

Western Military Thinking and Breaking Free from the Tetrarch of Modern Military Thinking

by LTC Amos C. Fox, USA



LANDPOWER ESSAY NO. 23-6
AUGUST 2023

This article, the first in a five-part series on theory of the future of war, seeks to start a dialogue on military thinking about the future of armed conflict. This series sets aside conventional wisdom, institutionally perpetuated myths and Futurist ideology, instead probing into the future from a Conflict Realist perspective. Probabilistic qualitative analysis fuels Conflict Realism's understanding of modern war and warfare while serving as the foundation from which Conflict Realism views future armed conflict. Within that taxonomy, Conflict Realism accepts the reality of multivariable dependencies, causal mechanisms, economic theory of rational choice, systems thinking, power dynamics, sequential rationality, conditional dominance and variable determinism on both war and warfare.

Introduction

Attempting to predict the future of war is a hot topic in several fields of study. Prior to the Russo-Ukrainian War's flare-up in February 2022, many observers focused their attention on the supposed lessons of 2020's Second Nagorno-Karabakh War. In that conflict, Azerbaijan and Armenia fought in a tightly compartmentalized theater dominated by mountainous terrain, making movement on the ground slow, telegraphic and restricted. The terrain allowed Azerbaijan to maximize the impact of its new armed and surveillance unmanned aerial system (UAS) fleet against the land-based Armenian military forces, resulting in a lopsided Azeri military victory. In the fervor to welcome in a new revolution in warfare, many analysts referred to this conflict as the first war won by drones.¹ Nonetheless, both belligerents tended to violate one of the fundamental truths in warfare, which is to always fight with combined arms. As it were, Azerbaijan predominately fought from the air with its fleet of UAS, while Armenia fought with old Soviet tanks and a feeble air defense system that could not effectively counter Azerbaijan's UAS threat.

Taking a moment to recover from the emotional exhilaration of potentially glimpsing the future of warfare, a balanced perspective should surface. Comparing the general conditions in which the conflict was fought—small theater, mountainous terrain, canalized road network, urban operating environments—it is easy to understand how Azerbaijan quickly defeated Armenia. While neither side systematically employed combined arms, Azerbaijan's ability to operate beyond the reach of Armenia while Armenian land forces struggled to move through the region's mountain road networks allowed Azerbaijan to put on a dazzling display of warfare that appeared to galvanize support for drone warfare, and yet again signal the death of the tank and the anachronistic character of human-centric land warfare.² Many pundits and practitioners alike view the Second Nagorno-Karabakh War as a punctuation in armed conflict, a revolution in military affairs and a "mic-drop" event, if you will. More level-headed onlookers, on the other hand, perhaps those better versed in military theory and tactics and operations, see little more than the application of bad tactics and the deterministic impact of terrain on military operations.

The Second Nagorno-Karabakh War, plus 20 years of proxy wars and counterinsurgency in Afghanistan and the greater Middle East and almost no peer-competitor interstate armed conflicts, led many ostensible policy and strategy mavens to suggest that conventional, mechanized warfare was dead.³ Further, this crowd tended to support the hypothesis that the Second Nagorno-Karabakh War was a punctuation in war and that the future of warfare would be a drone and autonomous system-centric affair.⁴ As Professor Antoine Bousquet suggests in his provocative piece *The Battlefield Is Dead*, war is entering a post-mechanized epoch in which networked drones will silently patrol the skies above the field of battle, seeking terrorists, command posts, armor or supply lines to systematically strike and destroy any target with precision-guided munitions.⁵ Warfare in the future will be fast, networked and robotic. Many of these conceptual disciples cheerfully refer to themselves as “Futurists” and use the hottest taxonomical clichés, embracing what Professors Alexander Montgomery and Amy Nelson refer to as “possibilistic thinking”—that is, thinking about the future of war through the lens of possibilities, not probabilities.⁶

As noted in previous writing on the four schools of thought in modern military thinking, the problem with this type of analysis—and much of the Futurist school of thought—is that it assigns linear causality among a small number of data points and often neglects to view a conflict in context, or with reservation for the importance of reality.⁷ To be sure, scholar Patrick Porter writes:

Futurologists assumed intense, overt, or major war was becoming obsolete because they held an explicitly optimistic worldview that even a more competitive, multipolar world would somehow retain the relative stability of the unipolar era and be shaped by the constraining force of globalization . . . they were channeling Francis Fukuyama, treating historical struggle as finished.⁸

Further, doctrinal doyens hinder cognitive growth regarding military thinking and thinking about the future of armed conflict by ceaselessly suggesting that formulated institutional military thinking possesses the solution to nearly every military problem—past, present and future—and in doing so, shackles progressive thought. Doctrinaires hurt much-needed critical thinking about the future of armed conflict by casting their institutional anchor bias, which inevitably keeps military thinking generally moored, regardless of a specific doctrine’s successes or failures or that doctrine’s continued relevance or irrelevance regarding the reality of modern warfare.

