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Decision Dominance: Exploiting Transformational Asymmetries

by Merrick E. Krause

Strategy is the science of making use of space and time. I am more jealous of the latter than the former. We can always recover lost ground, but never lost time.

—August Graf von Gneisenau[1]

Overview

This paper introduces a new operational concept—*decision dominance*—to help guide the strategic employment of U.S. forces in wartime. This concept is not a replacement for existing paradigms. If added to the current list, however, it may better illuminate how American forces can operate effectively in ways that will achieve their political-military goals more decisively in future wars.

Decision dominance builds upon current operational concepts, particularly effects-based operations and rapid decisive operations. Yet it goes further by giving warfighting options to shape the operational and strategic decisions of an adversary. Decision dominance is an attempt to exploit emerging transformational U.S. military capabilities to create a *transformational strategy* and Joint Capstone Concept. It reflects a strategy for the use of military force in concert with other instruments of power. This strategy involves evaluating adversary options and eliminating those deemed undesirable, effectively funneling the decisionmaking process of the enemy leadership to achieve a desired outcome.

This paper first discusses the nature of conflict in the modern strategic environment and some popular contemporary military concepts of operations. Next, it examines the operational relevance of decision dominance and its application in conflict. Decision dominance argues that a strategy exploiting the realms of space, time, and knowledge may be invaluable by allowing decisionmakers to achieve political ends, using military means, to coerce methodically and effectively, with minimal cost and risk to both sides.

Currently, U.S. defense planning employs a set of operational concepts from *Joint Vision 2020* (*JV 2020*) and other similar documents. Examples of contemporary warfighting concepts include *network centric warfare, rapid decisive operations, joint response force operations, parallel warfare,* and *effects-based operations*. While these operational concepts make important contributions, they share one limiting feature: they say more about how U.S. forces are to perform on the battlefield than about how and why the enemy is to be defeated. It is a matter of perspective. As a result, most operations concepts leave an important question unanswered: In modern warfare, what are the physical and psychological mechanics—beyond pure attrition and destruction—by which the enemy is led to believe they can no longer compete successfully with U.S. forces on the battlefield?

Decision dominance answers this key question by asserting that U.S. forces should aim to deprive the enemy of the ability to make battlefield decisions by stripping away enemy leadership options for employing their forces effectively—dominating their decisionmaking process, not just destroying their assets. This method emphasizes capabilities, not platforms. It is not simply a matter of denying the enemy options by destruction or attrition but rather a strategy of shaping behavior and presenting selected options while taking others away. The concept of decision dominance postulates that when an enemy is unable to fight effectively because no viable options remain, it will cease fighting, perhaps well before major casualties occur on either side.

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Decision dominance goes beyond denial through attrition of fielded forces. In wars in which the aim is to induce the enemy to accede to U.S. demands rather than to destroy their forces wholly and occupy their territory, this new concept offers a prescription for applying U.S. forces and doctrines in ways that have quick, decisive strategic effects. It belongs in the collection of operational concepts as an output-oriented complement to those that already exist.

The Nature of Modern Conflict

The reality of war today and in the near future is that destruction or conquest for territorial aggrandizement are unlikely American endeavors. Indeed, even preemption, a topic of much recent discussion, would only be a proactive defensive maneuver for limited ends and self-defense, certainly without the intent to crush a population. Conflicts with limited U.S. objectives are likely, and attrition, or the wanton destruction of enemy forces, is neither a politically viable nor typically desirable solution. Since limited conflicts will frame the strategic environment for the foreseeable future, practical applications of force require flexible strategies that leverage U.S. asymmetric advantages to produce rapid, economical results. This requires recognition that although adversaries may use asymmetric means to achieve success in the realms of policy and warfare, the United States possesses considerable asymmetric power of its own. How to fight wars that exploit the American asymmetric advantages of information dominance, space, rapid global response, global mobility, and other key capabilities has not been fully explored, though current popular operational concepts begin to form a guide.

> *The first, the supreme, the most far-reaching act of judgment that the statesman and commander have to make is to establish . . . the kind of war on which they are embarking; neither mistaking it for, nor trying to turn it into, something that is alien to its nature. This is the first of all strategic questions and the most comprehensive.*
>
> —Carl von Clausewitz[2]

Until recently, technology and tradition have relegated the use of military force to the same general functions on which Caesar and Napoleon relied. Historically, battle was engaged to annihilate the enemy or to exhaust them by wearing down their military forces, reducing enemy power before one's own forces were exhausted.[3] Exhaustion was manifest in attrition warfare, where two forces pounded one another until one could no longer continue. Both sides ended a conflict bloody and weakened. Then the marginal victor would impose his will on the vanquished. Attrition has never been an economical way to fight. Fortunately, technologies have provided entrance into the exploration of new ways to employ force and concepts of operations in modern warfare.

