

Prognostication: Do the Services See the Same Future of Warfare?

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Abstract

Prognostication: Do the Services See the Same Future of Warfare? by Major Jeremy D. Turner, USAF, 42 pages.

Are the US Air Force and US Army envisioning, and thus preparing for, the same future of warfare? This paper analyzes this question through examination of the common canon of military theory shared by the services, leadership statements, funding decisions, and service doctrines. The conclusion of this examination is the recognition that the services do not share a common vision of the future and, consequently, are preparing for different types of warfare.

Each service views a different portion of the spectrum of conflict as their critical focus area. The Army sees Irregular and Fourth-Generation Warfare as the most likely military challenge of the future. Consequently, it is shifting its priorities to align capability against that type of warfare while retaining significant capability in traditional combat. The Air Force sees itself as a dominant force in Third-Generation warfare and seeks to retain its, and thus US, dominance in that arena. The Air Force recognizes the need to develop capability in Irregular and Fourth-Generation Warfare, but remains focused on what it views as more dangerous, the Third-Generation threat.

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Introduction

Militaries must adapt to changing circumstances. Whether the individual soldier must determine if the figure in front of him is a threat, or a strategic leader must choose the best allocation of resources, military adaptation requires decision-making. The current situation is no different from many before it. The Army and Air Force must examine the current environment and decide how to act. The question becomes, are the Army and Air Force envisioning, and thus preparing for, the same future of warfare? This paper examines that question by exploring war and warfare from theory to current doctrine and acquisition.

The Army and Air Force share a common canon of military theory. Understanding the common foundation provides the perspective needed to comprehend each service's concept of the future of warfare. The Army and Air Force envision different futures, each focusing on different national security challenges. Each envisioned future, however, has roots in the common canon of military theory.

Methodology

To understand the concern over future conflicts, this paper examines of the nature of war, the spectrum of conflict, and the development of warfare. After developing that understanding, it describes the joint conception of warfare and the associated doctrine. Finally, it examines service specific ideation, doctrine, and acquisition philosophies for comparison.

Limitations

This paper concerns itself with Army and Air Force concepts of warfare.¹ While other services provide critical capabilities to national defense, the Army and Air Force provide the

¹ This examination addresses warfare below the level of large-scale nuclear confrontation. While nuclear warfare shaped service views for a period of post-World War II history, particularly in the US Air

foundational construct for the conduct of warfare. The Marine Corps enhances the ground capability provided by the Army but does not change the fundamental ground warfare conception of United States (US) national defense. Similarly, naval air capacity folds into Air Force warfare concepts and structures. These facts allow the limitation of this analysis to the Army and Air Force.

While this assessment examines the differences in the concept of the future of warfare, it does not examine the implications of those differences in depth. The philosophical dichotomy on the nature of warfare may produce integration or other complications that challenge the ability of the military to provide coherent national security. The areas and implications of friction between the services' views of the future remains an area available for future study.

The Foundations

War

Before examining potential tension between the Army's and Air Force's conceptions of the conduct of warfare, it is necessary to examine the concepts of war and of warfare and the subsequent canon of military theory that helped form those conceptions. War is violent conflict conducted to induce an adversary to comply with the desires of the victor. Conversely, warfare is the accumulation of actions taken to conduct the conflict.² Clausewitz referenced this dichotomy in recognizing the difference between the object of war, the imposition of one's will on another, and the means of warfare, the force compelling the adversary's action.³ This understanding, however, does not address why war exists.

Force, the extremely low current probably of such an exchange allows the limitation of this examination to levels of warfare lesser than large-scale nuclear exchange.

² US Government, Joint Publication 1, *Doctrine for the Armed Forces of the United States*, (Washington, DC: Department of Defense, 2007), I-1-2.

³ Carl Von Clausewitz, *On War*, trans. and eds. Michael Howard and Peter Paret (Princeton: Princeton University Press, 1976), 75.

Origin

In *Leviathan*, Thomas Hobbes explained the compulsion to impose one's will on another as an outgrowth of the individual's intrinsic need for security in a resource-constrained environment. Each individual's need to survive drove competition for limited resources. To secure resources in that environment, individuals used force to compel other individuals to accept an unequal distribution. Force was required because other areas of potential competitive advantage, such as intelligence, were relatively equal among the competitors. The ability to apply force, therefore, became the determining factor in resource distribution competition. The use of force to impose one's will on others is, according to Hobbes, inherent in the nature of humans and required in an anarchic environment.⁴ Azar Gat, a professor of military history, war, and strategy at Tel Aviv University, discusses a refined model of innate war by differentiating aggression, the attitude that leads to war, from war itself. This aggression, he argued in an innate and necessary survival skill, but its use is discretionary, rather than the imperative implied by Hobbes.⁵ Others disagreed that war is intrinsic to human existence and claimed societal structures imposed war on otherwise peaceful humans.