If this problem is endemic in Western military thinking, as suggested here, then what is the solution? The first step in the solution is identifying, naming and elaborating on the salient problem. The problem can be identified as the nexus of strategy, concepts, doctrine and plans in Western military thinking, or the tetrarch of Western military thinking. The tetrarch bakes institutional bias into military thinking while preventing the injection of new thinking on war and warfare that does not align with its values, preferences or procurement plans.

The reality of armed conflict is universal and transcends institutional bias and preference, and as a result, Western militaries must broaden their understanding of war and warfare to better account for the reality of war to address the problem of the tetrarch. Thinking about the future of war must be shrewd and penetrating. Practitioners and scholars thinking about the future of war must see beyond situational fads, faux novelty and military myths, like many of the supposed lessons of the Nagorno-Karabakh War or the tank-is-dead bilge that surfaced in response to Ukraine’s stalwart defense against the Russian army’s mounted offensive in early to mid-2022.⁹ Military thinking must instead

Strategy, concepts, doctrine, plans and theory form an institutional tetrarch that maintains agency over military thinking and impedes independent, groundbreaking thought.

be critical, it must depend on empirically supportable evidence, and it must make people uncomfortable.

To that end, military theory must be better represented in Western military thinking. Balancing military theory against the institutional tetrarch of military thinking will help break the tetrarch's strange hold on contemporary and future warfare, allowing for a better flow of ideas throughout, and across, Western military institutions. Further, given the lackluster performance of Western military efforts throughout the better part of the post-Cold War period, ideas originating outside of official channels should be provided a larger voice in the dialogue regarding contemporary and future armed conflict. Outlying military theory, which is not presented in contemporary military thinking's tetrarch, needs representation. Moreover, Western military thought needs the input of theorists more now than ever before.

Western militaries generally remain in a cognitive box that guides their approach to thinking about military problems, solutions, futures and operations. A cognitive institutional tetrarch resides at the heart of Western military thinking, of which the U.S. military is arguably the dominant participant. The tetrarch—strategy, concepts, doctrine and plans—forms the basis for science and technology development; monetary investment; thinking and experimentation on how to operate, organize and equip; and how to address a military problem tactically and operationally. This article explores the cognitive box that Western militaries, to include the United States, operate in and how that limits the exploration to address the problems of future armed conflict.

The Institutional Tetrarch of Military Thinking

In general, contemporary Western military thinking emerges from four institutional, interrelated subject areas: 1) strategy, 2) concepts, 3) doctrine and 4) plans. Another way to think about these subjects is how they address military challenges. Strategy, for instance, accounts for military priorities. Concepts incorporate the science of military thinking, addressing how to operate, organize and equip from an experimentation-informed analytical perspective while adhering to institutional procurement stratagems. Military doctrine, in most instances, builds on antecedent doctrine and is rarely innovative. Doctrine carries forth what an institution believes to work and, when updated, generally injects only incremental adaptation. Military plans reflect the synthesis of strategy, concepts and doctrine into one of two states: potential or applied. Plans are generally where the art of military thinking is reflected—commanders, and more often their staff, apply judgment, experience and situational understanding through the prism of strategy, concepts and doctrine to develop a course of action ready for the realities of combat.

Strategy

Strategy is the first pillar of military thinking's institutional tetrarch. Scholar Hew Strachan posits, "Strategy is about war and its conduct . . . strategy is designed to make war useable by the state, so that it can, if need be, use force to fulfill its political objectives."¹⁰ Accordingly, Strachan states that strategy helps a state define, shape and understand war.¹¹ States and their respective militaries draft strategies to address fundamental challenges of state, nascent military conundrums and ongoing geopolitical necessities.

Most common definitions of strategy define it as a balanced approach to link ends, ways, means and risk in pursuit of one's prioritized aims.¹² The U.S. military posits that strategies are tools—a synchronized group of ideas to leverage the instruments of national power to obtain objectives.¹³ Nonetheless, scholar Jeffrey Meiser correctly points out that the U.S. military's Means-Ways-Ends-Risk heuristic places resource allocation ahead of innovative thinking about how to address political-military problems.¹⁴ Meiser cautions, "The American way of strategy is the practice of means-based planning: avoid critical and creative thinking and instead focus on aligning resources with goals."¹⁵ He suggests that strategic

thinking should instead focus on finding solutions to problems by explaining how political-military obstacles can be overcome.¹⁶ To account for this action, Meiser suggests that strategy be understood not through the Means-Ways-Ends-Risk heuristic but rather as a theory of success that is firmly grounded in causal analysis and *Ways*-based thinking.¹⁷