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New Operational Concepts

In the past two decades or so, the revolution in military affairs (RMA) and its civilian complement, the information revolution, have made possible many transformational concepts of force application. Emerging technologies and techniques integrate vast amounts of information into the decisionmaking process by using data fusion, or systems that manipulate and combine data from numerous sources into useful information. These systems will permit future American leaders to make rapid and correct decisions with less risk and cost. Decisions made swiftly and correctly during a crisis, and orders executed without delay after the decisions have been made, are characteristics of a transformational U.S. military and are distinct American asymmetric advantages. Quick and precise decisions and actions will prove to be the principal antecedents to American success in future conflict, particularly in time-sensitive situations.

> *Information and knowledge are the thermonuclear weapons of our time.*
>
> —Thomas Stewart[4]

New technology that sparked the current RMA, principally rapid information acquisition, information processing, systems networking, communications, and computational devices, is integral to the modern U.S. military transformation. Exploiting transformational capabilities for military efficiencies foreshadows a vast improvement in U.S. military power, an order of magnitude or greater, changing the character of how the United States engages in international diplomacy and conflict. This has led to the ability to achieve more tailored and precise effects besides simple attrition or annihilation. However, to achieve revolutionary gains in military capability, an RMA also requires military systems evolution and operational innovation (that is, doctrinal change) and organizational adaptation to realize the full potential of any technological capability.[5] Without these other elements, technology alone will not truly provide a leap-ahead capability or a true military transformation—only a marginal return based on peripheral investments.

To continue to exploit the emerging RMA and further the ongoing U.S. military transformation, the September 2001 *Quadrennial Defense Review Report* (*QDR Report*) presented the new Department of Defense (DOD) strategic framework. The framework is built upon several policy goals: assure, dissuade, deter, defend, and defeat. Allies and friends must be assured of U.S. commitment. Potential adversaries must be dissuaded from initiating future military competition by observing increasing U.S. military advantages. Nations that pose a threat should be deterred from aggression, but if that deterrent fails, American interests must be defended and the aggressors defeated.[6] Decision dominance explores execution of the last goal, but it can contribute to the others, including preemptive actions taken for defensive purposes. Recent operational concepts also attempt to fulfill the DOD objectives stated in the *QDR Report*. It is, therefore, constructive to examine some of the more popular concepts of operations.

JV 2020 advocates the use of emerging technologies to achieve an asymmetric advantage over potential adversaries and rapidly

dominate them militarily. *JV 2020* also notes that future conflicts will likely include coalition partners and cooperation with interagency and nongovernmental organizations. Moreover, future wars will require the Armed Forces to engage and defeat any adversary through tailored, sustained, and synchronized operations. These operations may span the domains of land, sea, air, space, and information, throughout the spectrum of conflict—from presence, peacekeeping, and theater engagement to strategic deterrence and major theater war. Therefore, the Chairman of the Joint Chiefs of Staff concept of *full spectrum dominance* presents a vision of how the U.S. military can be used to best meet anticipated political objectives across this spectrum of conflict.[7]

JV 2020 lays out four operational concepts to realize full spectrum dominance. First, *dominant maneuver* reflects the desired ability to use joint forces to gain positional advantage and use an overwhelming operational pace to complete military tasks. Second, *precision engagement* is the application of an "effects-based" approach to employing joint forces. Third, *focused logistics* is the ability to provide the right material to the right place at the right time. Finally, *full dimensional protection* is the ability of the joint force to protect itself while executing policy.[8]

The concept of full spectrum dominance presents a number of options short of full-scale warfare. Against the conventional wisdom of the late 20th century, the United States no longer needs to rely on "bombing an enemy to the negotiation table," although that option remains available and can work (as evidenced in 1999 by Operation *Allied Force* with regard to Kosovo). Likewise, large numbers of heavily armed or conventional ground troops in the form of an occupying force, "muddy boots on the ground," may not be required to achieve lasting coercive effects. Yet a carefully tailored mix of ground forces can certainly be critical, as demonstrated in the recent campaign in Afghanistan and subsequent efforts in the war on terrorism.

Network centric warfare is a conceptual initiative in which sensors, decisionmakers, and mission executors are connected to attempt to increase combat efficiency.[9] This networking would also, theoretically, increase shared information and permit a higher pace of operations and increased lethality.[10] Information technologies and high-speed, secure communications networks are particularly important to this concept and form a significant element of the U.S. military transformation.