Jean Jacques Rousseau wrote some of the foundational concepts behind this theory of war in his work, *A Discourse Upon the Origins and Foundation of the Inequality Among Mankind*. Rousseau argued that without society, humans interact non-violently and harmoniously incorporate into the environment. The pacifist nature of humans was the direct result of a self-love that negated the possibility of willingness to accept harm. Advanced human societies, and the competition they wrought, changed the balance away from avoiding individual harm toward the protection of societal groups. That change resulted in the need for a means to impose will on

⁴ Thomas Hobbes, *Leviathan*, (Public Domain <http://www.gutenberg.org/dirs/etext02/lythn10.txt>, 1651, (accessed 20 December 2007), 13.

⁵ Azar Gat, *War in Human Civilization*, (New York: Oxford University Press, 2006), 39-40.

others. War, according to Rousseau, is therefore not innate in human existence, but a result of competitive societies.⁶ Robert Hinde, a Master of St. John's College in Cambridge focusing on ethology and interpersonal relationships, expands this concept in his essay, *A Note on Patriotism and Nationalism*. In the essay, he considered patriotism as a cooption of a naturally occurring tendency to sacrifice to ensure the survival of family. This cooption enables societies to leverage the concept of family to non-family members of similar background, creating nations.⁷ The defense of these nations results in the societal cause of war Rousseau discussed. Whether war results from societal influence or is innate in human nature is undetermined.⁸ There is significant evidence, however, about the motivations for war initiation.

Motivations for War

War is initiated either to advance political interests or for vital non-political interests.⁹ The discussion of war and warfare requires a short interlude into the nature of politics before examining the notion of war as a means to advance political interaction. Political scientist David Easton described politics as the “authoritative allocation of values for a society” in his influential work, *The Political System: An Inquiry into the State of Political Science*.¹⁰ The political process decisively evaluates and attributes relative qualitative merit to competing societal values.¹¹ When differences exist between the value systems of different societies, a political process determines

⁶ Jean Jacques Rousseau, *A Discourse Upon the Origins and Foundation of the Inequality Among Mankind*, (Public Domain <http://www.gutenberg.org/files/11136/11136.txt>, 1755, (accessed 20 December 2007).

⁷ Robert Hinde, “A Note on Patriotism and Nationalism”, *The Institution of War*, ed. Robert Hinde, (New York: St. Martin's Press, 1992), 149-151.

⁸ Gat, 10.

⁹ Martin van Creveld, *The Transformation of War*, (New York: Macmillan Incorporated, 1991), Ch. V.

¹⁰ David Easton, *The Political System: An Inquiry into the State of Political Science*, (New York: Alfred A. Knopf, 1953), 129.

¹¹ Easton, 136-137.

the relative merit of the systems. While this political process may be non-violent, the violent determination of the relative merit of values is, according to Clausewitz, war.

Clausewitz made a strong case for the political motivation for war. Book 1 of *On War* established the foundation of his argument. According to Clausewitz, societies conduct war to achieve political objectives. War, as a device to compel one society to accept the will of another, is a continuation along an increasingly forceful scale of devices of political influence. Clausewitz concluded that war is an instrument of policy and is always a political act.¹² Aleksandr Svechin, an early Soviet military theorist and historian, expanded Clausewitz' concept of political motivation. He argued that war is not only an extension of policy, but is also only one part of a larger body of policies intended to impose will on another society. Other political aspects form an inseparable matrix with war. Economic policy best exemplifies the symbiotic nature of policies linked with war. Preparation for and sustainment of war requires economic strength. Economic policies that weaken opponents increase the likelihood of the successful conclusion of war. Svechin advocated that these policies, and others, must be coordinated to achieve success.¹³ The success achieved is political in nature. Svechin returned to this concept by stating, "War is not an end in itself but is waged for the purpose of concluding a peace on certain terms."¹⁴ Clausewitz and Svechin presented a strong foundation for the political motivation for war initiation, but others found motivations outside the political realm.

Martin van Creveld, a military historian at the Hebrew University in Jerusalem, argued that ascribing political motivation as the sole justification for war ignores the majority of historical perspective. In *The Transformation of War*, Creveld argued that the conduct of war as the exclusive domain of the state, and thus as a political activity, is a relatively new concept,

¹² Clausewitz, 75, 81, 86-88.

