutionary in Character*, MacArthur Foundation-RSIS Policy Brief (Singapore: Rajaratnam School of International Studies, Nanyang Technical University, December 2013), https://www.rsis.edu.sg/wp-content/uploads/2014/07/PB131201_Indian_Strategic_Military_Transformation.pdf.

33. Manabrata Guha, "Networked Nightmares," in *The Digital Dionysus: Nietzsche and the Networked Condition*, ed. Dan Mellamphy and Nandita Biswas Mellamphy (New York: Punctum Books, 2016), 54.

34. Luciano Floridi, "A Look into the Future Impact of ICT on Our Lives," *Information Society* 23, no. 1 (2007) : 59–64.

35. Guha, "Networked Nightmares," 65.

36. See, for example, Alexander Kott, ed., *Battle of Cognition: The Future Information-Rich Warfare and the Mind of the Commander: The Future of Information-rich Warfare and the Mind of the Commander* (Westport, CT: Praeger Security International, 2008).

37. *Ibid.*, 2.

38. Qiao Liang and Wang Xiangsui, *Unrestricted Warfare: Assumptions on War and Tactics in the Age of Globalization*, [*Chaoxianzhan - dui quanqiuhua shidai zhanzheng yu zhanfa de xiangding*], (Beijing: People's Liberation Army Arts Publishing House, February 1999), 7, <https://www.c4i.org/unrestricted.pdf>.



Dr. Manabrata Guha is a research associate at the University of New South Wales at The Australian Defence Force Academy, Canberra, Australia. He is a member of the Values in Defence and Security Technology Research Group and is a distinguished fellow at the Center for Joint Warfare Studies, New Delhi, India.

He is the author of *Reminiscing War in the 21st Century: From Clausewitz to Network-centric Warfare* (Routledge, 2010). His current work focuses on defence and military strategy in an age of autonomous weapon systems, and the design and application of technology in military affairs.