The *joint response force* concept, a focus for the transformation of military forces, was developed by the authors of the *Transformation Studies Report* to explore the capabilities that U.S. forces would need to address the spectrum of likely functions in the upcoming century. The authors defined three "essential tasks or phases common" to any representative situation used to define required capabilities:

- set the conditions to ensure access for friendly operations
- control the situation, particularly recognizing the "need to act quickly"
- resolve decisively, a phase that could take from months to years.[11]

To meet these needs, a joint response force must be flexible and maintain "standing force modules" with particular capabilities that could be rapidly deployable in various situations. By defining those capabilities, the authors hoped to provide concepts and systems to meet the needs set out in *JV 2020*.[12] Simply speaking, joint response force operations form a spearhead for early and forcible entry into combat.

Parallel warfare is an approach to overwhelm an adversary rapidly. Simultaneous and paralyzing attacks to deny an enemy maneuver room in space and time characterize parallel warfare.[13] In fact, the object of parallel warfare is to achieve effective control over the set of systems an adversary relies on for power and influence: leadership, population, essential industries, transportation and distribution, and forces. Parallel warfare could be useful for coercion but can appear to be a brute-force approach. The air campaign in Operation *Desert Storm* was an example of a successful application of this strategy. To overwhelm the Iraqi leaders and military quickly, strategists planned over 150 target attacks in the first 24 hours of *Desert Storm*—more than the number of attacks in 1942 and 1943 combined over central Europe in World War II.[14] But the best manner for selecting targets for parallel warfare falls under another concept of operations called effects-based operations.

Effects-based operations are U.S. actions in which the primary measure of merit is the effective control of the key systems that permit an enemy to function and fight. They are a "critical enabler" of parallel warfare.[15] Technology and innovation allow operations whose goal is not attrition or annihilation but instead control. In other words, "rendering the enemy forces useless is just as effective as *eliminating* that enemy force."[16] This may appear as an extension of the traditional goal of exhaustion, but it is more accurately a rapid dominance goal, exhaustion without extensive or excessive attrition. Moreover, nonkinetic means or nonmilitary instruments of power give decisionmakers many reasonable options to use in a coordinated manner to achieve the best possible synergistic effects.

In this model, when using military force to achieve limited political objectives, the key is achieving desired effects, not grinding attrition or exhaustion through massive destruction. Technologies, such as precision bombardment, stealth, advanced command and control, and information operations, rely upon flexibility and speed to succeed with minimal collateral destruction or death. In fact, by not completely devastating a country's infrastructure or exterminating its fielded forces, it is possible to achieve economies of scale and perhaps a longer-lasting, more stable situation with less cost and risk to American forces. Moreover, the opportunity costs reaped from destroying only essential targets or critical elements of an enemy's force, selected specifically to create tailored systemic effects, reduce the expense of rebuilding the country following conflict resolution.

Indeed, early determination of what effects a military action must produce to achieve given objectives typically is more efficient. Then, commanders may develop an operational strategy that leverages technological and integration capabilities to achieve those desired effects and long-term goals. This progression is sometimes called a strategy-to-task process. This process can lead to positive coercive ends more economically, in savings of treasure, American lives, enemy civilian and combatant lives, and international political capital. Effects-based and related concepts of operations are a change in paradigm from the former military objectives of exhaustion or attrition to a more direct achievement of control and political objectives with less reliance on large-scale, force-on-force, direct ground combat. The effects-based approach, therefore, takes into account the asymmetric advantages of the U.S. military and applies those capabilities in a

measured, tailored manner to achieve specific limited objectives at reduced cost and risk.

Some critics incorrectly suggest that effects-based operations are merely a modernization of the age-old concepts of annihilation and attrition. The philosophy of effects-based operations specifically avoids the tremendous output of destructive force to annihilate an enemy completely, a modern political non sequitur. Moreover, through technological innovation and organizational and operational prowess, effects-based operations allow firepower to maximize the impact of limited U.S. forces to achieve battlefield goals previously unimagined for a modest sized force. For example, *Desert Storm* devastated Iraqi fielded forces through air power, allowing the ground offensive to rout a larger army relatively easily in about 3 days. In addition, Operation *Enduring Freedom*, wherein a limited introduction of special operations forces supplemented and expanded the accuracy and hence the effects of joint aerospace attacks, resulted in the low-cost destruction of the Taliban regime in weeks, not years.