¹³ Aleksandr Svechin, *Strategy*, trans. and ed. Kent Lee (Minneapolis: East View Publications, 1992), 83-84.

dating to no earlier than the Renaissance.¹⁵ He claimed that older motivations for war, outside the jurisdiction of the state, returned to prominence since the end of World War II. The three primary non-political motivations for initiating war are justice, religion, and existence.

Wars fought for justice emanate from a sense of morality. The initiation of war was a justified means to redress grievances by a wronged person or society. Western culture from Roman times included the concept of war to rectify wrongful acts against an innocent.¹⁶ Other cultures contained similar justice-focused justifications for conflict. Arab culture highly prized honor. Any insult, real or perceived, damaged that honor and war was an acceptable means to obtain justice for the offense.¹⁷ Ancient Japan also held honor in high regard. Under the bushido code, a samurai witnessing an act of corruption killed the perpetrator to uphold the ideals of honor.¹⁸ While these honor examples differ from the western construct of war for justice in humanitarian light, the basis for action in all three cases is a moral motivation to set right a wrong. A concept of war for justice continues in western society through United Nations Charter Chapter VII operations to remedy human rights violations.¹⁹ While the concepts of justice and religious belief may be related, wars initiated for justice are different from those initiated for religious causes.

Religious motivation for war is entrenched in the histories of Judaism, Christianity, and Islam. Religious wars served as proxies for determining the relative superiority of gods among ancient peoples. Successful campaigns demonstrated the support of the campaign by the deity. Consequently, failures indicated an action counter to the will of the god or a punishment for

¹⁴ Svechin. 98.

¹⁵ Crevelde, 126.

¹⁶ Crevelde, 126-134.

¹⁷ Raphael Patai, *The Arab Mind*, (Long Island City, Hatherleigh Press, 2002), 96.

¹⁸ US Government, *Japan: a country study*, (Washington, DC. Department of Defense, 1992), 423.

failing to abide by revealed guidance. The Israelite war of extermination against the Amalekites described in the Old Testament serves as an example of a war fought to establish the dominance of one god over another. Religious communities also fought wars to expand the community. Perhaps the most famous of these is the Muslim concept of conversion through Jihad, but wars to bring Christianity to the western hemisphere are just as salient an example. Religious wars, however, are not limited to these three belief systems. The Aztec society engaged in war specifically to obtain captives for use in human sacrifices and other primitive societies fought based on local beliefs.²⁰ Societies initiated war not only for religious and moral reasons, but also as a means of survival.

Wars conducted to ensure continued existence defy the description of being an extension of policy. Clausewitz argued that the level of acceptable sacrifice allowed is proportional to the political goal desired.²¹ Creveld countered that in a war for existence such cost-benefit calculations do not apply. A society threatened with extinction, or struggling for recognition, would accept almost unlimited punishment. Modern examples of such a willingness to sacrifice include the Algerian acceptance of as many as one million dead in their fight against the French and the Israeli willingness to engage multiple enemies on several fronts in 1967.²² Michael Klare presented another perspective on this concept in his book, *Resource Wars*. He argued that competition over natural resources such as oil, water, and forests will cause future wars. Modern societies, he stated, view access to natural resources as an existential requirement necessitating an unlimited response similar to that described by Creveld.²³ Wars for justice, religion, and

¹⁹ Charter of the United Nations <http://www.un.org/aboutun/charter/index.html>, (accessed 3 January 2008), Articles 24 and 41.

²⁰ Creveld, 134-142.

²¹ Clausewitz, 92.

²² Creveld, 142-149.

²³ Michael Klare, *Resource Wars*, (New York, Metropolitan Books, 2001), 14, 25, 213.

existence challenge the Clausewitzian notion of war as an extension of policy, but in so doing, broaden the concept of war across a wider array of violence.

Breadth of Violence

The breadth of political and non-political war leads to a spectrum of conflict that runs from total war, resulting from wars of existence, on the most violent end, to a combination of peace and manageable insurgency and terrorism, resulting from insignificant political motivation for war, on the other.^{24, 25, 26} The spectrum reflects the different natures of absolute and limited war. Clausewitz described the difference between absolute and limited war in terms of intensity of motivation for war initiation. Powerful motivations for war resulted in the conduct of war approaching absolute war, while weaker motivations resulted in less-violent, limited war.²⁷ Although Clausewitz' analysis was based on extension of policy, Crevel'd's concept of non-political wars demonstrated agreement with varying levels of violence resulting from motivation intensity.²⁸ The consequence of this agreement is that both political and non-political motivations for war require a capability to conduct war in both violent and relatively non-violent ways. From this requirement, inherent in war, emerged the scope of the conduct of war, warfare.