Meiser's misgivings with contemporary thinking regarding the purpose and process of strategy are important. He highlights that current thinking on strategy is generally devoid of innovative and pragmatic thinking, looking to address causal mechanisms, instead focusing mathematically and attempting to solve the problem through the addition (or subtraction) of resources, of what Prussian military theorist Carl von Clausewitz referred to as "war by algebra."¹⁸

Having established what strategies do, it is important to emphasize that the realm of contemporary strategy rarely dabbles in introducing new ideas and instead stands on tried methods. Perhaps coincidentally, few institutionally ordained strategists or strategic institutions today generate or contribute to strategic theories about armed conflict; they instead rehash vogue strategic thinking to address nearly all problems. As a result, institutional strategy and institutional strategics cannot be looked to for innovative ideas to address the challenges of future armed conflict.

Concepts

Concepts serve as the mainspring for how forces could operate, equip and organize for the future. Concepts can also serve as the basis for experimentation and inform DOTMLPP-P (doctrine, organization, training, materiel, leadership and education, personnel, facilities and policy) requirements' determination, placing them central to how militaries generate materiel and non-materiel requirements. Further, concepts inform future science and technology priority investments and research.

Concepts pursue the future from what Montgomery and Nelson refer to as a possibilistic perspective. Concepts look at the future with aspiration and attempt to address problems associated with how to fight, what forces and combinations of forces are needed in the future and what tools those forces need to thrive in the future operating environment. In that pursuit, the concept development process identifies the *what* and the *how* that forces will require in the future to achieve their military objectives.¹⁹ These things generally align with emerging materiel and non-materiel requirements in addition to both existing and evolving technology.

Concepts also serve as the basis for military experimentation. An emerging concept is rigorously tested before moving from a nascent idea to a conditionally accepted concept. Wargames, tabletop exercises and workshop-style idea exploration are several tools for experimentation.

Though synonyms in common English, *concepts* and *theory* are not synonyms in Western military thinking and should not be conflated. Theory is esoteric, and in most cases, it is not rooted in tangible constraints, nor is it governed by the feedback from experimentation in the same way as a military concept.²⁰ In short, concepts are shorthand ideas to link investment and procurement imperatives with operational and tactical warfighting. Concepts can be innovative but only when organizational leaders are willing to push the boundaries of institutional thinking, bias and pushback.

Military theory, developed by interested practitioners, civilians and scholars, provides a unique opportunity for thought exploration because it is often unbound by existing institutional constraints.

Doctrine

Doctrine describes the current, procedural aspect of how Army forces fight on modern battlefields. The Department of the Army, for example, states that "US Army doctrine is

about the conduct of operations . . . the professional body of knowledge that guides how Soldiers perform tasks related to the Army's role."²¹ Doctrine, by virtue of its orientation on executing existing processes in pursuit of accomplishing a mission at hand, resides on a different plane than strategies or concepts.

Like the erosive effect of water on a rock, doctrinal changes in Western military thought are incremental, often coming in drips and drops over the course of many decades. Comparing AirLand Battle (ALB) and Multi-Domain Operations (MDO), for instance, finds small conceptual differences between the two doctrines. Both doctrines focus on joint force-integrated combined arms warfare and include winning decisive battles against Russia as their central premise.²² Both doctrines advocate the use of technology and long-range fires as a central component to their respective theories of victory. Both ALB and MDO place maneuver warfare cognitive warfighting as the centerpiece. ALB's focus on separating the first and second echelon of Soviet forces and winning the first battle therein offers little difference to MDO's insistence on penetrating an adversary's protective measures to allow ground forces to conduct maneuver warfare and potentially exploit the subsequent tactical or operational success.²³ Aside from accounting for the technological advancement during the roughly 25 years between the two doctrines' publication, they might well be facsimiles.

Arguably, doctrine's incremental change reflects a variety of conditions. Doctrinal change can be slow or of marginal evolution because its respective institution, or institutions, is not interested in change. Further, doctrine advancement can be challenged by the individuals charged with developing doctrine. If, for instance, Institutionalists work on doctrine, idea development will largely orbit around an organization's extant thinking.

Additionally, consensus-seeking kills needed doctrinal growth. While a doctrine development team might possess the brightest minds and have developed a set of cutting-edge ideas, external staffing processes, in which external agencies often seek to protect their own interests and advance their own prerogatives, can quickly and severely sand away the incisive ideas of novel thinking and result in banal, incremental changes.