Rapid decisive operations (RDO) is a concept that involves defeating an enemy by reducing its ability and will to fight through quickly deploying and employing forces. This is a theory of how to use U.S. forces to defeat an enemy rapidly and decisively, building on the concepts of effects-based operations and parallel warfare. Moreover, RDO emphasizes using combined arms to achieve a decisive victory—though the term *decisive* may be qualified by the conditions and context of the conflict. However, a concern might be that a decisive defeat may not be the appropriate conclusion to a crisis, depending upon the situation. As stated by the commander, U.S. Joint Forces Command, rapid decisive operations is a concept to achieve rapid victory by attacking the coherence of an enemy's ability to fight. It is the synchronous application of the full range of our national capabilities in timely and direct effects-based operations. It employs our asymmetric advantages in knowledge, precision, and mobility of the joint force against critical functions to create maximum shock.[17]

Decision dominance is a strategy for the use of military force in concert with other instruments of power. This strategy involves considering the breadth of adversary options and eliminating those deemed undesirable through armed force as well as other means. The President can use economic, financial, political, diplomatic, and informational instruments of power, in concert with precise applications of tailored military force, to achieve specific effects. Effects-based operations are considered and integrated, and parallel attacks may also be appropriate. However, the absolute effectiveness of each instrument of national power varies with the relationship to the interests at stake and national will to fight. On the battlefield, as in the mind of the adversary leader, a strategy of decision dominance has certain rules and a structure that can be tailored for success in a given situation.

Certainly, contemporary coalition realities and the international strategic environment demand that the objectives in modern warfare be limited and not rely upon attrition or wanton destruction. There must be a broader set of goals and a long-term vision. Therefore, optimizing forces to achieve specific effects, particularly when applied in a campaign coordinated with diplomatic, economic, and information instruments, permits the tailored use of force to achieve coercive goals economically and efficiently. By their limited nature, these coercive ends are more deliberate than traditional warfare's annihilation or attrition, avoiding overkill while creating strategic effects. But estimating the escalation potential or pitfalls that either action or inaction might portend requires careful reflection.

By organizing enemy and friendly options and analyzing the fundamental moves available, it is possible to create a strategy to coerce an enemy methodically and ultimately succeed in achieving national objectives. On a battlefield or across a country, many concepts of operations instruct how to fight as U.S. forces, but not how to make the enemy do what the U.S. leadership desires. This is the strategic and operational gap that decision dominance attempts to fill.

Coercive Strategy and Concept of Operations

Understanding enemy motivation and its decisionmaking process while optimizing one's own process is only a prelude to creating a successful coercive strategy. Besides requiring coherence in the political strategy and ensuring that military objectives directly extend from and support the political objectives, effective strategy requires examining the actions for all sides involved in the conflict.

> *Brinksmanship and inept leadership certainly were consequential factors in this brief and one-sided [Gulf] war. However, the massive attack in the opening minutes of the air operation destroyed much of Iraq's control and communications infrastructure and it is not clear that Saddam Hussein or any successor could have successfully passed instructions, had they any to send.*
>
> —Alan Campen[18]
>
> *To a surrounded enemy, you must leave a way of escape.*
>
> —Sun Tzu[19]

To apply decision dominance as a concept of operations when creating a winning strategy, it is imperative to anticipate what moves or choices the adversary can make or is likely to make. Then, through rapid decisionmaking, retasking, and kinetic or nonkinetic means, the U.S. commander can remove adversary options for action before or as the adversary decides to execute them. The goal is to add friction to slow the enemy decision loop and force the leader's hand in a nonsequential, multilevel confrontation. This presents enemy leaders with a significantly more difficult situation from which to recover than a series of sequential attacks or military action divorced from diplomatic, economic, or informational pressures. Yet achieving the military objectives gains in immediate and practical importance because they must be properly achieved to create the conditions to meet the desired higher-level political objectives.

However, an adversary has numerous options available before, or in reaction to, U.S. military involvement. Certainly, too many exist to plan a specific contingency for each possible case. Attempting to plan for every situation is a snare that can trap strategists working on a tight timeline. A typical solution is to plan for the *most likely, worst case,* and *least likely* enemy moves, then to consider basic branches and sequels. However, while planning, a strategist will see that methodically removing selected likely options from the enemy repertoire is much more efficient than attempting to react to

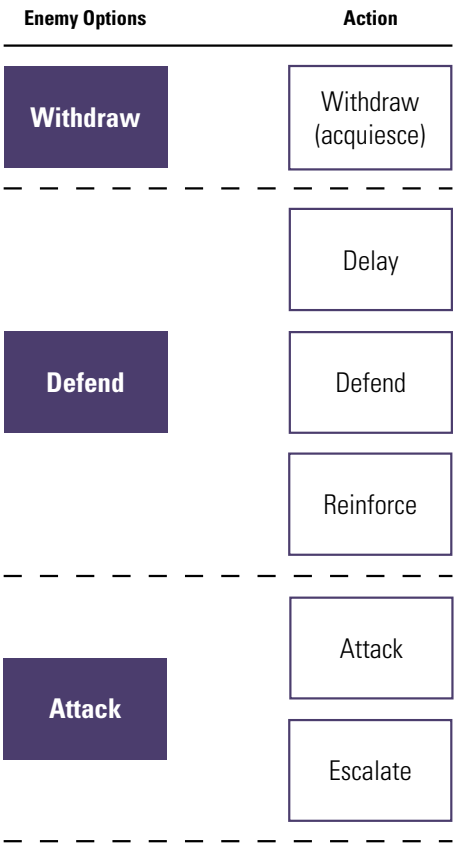
all possibilities. Therefore, dominating an enemy leader's decision-making process involves a methodological approach to coercion that goes beyond servicing a target list. Instead, dominating the decision cycle promises economies in force and increases efficiency through careful manipulation of targets, messages, and the other instruments of power to increase the likelihood of predictable enemy reactions.