²⁴ Dana Johnson, Scott Pace, C. Bryan Gabbard, *Space: Emerging Options for National Power*, (RAND, 1998), 10.

²⁵ Crevel'd, 145.

²⁶ Clausewitz, 92.

²⁷ Clausewitz, 87-88.

²⁸ Crevel'd, 145.

Warfare

Fundamental Strategies

Warfare is the method of force application in war. The motivation for war initiation and the resultant acceptable level of violence and suffering initially determine the boundaries of the conduct of warfare. German military historian Hans Delbrück, working from fundamentals in Clausewitz' *On War*, identified two foundational strategies for warfare: annihilation and attrition.²⁹ Annihilation focused on the total destruction of the opponent's ability to conduct warfare. For Delbrück this concept translated to the destruction of the opposing military forces. The intent of an annihilation strategy was to destroy the protection provided to a society through its military in a single decisive battle. The loss of military protection exposed the society to the threat or application of violence. This strategy presupposed the possibility of a decisive victory over the opponent's military forces. Achieving a decisive success, the victor exploited the advantage by forcefully imposing his will on the opponent until the opponent acquiesced to that will.³⁰ Svechin also provided a critical insight into the nature of the relationship between opponents under threat of annihilation warfare, although he referred to the concept as "destruction" warfare. He established that if either opponent considered annihilation warfare feasible, both side became obligated to prepare for it.³¹ The success of annihilation warfare depends on the ability to achieve a decisive victory, but the available force, or political will, may

²⁹ Gordon Craig, "Delbrück: The Military Historian", *Makers of Modern Strategy*, ed. Edward Earle, (Princeton, Princeton University Press, 1943), 272-273.

³⁰ Hans Delbrück, *The History of the Art of War, IV*, trans. Walter Renfroe, (Westport, Greenwood Press, 1985), 293-294.

³¹ Svechin, 95-96.

be insufficient for that outcome.³² Failure to achieve a decisive victory may result in a transition from an annihilation strategy to one of attrition.

Attrition warfare, according to Delbrück, required the extension of a campaign to induce the exhaustion of the opponent's capability or will to continue the conflict. In this strategy, the actual conduct of battle was merely one aspect of the conflict. This contrasted the exclusivity of battle under annihilation strategy. Attrition strategy consisted of a combination of movement and battle. Movement implied not only the positioning of forces, but the initiative to determine under what conditions battles occurred. Critical to the strategy was the ability to avoid a decisive battle while in a disadvantaged situation.³³ Svechin also examined the concept of attrition warfare, determining that the conditions required for annihilation warfare are sufficiently rare to make attrition warfare the most likely nature of future conflicts.³⁴ The attrition and annihilation foundations resulted in a continual development of generations of tactics for the conduct of warfare.

Generations of Warfare

Over the last two decades, scholars and analysts began to frame the conduct of modern warfare according to generations, reflecting fundamental qualitative changes such conduct. In 1989, William Lind, the Director of the Center for Cultural Conservatism and a political advisor on military affairs, postulated that three distinct generations of modern warfare tactics were differentiable in modern history. This observation heralded what Lind called a fourth generation, which was then becoming manifest. Technology, and the tactics it drove, parsed the three generations identified. The first generation's foundation was the smoothbore musket. The military

³² Clausewitz, 91-92.

³³ Craig, 273. This information is from Craig rather than Delbrück directly because the salient text is only available in German. This author is unqualified to translate the text and thus must rely on a secondary source.

art developed in this era created tactics that would create sufficient volume of fire to engage the enemy effectively. The slow rate of fire and inaccuracy of these weapons demanded massing of forces and linear battles. The second development was the introduction of rifling, the machine gun, smokeless powder, and indirect artillery fire. These advances allowed the massing of fires rather than personnel. In response, tactics of movement of mass armies over long ranges by modern railways to establish desirable position on an opponent developed. This process was an early form of operational art. The third generation leveraged technological advances in firepower, but the critical development was one of conception. As the lethality of firepower made traditional confrontation undesirable, the idea of overwhelming force applied more rapidly than an opponent could react became the watershed theory. These advances resulted from a combination of technology and ideas. Lind hypothesized that developments in technology and theory set the conditions for a shift to a fourth generation of warfare.³⁵ Others refined the ideas Lind established.