Organizational leaders who lack foresight or who are set in the ways in which they did things when they were coming up in an institution can also stymie needed doctrinal growth. The centrality of maneuver warfare, despite the realities that positional and destruction-based warfighting methods play in modern warfare, is perhaps the most germane example of this idea. Influential military thinkers such as Jack Watling, Michael Kofman, Franz-Stefan Gady and Anthony King commonly assert that destruction-based warfare, positional warfare and the relevance of urban operations are germane and dominant forces in modern armed conflict.²⁴ Yet Western military doctrine is slow to adapt and still finds a maneuver solution for almost every military problem.²⁵

One should not therefore look to doctrine for cognitive growth in the face of the potential changes in the future of armed conflict. As the marginal returns between ALB and MDO suggest, doctrine generally keeps the proverbial ship steady, the rudders properly aligned and militaries oriented on staying the course while paying lip-service to accounting for the realities of contemporary armed conflict and the extrapolation of those realities in the future of armed conflict.

Plans

Plans are an extrapolation of policy and strategy and the expression of doctrine.²⁶ By that, plans are the detailed approach to achieve all or part of a strategy, or as U.S. joint doctrine states, "Plans translate the broad intent provided by a strategy into operations."²⁷ Although plans and concepts both describe how a military force could operate, plans are detailed and intended for implementation and execution.²⁸

Plans most often exist to address immediate or emerging problems and as a result provide little to no room for the infusion of novel ideas for how to operate, organize or delineate a battlefield. Plans, therefore, are often reflections of their institution's respective doctrine and their cultural norms, their organization's leaders and the planners who toil away to create those plans.

What's Missing? The Importance of Military Theory to Western Militaries

Having reviewed Western military thinking's tetrarch, it is clear that relatively little space exists for the exploration of ideas within institutional frameworks. Noninstitutional military idea exploration and articulation fall into the category of military theory. Some less strategically minded individuals might be intimidated by, or disinterested in, theory, but historically, noninstitutional military theory has contributed exponentially to the advancement of military thought. Provided that theory manifests outside the confines of headquarters buildings, theory can be the true vehicle for innovative military thinking.

Some of the most influential, and lasting, ideas on war and warfare are military theory, and not the result of an institutional tetrarch's rote process. Clausewitz's *On War*—perhaps the most sacred text on political-military thinking, was independently published by his wife, Marie, after his death in 1831. Antoine Jomini's *The Art of War*—the United States Military Academy's de facto military instruction manual in the 19th century, rumored to have been carried in the pockets of many Civil War general officers—was published after Jomini had hung up his uniform. British theorists J.F.C. Fuller and B.H. Liddell Hart published many groundbreaking theories while in uniform, albeit through civilian publishers and not representing official British Army opinions. Both Fuller and Liddell Hart continued to dominate 20th-century military discourse—official and unofficial—long after retiring from service. In fact, most Western militaries still rely on the principles of war that Fuller developed in 1926 to help guide their wartime activities.

Theory, especially probabilistic theory, began to subside in the mid- to late 20th century as Western militaries began to implement more formal control over military thinking through the establishment of centers and commands preoccupied with strategy, concepts, doctrine and plans. Yet a small coterie of theorists was able to still rise above the power of institutional weight and make a mark on military thinking—both institutional and noninstitutional—during this period. John Boyd, of OODA (observe, orient, decide, act) loop fame, and John Warden, with his Five Rings theory, made significant impacts on institutional military thinking right about the time that the 1990–91 Gulf War was underway—both theories proving key elements of the United States' war strategy. Robert Leonhard, who published a string of truly impactful works of theory in the post-Gulf War era, also left an indelible mark on military thinking, as his presence at contemporary wargames and Western military conferences attests.

Western militaries would be well served by encouraging and rewarding military theorists, whether or not in uniform, in addition to investing in the institutional tetrarch.

An important question in need of an answer is, What is military theory? Strategist Joseph Gattuso posits that theory is “the track upon which the train runs.”²⁹ By that, Gattuso asserts that theory is the intellectual fountainhead that feeds the stream of ideas from which militaries cull important ideas about how to operate and organize for future armed conflict. Further, Gattuso states that theory helps establish methods of operation, which actively contributes to doctrine development, from which nearly all other aspects of military activity follow. In stressing the importance of theory to Western militaries, Gattuso emphatically asserts that theory is “fundamental to every aspect of the military profession.”³⁰

Professor Joel Watson writes that theory is helpful for three fundamental reasons. First, theory provides a language through which to discuss ideas. Second, theory provides the

opportunity to construct new conceptual models outside the bounds of dogmatic institutional processes, which supports clear and rigorous thinking. Lastly, theory provides a tool to trace the logical consequences of the assumptions made throughout the process of theory construction; put another way, good theoretical processes allow the theorist to check their work as they go.³¹

Perhaps no military-minded thinker is better suited to answer the question of theory than Clausewitz. He writes, “The primary purpose of any theory is to clarify concepts and ideas that have become, as it were, confused and entangled.”³² More importantly, Clausewitz illustrates the importance of military theory by stating:

Theory will have fulfilled its main task when it is used to analyze the constituent elements of war, to distinguish precisely what at first sight seems fused, to explain in full the properties of the means employed and to show their probable effects, to define clearly the nature of the ends in view, and to illuminate all phases of warfare in a thorough critical inquiry. Theory then becomes a guide to anyone who wants to learn about war from books.³³

Additionally, theory is useful because it is versatile. Theory can be linked to hard science, or using Montgomery and Nelson’s taxonomy, theory can be probabilistic.³⁴ In this case, military theory addresses conflict through reality, logic, reason and rationality while innovatively thinking about contemporary and future military process, organization and battlefield delineation. This is often the space in which Conflict Realists operate. On the other hand, military theory can be completely unhinged from reality, logic and rationality, painting vivid pictures of less likely futures. This type of theory, in which Futurists often reside, generally falls within Montgomery and Nelson’s possibilistic thinking.³⁵

Unlocking the Potential of Military Theory

Considering that most Western military concepts are possibilistic, military theory therefore best serves military thinking by adhering to a probabilistic process. Doing so provides ballast between the art and science of military thinking and keeping both planes working in unison. Failure to do so can result in outlandish ideas that sound good in lecture halls and conference rooms but fail to deliver lasting impact on the battlefield. Harlan Ullman and James Wade’s Rapid Dominance theory is a classic example of this idea.

In the mid-1990s, Ullman and Wade wrote that American information, economic and capability evolutions allowed the United States to rapidly attack and overwhelm an adversary’s will and information space with precision-strike, long-range fires and speed and “produce immediate paralysis of both the national state and its armed forces.”³⁶ Ullman and Wade’s theory pushed all the Pentagon’s buttons and quickly moved from independent theory into unofficial joint doctrine. Shortly thereafter, Ullman and Wade’s ideas were foundational to the United States’ invasion of Iraq, in which the war’s initial phase was styled as “Shock and Awe.” Nevertheless, Ullman and Wade’s possibilistic theory relied on dubious logic, including the United States’ ability to achieve dominant battlefield awareness and perfect (or near perfect) information, both of which are probabilistically unlikely despite technological overmatch.³⁷ Shock and Awe—as an applied theory—did attain a quick victory against Saddam Hussein’s regime, but it also accelerated Iraq’s descent into chaos after Saddam’s fall and the subsequent military fiasco. Ironically, Ullman penned a piece in *The Hill* on the twentieth anniversary of the start of Operation Iraqi Freedom defending his theory, stating that the theory was sound but that the U.S. military failed to use it correctly.³⁸

With Ullman and Wade’s story as a cautionary tale, the importance of probabilistic theory becomes apparent. Considering that most Western military concepts are possibilistic and deeply enmeshed with the ideas of technophile Futurists, independent theorists should

lean toward developing probabilistic ideas. Five fundamental ideas are important to probabilistic military theory. First, probabilistic military theory should be grounded in the belief of state-centric power dynamics and that states are self-interested structures within the international system.³⁹ This is a foundational idea in military theory because it serves as the point of deviation on which probabilistic and possibilistic theories develop. Probabilistic theories are generally the result of an actor pursuing self-interest, maximizing investment, operating according to causality and attempting to best capitalize on the situation at hand. Possibilistic theories, on the other hand, tend to be less focused on self-interest, which correspondingly means that they operate more on aspiration, ambition and exploring the realm of possibility. This dichotomy drives the second fundamental idea.

Second, because of probabilistic theory's dependency on a state's self-interested power dynamics, probabilistic military theory also depends on the economic theory of rational choice. Scholar Martin Hollis writes that the economic theory of rational choice means that states, or sub-states, operate in ways advantageous for themselves, always seeking to maximize their payoffs.⁴⁰ In keeping with this line of logic, states (or sub-state actors) must be assumed to be rational actors. As rational actors, states use rationality, oriented on cause and effect—or causality—to make decisions. Given the perceived rationality of a so-called rational actor, the theorist must assume that the actor will make economically advantageous decisions for themselves first and foremost. Advancing the causality of this idea another step finds that rationality is not a conclusive event. Rather, rationality is an iterative cognitive process that involves closely examining known variables, making assumptions regarding unknown variables and pressing forward with a specific activity. This process is known as sequential rationality.