Adversaries share broad conventional options, which simplify the American strategist's planning task. Imagine a three-dimensional chessboard where both players move simultaneously. However, playing from the U.S. position, an American strategist seeks to be proactive, to take the initiative in a conflict that he may not have begun. This elicits responses that can be used to funnel an adversary's decisionmaking process affecting future decisions based on available options. There are three principal types of moves regardless of the complexity of the situation: withdraw or acquiesce; defend; and attack (figure 1).

Options/Actions Available

First, the adversary may *withdraw*. If withdrawal from a given territory is the objective of the coercing coalition, then the game might be over militarily or at least reduced to an operation at the lower end of the spectrum of conflict, such as peacekeeping. An unexpected withdrawal can be a good strategic move, but the adversary typically must either fear the repercussions of not withdrawing or hope to make nonmilitary gains beyond the battlefield. Both *Desert Storm* and *Allied Force* are examples in which an enemy withdrew rather than lose their flag. At the withdrawal, both Iraq and Serbia lost a degree of sovereignty, but they were not completely conquered, and the rogue government remained at least partially in control (more temporarily in the case of Slobodan Milosevic). However, adversaries may execute other options before they are convinced to withdraw or acquiesce.

Figure 1. Options/Actions Available



If an adversary chooses to *defend*, three basic options are available: moves that delay, defend, or reinforce a position. Though withdrawal might also buy time and prevent continued military action, these options do not involve removing armies or abandoning large expanses of terrain. An adversary may elect to *delay*. This is a time-buying move that assumes sequential play and is therefore weak against a tighter decision loop. An example might be an enemy's call for a truce without the actual intent to come to a compromised settlement. North Vietnam used this tactic during the Vietnam War, electing to engage in talks to buy a "time-out."[20]

An enemy may simply choose to *defend*. Self-defense is typically expected, but defense may also be an end in itself. Iraqi intransigence in the face of allied strikes during Operation *Desert Fox* in December 1998 provides an example of this strategy whereby Saddam Hussein decided to weather 3 days of limited aerial strikes rather than allow United Nations inspectors back onto Iraqi territory. Saddam achieved his goals of eliminating arms inspectors at relatively low cost for 4 years by defending and holding. In Afghanistan, from October to December 2001, the Taliban attempted to defend and weather attacks from the U.S.-led coalition. However, in this case, the "defend to buy time" strategy was unsuccessful and led to regime collapse. In some cases, the choice to defend may simply be a result of the abdication of a decision or the lack of ability to make another decision—and local commanders act in self-defense.

Finally, the last time-buying alternative is for an adversary to *reinforce*. This is a provocative move and therefore not necessarily a neutral choice. Reinforcing is itself a decision to act, though perhaps not to engage. An adversary may also reinforce in secrecy while employing another delaying move as a diversion, for example. Saddam's movement of forces while attempting to remain below the U.S. threshold for a massive attack was repeated throughout the 1990s in northern and southern Iraq, demonstrating examples of this chessboard action. The risk to Saddam was retaliation and more significant destruction of Iraqi assets. His potential gains were in basic positioning and in eroding of American and international resolve for demarche enforcement.

The last category includes aggressive actions that may involve highly destructive combat on the ground, in the air or sea, or in cyberspace.[21] *Attack*—including a conventional direct attack or an asymmetric escalation, with the objective to win or gain advantage by force and arms—is an option frequently observed. For American strategists, an enemy action might be required before direct U.S. military involvement is precipitated. This is the penultimate aggressive decision the enemy may make. An example of an attack, as defined here, occurred when Israel elected to strike Arab forces preemptively as these forces were preparing for an assault, starting the 1967 Six Day War. Another occurred when Arab forces launched a surprise attack against Israel, beginning the 1973 Yom Kippur War. Iraq's 1991 attack on Kuwait also

falls into this category for U.S. strategists and policymakers, though Iraq rapidly went from *attack* to *defend* mode. Although al Qaeda is a transnational, nonstate actor, the attacks on American barracks in Saudi Arabia, the American embassy bombings in Kenya and Tanzania, the attack against the USS *Cole* in Yemen, and the September 11 hijackings and subsequent attacks against the U.S. homeland are asymmetric examples of offensive attacks on a global scale.