From this introduction of the concept of the generations of warfare, came a Thomas Hammes refined vision. Hammes is a retired Marine Colonel who served as the Senior Military Fellow at the Institute for National Strategic Studies, and is pursuing a Doctorate of Philosophy in Modern History at Oxford University. His analysis of the generations of warfare led him to conclude that changes in societies, combined with the requisite technologies, enabled the transitions along the evolution of warfare. First-generation warfare required the development of a concept of national unity to generate sufficient numbers of soldiers to make massed fires viable. Second-generation warfare resulted from the increased economic prowess of industrialization. To field, deploy, and support second-generation militaries required the expanded economies,

³⁴ Svechin, 98.

³⁵ William Lind, Keith Nightengale, John Schmitt, Joseph Sutton, and Gary Wilson, "The Changing Face of War: Into the Fourth Generation", *Marine Corps Gazette* (October 1989): 22-26.

associated demographic changes from agrarian to urban populations, and modernized transportation networks established to support industry. Third-generation warfare emanated from the German army's absorption of the lessons of World War I, and German society's acceptance of higher risk to avoid the defeat of the Versailles treaty. These combined to facilitate the scheme of Blitzkrieg, the application of overwhelming force more rapidly than an opponent could respond.³⁶ This expanded understanding of the generations of warfare led him to analyze modern society for a transition heralding another evolutionary adaptation in warfare.

Hammes found far reaching societal changes between the advent of the third generation of warfare and today. The changes progressed along two opposing courses. The first course was one of collectivization. International actors such as the United Nations and the World Trade Organization drew modernized nation-states into closer harmony on matters of political and economic policy, homogenizing the interests of the world's dominant governments. Simultaneously, collective transnational players, such as political and religious movements, served to unify individuals based on mutual interest. Opposing this collectivization was a concurrent course of fragmentation. The number of states increased substantially, with each one afforded equivalent status to all others once recognized in the international community. Additionally, many previously coherent states fragmented into their component sub-state nations, each vying for their specific interests. A revolution in communications technology enabled each of these courses by permitting instantaneous global interaction without respect to traditional borders. Consequently, Hammes argued that both the societal changes and technological innovation required for an evolution in warfare to a fourth generation were present.³⁷

Hammes traced the development of the precepts of fourth-generation warfare from Mao's recognition of the dominance of political will over military prowess in warfare. Using multiple

³⁶ Thomas Hammes, *The Sling and The Stone*, (St. Paul, Zenith Press, 2004), Chapters 2 and 3.

³⁷ Hammes, Chapter 4.

case studies, he traced the maturation of fourth-generation warfare, finally identifying a set of discernable characteristics that uniquely identify the fourth generation. The most critical characteristic is the shift away from traditional combat. The focus of effort in fourth-generation warfare is not the defeat of the adversary's military, but instead is the defeat of the adversary's political will. The purpose of operations in fourth-generation warfare is to convince the opponent that achievement of the desired outcome is either impossible or too costly to continue pursuing. The next significant characteristic is the simultaneous and coordinated use of all available communication networks to diminish the opponent decision-maker's political will. Fourth-generation warfare spans political, social, economic, and military arenas. Each effort, in each arena, emphasizes the futility or excessive cost to the opponent of continuing the chosen course.³⁸ The message is the primary weapon of the purveyor of fourth-generation warfare. The opponent utilizing fourth-generation warfare recognizes their lack of military capability and avoids significant combat. This is the third characteristic, low intensity of combat operations. They will chose to fight limited engagements from advantageous positions and exploit the propaganda value of surviving to inflict even minor damage on a more powerful adversary.^{39, 40}

The nature of combat in fourth-generation warfare requires little beyond easily transportable money and ideas to support operations. Much of the logistics required to support operations is available through local economies. The result is a lack of traditional logistic and support targets for the opponent of a force utilizing fourth-generation warfare.

The combination of the previous characteristics results in the last, long duration. Convincing the opponent decision-maker of the futility of their pursuit, while avoiding a decisive military engagement, produces an extended campaign. Conflicts conducted using precepts of

³⁸ Hammes, Chapter 14.

³⁹ David Harper, "Targeting the American Will and Other Challenges for 4th-Generation Leadership", *Military Review* (March-April 2007), 96-97.

fourth-generation warfare, such as Mao's Long War and the war in Vietnam, lasted decades.⁴¹

Hammes claimed that taken together, these characteristics distinguish fourth-generation warfare as a unique development in the evolution of warfare. Not all military theorists, however, accept the concept of generations of warfare.