Third, probabilistic theory should focus on sequential rationality. Sequential rationality is the optimization of a set of ideas, or moves, to maximize the associated payoff of those activities.⁴¹ Aside from a small number of instances, sequential rationality is conditional; meaning each event must be considered based on its own conditions, i.e., the known variables and assumptions regarding unknown variables. In addition, conditionality is predicated on the fact that entropy affects all things, including information, and therefore, each effort to maximize a payoff must be examined regarding the information available at that time.⁴²

Fourth, probabilistic theory must appreciate conditional dominance. Conditional dominance is the idea that activities, strategies or configurations are inherently destined to fail, or be dominated by the adversary, if not conditionally applicable.⁴³ Fuller, for instance, cautions that mechanized formations operating against light forces in a densely wooded tactical operating environment are conditionally dominated because armored vehicles cannot operate in wooded conditions, while light forces retain their mobility (albeit in a reduced capacity), which facilitates the light forces' continued striking activity.⁴⁴ Moreover, a force resolved to conducting maneuver warfare will be extremely surprised when it finds that an adversary elected to not meet the force on the approaches to a significant urban area but instead withdrew into the suffocating confines of the city. The adversary has changed the conditions, requiring the force to either conduct a positional operation to lure the adversary out of the urban area or to conduct a linear, front assault in which destruction is the currency of victory. Likewise, light and irregular forces can be said to be conditionally dominated if operating against mechanized forces in open terrain, such as deserts or relatively flat plains. This is why conflicts like the 1993 Battle of Mogadishu, Operation Iraqi Freedom's Second Battle of Fallujah and Operation Inherent Resolve's Battle of Mosul occur. This also accounts for why so many battles in recent wars have occurred in cities—a force realizes that meeting its adversary in another tactical location would result in conditional dominance and therefore seeks to operate in a nondominant environment, or at least one that provides it a fighting chance at victory. Resultantly, probabilistic theory must focus on a force's components (i.e., the forces, combat systems, weapon systems, etc.) and the conditions (i.e., the

adversary and its combat capability, the battlefield's geography, enabling action, etc.) to account for the ephemeral and iterative nature of conditional dominance.

Lastly, probabilistic theory must use backward induction to eliminate, as best as possible, dominated strategies when they arise in theory development. Backward induction and eliminating dominated strategies are important because the probability of a theory's success increases as its propensity to failure (i.e., being dominated) decreases. In the context of theory development, backward induction is the process of reviewing a theory from the end to the beginning to identify any logic traps or misalignment of components or conditions that might result in a dominated strategy. During that review process, the theorist must iteratively eliminate dominated strategies.

Closing Thoughts on Theory

To get the most out of military theory, theorists must proceed with unvarnished judgment regarding interplay among actors in their theories. Theorists must gaze forward in time to consider how a belligerent might respond to various theoretical musings, and vice versa. In theoretical situations in which defeat appears imminent or likely, theorists should abrogate that move's ideas and explore other options.

Clausewitz provides a further guide for those participants involved in developing military theory. Like later theorists, Clausewitz states that if theorists stumble across principles and rules in their cognitive travails, all the better. He writes:

If the theorist's studies automatically result in principles and rules, and if truth spontaneously crystallizes into these forms, theory will not resist this natural tendency of mind. On the contrary, where the arch of truth culminates in such a keystone, this tendency will be underlined.⁴⁵

Considering Clausewitz's guidance, it is important to understand that theory development is about positive change—i.e., adapting to circumstance, environments, technology and cultural and international norms in beneficial ways to help deliver military victory in the most efficient, ethical and lasting way possible. In short, military theory is about change: almost nothing in international relations, military capability or a state vigorously pursuing its own self-interest is static. As a result, strategies, concepts, doctrines, plans and all the underpinning ideas therein are subject to review, evolution and, if need be, discarding.

Scholar James Rosenau, on the other hand, provides nine basic principles for good theory and for how to systematically think theory. Rosenau posits that to think theory thoroughly one must:

1. Avoid treating the task as that of formulating an appropriate definition of theory.
2. Be clear as to whether one aspires to empirical theory (i.e., how things are) or value theory (i.e., how things should be).
3. Assume human affairs are founded on an underlying order.
4. Be predisposed to ask about every event, every situation or every observation, "Of what is it an instance?"
5. Be ready to appreciate and accept the need to sacrifice detailed descriptions for broad observations.
6. Be tolerant of ambiguity, concerned about probabilities and distrustful of absolutes.
7. Be playing about the subject.
8. Be generally interested in the subject.
9. Be constantly ready to be proven wrong.⁴⁶

Conclusion

As the first installment in a five-part series on the future of war and warfare, this article serves as a guide for how the series is framed, both from the standpoint of subject and from philosophy. This article asserts that an institutional tetrarch maintains a strong hold of contemporary military thought, which is stifling the connection of independent ideas with Western military thought. Although a few works of independent theory, such as August Cole and P.W. Singer's *Ghost Fleet* and *Burn In* or Elliot Ackerman and James Stavridis's *2034*, have been able to impact institutional military thinking in recent years, this is the exception and not the norm. Interestingly, the works that make it into the tetrarch of Western military thinking tend to be fictional novels and not academically written works of theory. Perhaps that is a lesson for modern theorists to carry forward.