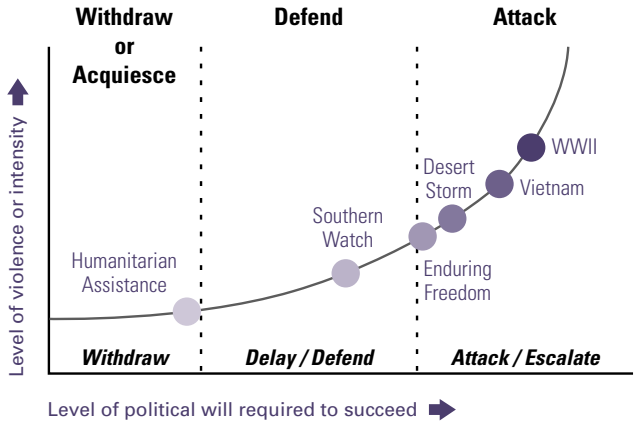
The enemy's ultimate option if already engaged in fighting is to *escalate*. The escalation may be in the conduct or expanse of the conflict, or it may involve internal atrocities or weapons of mass destruction. An escalation in conduct could include using more destructive (or less discriminating) weapons or tactics. An escalation in expanse may involve attacks against disinterested or uninvolved third parties in an effort to complicate coalition decisionmaking. An example occurred when Saddam Hussein launched Scud missiles against Israel during the 1991 Gulf War. Israel was not a coalition partner, yet against modern conventions of war, its civilians were targeted by Iraq—while the military forces of some coalition partners who even shared a border with Iraq, such as Syria or Turkey, were purposefully not subjected to missile attacks.

Before making any move, the strategist must anticipate the policy and resultant objectives and prepare for the most likely course of action. Then, the strategist may plan to remove or limit the adversary's options. First, the strategist must understand the U.S. and coalition political objectives, limitations, and level of commitment. Second, the strategist must determine a strategy designed to achieve those by selecting military objectives whose effects lead to successfully achieving the political objectives. Third, the strategist must recognize and thoroughly investigate potential targets whose destruction, manipulation, or dispersal will achieve those desired effects. Many refer to this procedure as a center of gravity (COG) analysis: looking for key elements of enemy power and then performing a nodal analysis, an investigation into what detailed elements are linked with each COG that provides power, communication, transportation, direction, and so forth.[22] Meanwhile, attention also is given to mitigating the worst possible outcome or actions. Fourth, the combatant commander implements the strategy and assesses it continuously. This assessment requires well-defined measures of merit, continuous post-attack/action analysis, and a feedback loop to reorient the commander—allowing him to adjust objectives if the initial goals become unrealizable within the bounds of the political constraints.

Decision dominance requires methodical removal of the adversary's sanctuary in both space and time. The ultimate goal, therefore, is to interrupt and affect the enemy decisionmaking process by working within their decision cycle, removing the sanctuary of time, while simultaneously eliminating their options, removing the sanctuary of space. This herding process illustrates decision dominance: dictating the enemy decisionmaking process through pressure and removal of options and steering the enemy decisionmaker into a position where the adversary leaders can neither exploit options nor gain an advantage without suffering unacceptable costs.

By understanding that the enemy has several options available, a strategist can identify and select targets to remove or limit enemy capability to escalate, attack, or reinforce (figure 2). Commanders can then destroy these targets by force while influencing and shaping other concurrent objectives by using whichever instrument is best suited to achieve the desired effect. Later, after slowing the enemy leader's decision cycle and limiting adversary options, the U.S. commander can coordinate with civilian agencies to use all the Nation's instruments of power to narrow enemy options further and shape their future actions to attain the desired end state.

Figure 2. Spectrum of Conflict and Enemy Options



Spectrum of Conflict and Enemy Options

The principal limiting factor for any effects-based strategy, and hence decision dominance, is intelligence—but it is also the principal enabler. Greater quantities of intelligence gathered in increasing levels of detail are required to achieve the knowledge necessary to pinpoint effects. Intelligence preparation of the battlefield is also necessary, particularly to prepare for escalation or for a situation in which the enemy is susceptible to coercion through destruction of fielded forces.