Dr. Antulio Echavarria, the Director of Research at the Strategic Studies Institute of the US Army War College, challenged the notion of generations of warfare in his 2005 monograph titled, *Fourth-Generation War and Other Myths*. Echavarria based the critique on the premises that the conceptions described as generational shifts were demonstrably non-linear and on the inconsistent definition of the nature of the fourth generation of warfare.⁴² He effectively demonstrated the simultaneous nature of the generations by citing the concurrent use of multiple generations in historical examples from antiquity to the Palestinian Intifada. He also exposed the shifting definition of the nature of fourth-generation warfare by tracing the evolution of the definition from early notions of the generation based on technological innovations improving conventional precision to the current idea of highly evolved insurgency.⁴³ Both critiques are strong challenges to the concept of generations of warfare, but do not affect the use of the concept in this paper.

Dr. Echavarria rightfully commended Hammes on his efforts to advance the discussion of the changing nature of warfare.⁴⁴ It is in this spirit that this author offers this analysis. Future examination of the model by other researchers will determine its validity or fallacy. This

⁴⁰ Hammes, Chapter 14.

⁴¹ Hammes, Chapter 14.

⁴² This paper includes Echavarria's critique to acknowledge opposition to the "generations of warfare" construct. While critique of Echavarria's argument is beyond the scope of this examination, Alvin and Heidi Toffler's book *War and Anti-War* addressed the simultaneous nature of generations of warfare.

⁴³ Antulio Echavarria II. *Fourth-Generation War and Other Myths*. (Strategic Studies Institute, <http://www.strategicstudiesinstitute.army.mil/pdf/PUB632.pdf>, 2005, (accessed 10 January 2008).

⁴⁴ Echavarria, 2.

discussion leverages the lexicon as a means to consider the possible change in the conduct of warfare. The accuracy of the specific model employed is less relevant than the discourse about change and its implications on military operations.

Joint Ideation

Concepts

The US military is organized, trained, and equipped to operate by leveraging military service capabilities to greatest advantage in pursuit of national strategic objectives.⁴⁵ Accomplishment of this task requires the capability to address the full spectrum of conflict in an unknown future. The attempt to bring clarity to this unknown future rested in two cornerstone documents, *The Joint Operational Environment, the World Through 2030 and Beyond* (JOE) and the 2005 *National Defense Strategy* (NDS). Working from these key documents, the joint staff produced a family of joint operating concepts. The family of joint operating concepts is the series of documents that analyzed the expected nature of future conflicts and proposed capabilities and operational constructs required to conduct future warfare successfully.⁴⁶ Premised on these concepts, joint doctrine provides guidance for the employment of military forces. Together, the concepts and doctrine attempt to provide direction that spans the full breadth of the spectrum of conflict⁴⁷. The JOE described the expected future environment and served as a foundation for the other documents.

The JOE is a document created by the intelligence section of the Joint Forces Command staff. It is a living draft; constantly updated as new analysis of the environment occurs. The staff contended, through the JOE, that three categories of security challenges presented themselves

⁴⁵ JP 1, I-3-4.

⁴⁶ US Government, Joint Chiefs of Staff, *Capstone Concept for Joint Operations Ver 2.0*, (Washington, DC, Department of Defense, 2005), 1.

⁴⁷ JP 1, I-1.

from the current and expected future environments. Those categories were enduring challenges, emerging challenges, and national security shocks. The enduring challenges were traditional security issues from which the military offered protection. These included defense of the homeland, conventional conflict with other great powers, deterrence, defense against transnational terrorist, criminal, and ideological foes, as well as other situations traditionally within the purview of the military. The emerging challenges were those that result from combination of “globalization, uncertainty, complexity, interconnectedness, and the failure of the state system to retain its monopoly on international violence.” Examples included politically and economically based access denial efforts, fourth-generation warfare, and efforts against financial and information networks. The final set of challenges, national security shocks, were those that could cause significant detriment to US interests, but are improbable. Included in this category were energy disruption, emerging technology threats, pandemics, and other calamities.⁴⁸ The understanding of these challenges constituted one foundation of the joint operating concepts. The other foundation of the joint operating concepts was the NDS.

The NDS provided guidance for the Department of Defense (DOD) in the accomplishment of its mission. The strategy defined four challenge categories against which the US military must prepare. The first was a traditional conventional military capability. The second was irregular warfare that avoids conventional confrontation, preferring methods such as terrorism and insurgency to exhaust the political will of opponents. The third was catastrophic threats. Catastrophic threats, such as the use of a weapon of mass effect in a US or allied urban area, are those deemed to be so horrific that even a single successful attack is unacceptable. Finally, the strategy described disruptive challenges. Disruptive challenges leverage emerging

⁴⁸ US Government, *Joint Operational Environment: The World Through 2030 and Beyond*, (Washington, DC, Department of Defense, December 2007 Living Draft), 37-55.

technologies to negate US military conventional advantages.⁴⁹ From these two foundations came a forecast of the future against which the US military must prepare.