Further, the article provides a formula for theory development to serve as a companion to the institutional tetrarchs of Western military thinking, which are often possibilistic in their outlook. Budding theorists should focus on creating probabilistic theory to counter-balance institutional possibilistic strategies, concepts, doctrine and plans. Further, five considerations are germane features of probabilistic theory: First, probabilistic theory must be firmly set in the idea that states, and sub-state actors, are self-interested and value-seeking participants during armed conflict. Second, owing to the fact that most states and sub-states operate according to the economic theory of rational choice, probabilistic theory should be approached with the assumption that all participants in war and warfare are rational actors. Third, pursuant to the assumption that all actors act rationally, theorists must approach theory development through sequential rationality. Fourth, theory development should ruthlessly eliminate dominated strategies through the application of conditional dominance. Fifth, probabilistic theory must use backward induction to double-check for dominated strategies.

In closing, the need for budding theorists looking to solve the challenges of future war and warfare is great. The Association of the United States Army's Education and Programs department provides an excellent forum for the publication of works of theory and debate of ideas. The remaining articles in this series will carry forward the ideas on probabilistic theory to help start the theoretical debate about the future of armed conflict.



Amos Fox is a PhD candidate at the University of Reading and a freelance writer and conflict scholar writing for the Association of the United States Army. His research and writing focus on the theory of war and warfare, proxy war, future armed conflict, urban warfare, armored warfare and the Russo-Ukrainian War. Amos has published in RUSI Journal and Small Wars and Insurgencies among many other publications, and he has been a guest on numerous podcasts, including Royal United Services Institute's Western Way of War, This Means War, the Dead Prussian Podcast and the Voices of War.