A secondary limiting factor is real-time capability, the ability to detect, analyze, and attack or manipulate a target almost immediately, then assess the results. This capability is commonly called the sensor-to-shooter loop. To tighten this loop, decisionmakers must force critical knowledge down to lower levels of command and encourage execution as rapidly as possible. This may produce a "sensor-to-shooter in minutes" standard, a capability most potential adversary states or groups will not likely achieve soon. To produce a specific effect against a target in the shortest timeline possible, the warfighters' goal is to "find-fix-target-track-kill-assess" seamlessly and rapidly. Advanced command, control, computers, and sensor technologies, new weapons, and effects-based operations planning contribute to future U.S. and coalition success by enabling this dynamic decisionmaking advantage.

Finally, to execute the full spectrum dominance of *JV 2020*, the strategist must plan to eliminate undesirable options available to the adversary while using friction to increase the enemy leadership decision cycle. Understanding, then removing, enemy options to defend, attack, or withdraw may permit a methodical manner of coercion. The friction increases costs for the enemy and reduces their capability to adapt efficiently. The countering of deadly enemies with precise

information, rapid decisions, and swift execution of effects-based planning makes coercion with force more acceptable to, and perhaps more possible for, the United States. This paradigm is preferable to ad hoc targeting, attrition-based planning, servicing target lists, and wholesale destruction of either fielded forces or infrastructure. Yet there are implications of using a strategy of decision dominance.

Implications and Conclusion

Decision dominance is now possible by exploiting technology and innovation to achieve long-term success through economical effects-based planning. This concept is a departure from the traditional Napoleonic warfighting philosophies of attrition or annihilation. Tightening the friendly decision loop by effective data fusion will provide politically acceptable and flexible options for conflict resolution across the spectrum of conflict. Then, if policymakers require the use of force, both kinetic and nonkinetic means can contribute to achieving national security objectives, even while operating under contemporary coalition and global political constraints.

Indeed, planning for decision dominance could apply to a traditional large-scale, force-on-force war. However, as lower-level conflicts appear more likely, investment in the technologies and adaptive planning required to exploit the American transformational asymmetric advantages of data fusion and rapid, accurate decisionmaking will undoubtedly pay off in low- to medium-intensity conflicts, typically spurred by rogue or recalcitrant leaders or states, that are certain to present challenges to the United States.

> *Generally in war the best policy is to take a state intact; to ruin it is inferior to this. Li Ch'uan: Do not put a premium on killing.*
>
> —Sun Tzu[23]

The decision dominance model has several more implications. It is increasingly imperative that strategists be thoroughly aware of political considerations, such as operating in a coalition environment. Coalition operations can use decision dominance strategies, but with the recognition that requiring unanimous consent or additional layers of decisionmaking on the friendly side will increase the difficulty in executing an effective strategy against a despotic enemy unencumbered by such a governor when making combat decisions. Moreover, U.S. and allied decisionmakers must recognize the necessity to plan for and execute effects-based operations and to consider the importance of skillfully crafted rules of engagement. The need for enhanced intelligence and training for accurate center of gravity and nodal analyses will continue to increase. Additionally, space and communications personnel must be involved in strategic planning at the outset, to achieve coherent mission planning as well as reconnaissance and analysis planning. A different future force mix and the need for new military and interagency organizations might also be implications of the new strategic environment, exploiting U.S. asymmetric advantages, and the tack of ongoing military transformation efforts.

The need for better data fusion is certainly a key implication. Bandwidth and processing capability of current command, control, computers, and sensors architectures are limited. Host country wiring, access on military bases, up and downlink capacity, and access to commercial satellites, for example, influence data transfer and data fusion capabilities. This problem of bandwidth and communications infrastructure is analogous to, and as appealing as, an anaconda digesting a pig.[24] Thus, getting data might be easier than transferring *usable* information to the shooter in time to cause the desired effect. New database technologies may be required to facilitate rapid data manipulation and user access. With sufficient funding and attention, RMA data fusion capabilities may help the United States achieve political ends, or modify adversary behavior, with lower risk and cost to both sides—and common approaches between services and between allies are a necessity in joint transformational efforts.

Certainly, reliance on technology will not supplant good strategy and progressive thinking. Moreover, the employment of multiple and well-integrated instruments of power will remain necessary to achieve many desired political objectives. Strategists must understand the extent of political will, exploit the asymmetric advantages of rapid and accurate decisionmaking, tailor their strategy to initiate coercion through shaping the available options for the adversary, and employ the minimum force necessary to cause desired effects (not simply to attrite enemy forces). These are not easy tasks. But attention to these details will set the conditions that allow U.S. commanders to dominate enemy decisions rapidly. The result will be to overwhelm enemy strategy—the common, ultimate goal of parallel warfare, rapid decisive operations, effects-based operations, and ultimately full-spectrum dominance. The ability to dominate an adversary quickly with fewer overall risks and at a relatively lower cost, across the spectrum of warfare, will become the sine qua non for information-age military strategists.