The intellectual effort to comprehend and prepare for the challenges presented by the JOE and NDS resulted in the family of joint operating concepts. The capstone concept provided guidance shaping the construction and content of the successive concepts.⁵⁰ In addition to the capstone concept, there are five joint operating concepts. They are the major combat operations concept, the irregular warfare operations concept, the military support to stabilization, security, transition, and reconstruction concept, the deterrence operations concept, and the homeland defense and civil support concept. Each of the documents addresses a facet of the range of situations the US military could face in the future, thus they address the military responses across the spectrum of conflict. The most familiar facet is major combat operations.

The joint concept for major combat operations addressed the need to maintain the ability to conduct high-intensity combat operations intended to remove the adversary's ability or will to use military force to oppose achievement of US objectives. The mechanism recommended to accomplish this was the disintegration of adversary. Disintegration combines destruction and dislocation to defeat the adversary's ability to accomplish objectives. Actions taken to disintegrate the opponent rely on simultaneously applying overwhelming force across multiple aspects of the enemy's efforts at a tempo that renders the adversary unable to respond or recover before the achievement of US objectives. Destructive efforts must balance between successful accomplishment of disintegration and overbearing societal destruction. Striking this balance

⁴⁹ US Government, *National Defense Strategy*, (Washington, DC, Department of Defense, 2005), iii, 2-3.

⁵⁰ CCJO, 1.

ensures accomplishment of US objectives while minimizing the reconstruction costs and the possibility of a transition to irregular warfare.⁵¹

As a concept, the focus of effort defined irregular warfare. Irregular warfare involves violent and non-violent actions to influence or control a population. This contrasts with conventional warfare's focus on opposing militaries and assumption of non-combatant status of local civilians. To defeat irregular adversaries, US forces must conduct a protracted campaign to wrest control of the relevant population from the adversary. This may require the application of conventional force, but traditional application of such force may be counter productive in winning control of the population. Success in irregular warfare requires other means, including rectifying underlying economic, cultural, or political injustices to empower the population, and supporting other US government agency efforts.⁵² These operations tie closely to those required to conduct military support of stabilization, security, transition, and reconstruction.

The concept for military support of stabilization, security, transition, and reconstruction addressed the military efforts needed to provide a host nation or emerging government aid to recover from a disaster, military defeat, or threat of governmental failure. The efforts include coordinating with other US government elements to limit deterioration of conditions among the populace, providing a safe environment for governments and agencies to operate, assisting the host in returning to sovereign governance, and rebuilding the capacity needed to continue development.⁵³ While these three concepts addressed foreign conflict, the next attempted to avoid conflict altogether.

⁵¹ US Government, *Major Combat Operations Joint Operations Concept Ver 2.0*, (Washington, DC, Department of Defense, December 2006), 11-13.

⁵² US Government, *Irregular Warfare Joint Operating Concept Ver 1.0*, (Washington, DC, Department of Defense, September 2007), 9, 11, 19-21.

⁵³ US Government, *Military Support to Stability, Security, Transition, and Reconstruction Operations Joint Operating Concept Ver 2.0*, (Washington, DC, Department of Defense, December 2006), 19-

The deterrence operations concept examined ways to discourage adversaries from conducting actions against US interests. The concept identified three decision factors; the benefit to the opponent of conducting the action, the cost to the opponent to take the action, and the consequences of acting according to US desires. The recommended response was a flexible, adversary-tailored deterrence intended to decrease the benefits of action, increase the costs, and influence adversary decision-makers toward actions amenable to US interests. Traditionally, strategic deterrence relied on the threat of annihilation in response to attacks on the US. The current environment contains foes that do not respond to the threat of annihilation. Deterrence in this environment requires the combination of conventional, nuclear, and irregular warfare capabilities focused to address both the costs and benefits of actions as calculated by the adversary decision-maker.⁵⁴ The ideas espoused in this concept buttressed those of the concept for homeland defense.