Notes

- ¹ David Hambling, “The ‘Magic Bullet’ Drones behind Azerbaijan’s Victory over Armenia,” *Forbes*, 10 November 2020; John Antal, “The First War Won Primarily with Unmanned Systems: Ten Lessons from the Second Nagorno-Karabakh War,” 2021, <https://johnantal.academia.edu/research#papers>.
- ² Benjamin Bremlow, “A Brief, Bloody War in a Corner of Asia Is a Warning about Why the Tank’s Days of Dominance May Be Over,” *Business Insider*, 24 November 2020; Alex Gatopoulos, “The Nagorno-Karabakh Conflict Is Ushering In a New Age of Warfare,” *Al Jazeera*, 11 October 2020.
- ³ Jahara Matisek and Ian Bertram, “The Death of American Conventional War: It’s the Political Willpower, Stupid,” *Strategy Bridge*, 5 November 2017; Sean McFate, *The New Rules of War: Victory in the Age of Durable Disorder* (New York: William Marrow, 2019), 25–42; Antoine Bosquet, “The Battlefield Is Dead,” *Aeon*, 9 October 2017.
- ⁴ “The Azerbaijan-Armenia Conflict Hints at the Future of War,” *Economist*, 8 October 2020.
- ⁵ See John Antal, *Seven Seconds to Die: A Military Analysis of the Second Nagorno-Karabakh War and the Future of Warfighting* (Havertown, PA: Casemate Publishers, 2022).
- ⁶ Alexander Montgomery and Amy Nelson, *The Rise of the Futurists: The Perils of Predicting with Futurethink* (Washington, DC: Brookings Institution, 2022), 5.
- ⁷ Amos Fox, *The War for the Soul of Military Thought: Futurists, Traditionalists, Institutionalists and Conflict Realists*, Association of the United States Army, Landpower Essay 23-1, March 2023.
- ⁸ Patrick Porter, “Out of the Shadows: Ukraine and the Shock of Non-Hybrid War,” *Journal of Global Security Studies* 8, no. 3 (September 2023): 4.
- ⁹ John Antal, “Seven Battlefield Disrupters: Warfighting Challenges for the US Military Derived from the Second Nagorno-Karabakh War,” Maneuver Warfighter Conference, February 2021, https://youtu.be/_At9txsUKIw; Frank Gardner, “Ukraine War: Is the Tank Doomed?,” *BBC News*, 7 July 2022.
- ¹⁰ Hew Strachan, “The Lost Meaning of Strategy,” *Survival* 47, no. 3 (2005): 48–49.
- ¹¹ Strachan, “The Lost Meaning of Strategy,” 48.
- ¹² Joint Chiefs of Staff, Joint Publication (JP) 5-0, *Joint Planning* (Washington, DC: U.S. Government Publishing Office, 2020): I-3.
- ¹³ JP 5-0, I-3.
- ¹⁴ Jeffrey Meiser, “Are Our Strategic Models Flawed? Ends + Ways + Means = (Bad) Strategy,” *Parameters* 46, no. 4 (Winter 2016): 82.
- ¹⁵ Meiser, “Are Our Strategic Models Flawed?,” 82.
- ¹⁶ Meiser, “Are Our Strategic Models Flawed?,” 90.
- ¹⁷ Meiser, “Are Our Strategic Models Flawed?,” 86.
- ¹⁸ Carl von Clausewitz, *On War* (Princeton, NJ: Princeton University Press, 1984), 141.
- ¹⁹ Don Starry, “To Change an Army,” *Military Review* 43, no. 3 (March 1983): 25–26.
- ²⁰ James Rosenau, “Thinking Theory Thoroughly,” in *The Scientific Study of Foreign Policy*, ed. James Rosenau and Mary Durfee (New York: Routledge, 2018), 34.
- ²¹ Department of the Army, Army Doctrine Publication 1-01, *Doctrine Primer* (Washington, DC: U.S. Government Publishing Office, 2019).
- ²² Department of the Army, Field Manual (FM) 3-0, *Operations* (Washington, DC: U.S. Government Publishing Office, 2022), 1-2–1-3; Department of the Army, Field Manual (FM) 100-5 (Obsolete), *Operations* (Washington, DC: U.S. Government Printing Office, 1986), 9–22.
- ²³ Andrew Feickert, “Defense Primer: Army Multidomain Operations (MDO),” Congressional Research Service, IF11409, 21 November 2022.
- ²⁴ Jack Watling and Nick Reynolds, *Meatgrinder: Russian Tactics in the Second Year of Its Invasion of Ukraine* (London: Royal United Services Institute, 2023); Michael Kofman and Franz-Stefan Gady, “Ukraine’s Strategy of Attrition,” *Survival* 65, no. 2 (2023); Anthony King, “Will Inter-State War Take Place in Cities?,” *Journal of Strategic Studies* 45, no. 1 (2022); Amos Fox, “On Sieges,” *RUSI Journal* 166, no. 2 (2021); Amos Fox, “Reframing Proxy War Thinking: Temporal Advantage, Strategic Flexibility, and Attrition,” *Georgetown Security Studies Review* 11, no. 1 (August 2023).
- ²⁵ Amos Fox, “Maneuver Is Dead? Understanding the Components and Conditions of Warfighting,” *RUSI Journal* 166, no. 6–7 (2021): 10–18.
- ²⁶ Department of the Army, Army Doctrine Publication (ADP) 5-0, *The Operations Process* (Washington, DC: U.S. Government Publishing Office, 2019): 2-1.
- ²⁷ JP 5-0, I-2.
- ²⁸ ADP 5-0, 2-1.
- ²⁹ Joseph Gattuso, “Warfare Theory,” *Naval War College Review* 49, no. 4 (1996): 112.
- ³⁰ Gattuso, “Warfare Theory,” 113.
- ³¹ Watson, *Strategy*, 1.
- ³² Clausewitz, *On War*, 132.
- ³³ Clausewitz, *On War*, 141.
- ³⁴ Montgomery and Nelson, *The Rise of the Futurists*, 5.
- ³⁵ Montgomery and Nelson, *The Rise of the Futurists*, 5.
- ³⁶ Harlan Ullman and James Wade, *Shock and Awe: Achieving Rapid Dominance* (Washington, DC: National Defense University, 1996), 1–10.
- ³⁷ Ullman and Wade, *Shock and Awe*, xx.
- ³⁸ Harlan Ullman, “20 Years On, ‘Shock and Awe’ Remains Relevant,” *The Hill*, 30 March 2023.
- ³⁹ John Mearsheimer, *The Tragedy of Great Power Politics* (New York: W.W. Norton, 2001), 11–13.
- ⁴⁰ Martin Hollis, *The Philosophy of Social Science: An Introduction* (Cambridge: Cambridge University Press, 1994), 116.
- ⁴¹ Watson, *Strategy*, 168.

⁴² Watson, *Strategy*, 168; Erik Sherman, “Everything Dies, Including Information,” *MIT Technology Review*, 26 October 2022.

⁴³ Roger Myerson, *Game Theory: Analysis of Conflict* (Cambridge, MA: Harvard University Press, 1991), 88–89.

⁴⁴ J.F.C. Fuller, *Armored Warfare* (Harrisburg, PA: Military Service Publishing Company, 1943), 11–13.

⁴⁵ Clausewitz, *On War*, 141.

⁴⁶ James Rosenau, “Thinking Theory Thoroughly,” in *The Scientific Study of Foreign Policy* (London: Frances Pinter, 1980), 19–31.

The views and opinions of our authors do not necessarily reflect those of the Association of the United States Army. An article selected for publication represents research by the author(s) which, in the opinion of the Association, will contribute to the discussion of a particular defense or national security issue. These articles should not be taken to represent the views of the Department of the Army, the Department of Defense, the United States government, the Association of the United States Army or its members.



**ASSOCIATION OF THE
UNITED STATES ARMY**