Aerospace and information power are presently preferred military tools to employ for coercive situations, based on the search for lower risk and lower cost solutions. Therefore, it is increasingly critical to move toward a strategy that does not rely on attrition or annihilation and that affects the mechanisms permitting the enemy to be defeated economically. Deliberate and methodical application of this decision dominance strategy will promote the goal of full-spectrum dominance by shaping and dominating an adversary's decisionmaking cycle and understanding how, when, and why the enemy leader will realize defeat. Indeed, future political realities may not permit America to apply crushing, overwhelming, and sustained force as in the past. Nevertheless, transformational technologies should be compatible along the entire spectrum of conflict, and strategies favoring these U.S. asymmetric advantages must be fully exploited.

Notes

[1] Field Marshal August Graf von Gneisenau, in Peter G. Tsouras, *Warrior's Words* (London: Arms and Armour Press, 1994), 405.

[2] Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret (Princeton: Princeton University Press, 1976), 88.

[3] Gordon A. Craig, "Delbrück: The Military Historian," in *Makers of Modern Strategy*, ed. Peter Paret (Princeton: Princeton University Press, 1986), 341–342. Building on Clausewitz' concept of total and limited war, Delbrück used the terms *Niederwerfungsstrategie* (the strategy of annihilation) and *Ermattungsstrategie* (the strategy of exhaustion), which he also called the two-pole strategy. Annihilation had

only one pole—the battle. Exhaustion had two poles—battle and maneuver. Delbrück wrote, "After a careful consideration of all circumstances—the aim of the war, the combat forces, the political repercussions, the individuality of the enemy commander, and of the government and people of the enemy, as well as his own—the general must decide whether a battle is advisable or not."

[4] Thomas A. Stewart, *Intellectual Capital*, in *Encarta Book of Quotations* 1999, 2000 Microsoft Corporation.

[5] Andrew F. Krepinevich, *The Military-Technical Revolution: A Preliminary Assessment* (Maxwell AFB, AL: Air University Press, 1996), 56. The *evolution* versus *revolution* debate is irrelevant to the arguments in this analysis, but animated discussion over the speed of change in capabilities and what defines *an order of magnitude* persists.

[6] Department of Defense, *Quadrennial Defense Review Report* (Washington, DC: Department of Defense, September 2001), 11–13.

[7] *Joint Vision 2020* (Washington, DC: Government Printing Office, June 2000), 6.

[8] Ibid.

[9] Vice Admiral Arthur K. Cebrowski, USN (Ret.), director of the Office of the Secretary of Defense Office of Transformation, is widely recognized as the "father" of network centric warfare. DOD News Release 599–01, "Cebrowski Appointed as Director of Force Transformation," November 26, 2001.

[10] Edward C. Aldridge and Delores M. Etter, statement before the Senate Armed Services Committee, Emerging Threats and Capabilities Subcommittee, Defense Wide Research and Development, June 5, 2001.

[11] Jim McCarthy et al., *Transformation Study Report: Transforming Military Operational Capabilities*, prepared for the Secretary of Defense, April 27, 2001, 3–7.

[12] Ibid., 7.

[13] David A. Deptula, *Effects Based Operations: Change in the Nature of Warfare* (Arlington, VA: Aerospace Education Foundation, 2001), 3–6.

[14] Deptula, *Gulf War Air Campaign*, April 16, 2001.

[15] Deptula, *Effects Based Operations*, 17.

[16] Ibid., 11. Emphasis in original text.

[17] General William F. Kernan, USA, Commander, U.S. Joint Forces Command, *Perspectives for 21st Century Challenges*, presentation at National War College, April 13, 2001.

[18] Alan D. Campen, "Iraqi Command and Control: The Information Differential," in *The First Information War*, ed. Alan D. Campen (Fairfax, VA: AFCEA International Press, 1992), 171.

[19] Sun Tzu, *The Art of War*, trans. Samuel R. Griffith (London: Oxford University Press, 1963), 109.

[20] Mark Clodfelter, *The Limits of Airpower: The American Bombing of North Vietnam* (New York: The Free Press, 1989), 148–210. Clodfelter makes a convincing argument that Nixon's use of airpower in Vietnam was more effective than Johnson's. Clodfelter also asserts that if the United States is again engaged in a guerrilla war, "military controls will again be likely to limit air power's efficacy as a political tool."

[21] There could also be economic or diplomatic attacks or escalation in conjunction with or separate from combat applications of force.

[22] John H. Warden III, *The Air Campaign* (Washington, DC: Brassey's, 1989). Warden's book is replete with examples of centers of gravity and nodal analyses. His discussions of "orchestration" of forces are also pertinent.

[23] Sun Tzu, 77.

[24] Thanks to Colonel Gregory Touhill, USAF, January 2001, for providing this analogy.

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