The concept for homeland defense envisioned DOD responsibility as overlapping with other federal agencies. The concept recognized that modern threats to the homeland are not constrained by geography. These threats require an active, offensive posture to identify and neutralize them. The concept recommended a multi-layered defense in the air, sea, land, space, and cyberspace arenas. The capabilities, through coordination with other agencies, must enable the military to detect, deter, prevent, or defeat threats. Additionally the military must respond to catastrophic events resulting from natural disasters or the failure to stave off an attack.⁵⁵ These concepts combine to form the military response to the spectrum of conflict

Collectively, these concepts encapsulate the full continuum of the application of military power. While all of the concepts apply to the full spectrum of conflict in varying degrees, analysis

⁵⁴ US Government, *Deterrence Operations Joint Operating Concept Ver 2.0*, (Washington, DC, Department of Defense, December 2006), 5, 19-20, 24-25.

⁵⁵ US Government, *Department of Defense Homeland Defense and Civil Support Joint Operating Concept Ver 2.0*, (Washington, DC, Department of Defense, October, 2007), 2-3, 20-24.

of the documents reveals that each concept focuses on a different section of the spectrum of conflict. On the peaceful, less violent, end of the spectrum, the deterrence concept tends to maintain the status quo. As peace turns to violence, different concepts graduate to prominence. The transition from peace to peacekeeping and responding to humanitarian crises marks the rise of military support to stability operations as the focus of effort. As violence escalates, irregular warfare begins to dominate conflicts. This transition also initiates the need for expanding homeland defense. Progressing on the spectrum, major regional conflicts require a major combat operations response. The extremity of violence on the spectrum is the culmination of major combat operations, nuclear conflict. While this description is linear, the simultaneous application of all concepts along the full spectrum results in a dynamic and fluid relationship between the concepts and the spectrum. To apply these concepts as guidance, doctrine was necessary.

Doctrine

The concepts transformed into practical guidance through the production of joint publications. The critical document in the transformation was Joint Publication 3-0 *Joint Operations* (JP 3-0). This document included a construct for phasing military operational plans. The construct consisted of six phases, numbered 0 through 5, and labeled Shape, Deter, Seize Initiative, Dominate, Stabilize, and Enable Civil Authority. Activities supporting each phase occur simultaneously in all phases, but vary in level of effort as determined by the primary function of the phase.⁵⁶ Each primary function is unique.

The primary function of the Shape phase, Phase 0, is the conduct of habitual relations with players in a region. These relations create rapport with regional actors and demonstrate US interest in the region. The intent of these actions is to demonstrate support for friendly agents

⁵⁶ US Government, *Joint Publication 3-0 Joint Operations*, (Washington, DC: Department of Defense, 2006), IV-25-26.

while subtly persuading potential adversaries against acting counter to US or friendly interests.⁵⁷

This shaping transitions to the deter phase as a plan's execution begins.

The Deter phase, Phase 1, attempts to dissuade a potential adversary from taking undesirable actions through specific, overt preparations that demonstrate resolve to counter those actions. Deployment of forces, logistic preparation, and obtaining permission for use of airspace are examples actions occurring during the Deter phase. These actions attempt to discourage the potential adversary and to prepare for combat operations in the Seize Initiative phase.⁵⁸

The Seize Initiative phase, Phase 2, involves the rapid conduct of operations to reverse momentum generated by the adversary's operations. The actions taken by the military during this phase enable friendly freedom of action and either deny the opponent the early achievement of objectives or extract the opponent from objectives achieved. These operations also prepare the environment for further application of power in the Dominate phase.⁵⁹

Operations during the Dominate phase, Phase 3, generate inexorable momentum toward the accomplishment of military objectives. The outcome of this phase is an opponent unable or unwilling to resist the installation of conditions aligned with US interests. After installing these conditions, the weight of effort transitions to generating or maintaining a stable environment.⁶⁰

In the Stabilize phase, Phase 4, military forces take actions to ensure the availability of basic governance, and services to the population. The operations reduce military and civil threats to a level manageable by legitimate civil authorities. Phase 4 often requires extensive coordination with other US government and international agencies until civil governance is able

⁵⁷ JP 3-0, IV-27.

⁵⁸ JP 3-0, IV-27.

⁵⁹ JP 3-0, IV-28.

⁶⁰ JP 3-0, IV-28.

to maintain conditions.⁶¹ Once the civil authorities demonstrate the capacity to maintain the conditions established by US intervention, the transition to complete civil autonomy begins.

Phase 5, the Enable Civil Authority phase, initiates a role reversal between military and civil authorities. The legitimate civil authority assumes leadership of efforts while military forces provide support to the authority. In this phase governance and provision of essential services expands into the population to the greatest extent possible. Successful completion of Phase 5 generally constitutes the completion of the military mission.⁶² These phases reflect the joint operating concepts.

Paralleling the way that the joint operating concepts encompass the spectrum of conflict, the phases reflect the concepts. Phases 0 and 1 attempt to structure the environment in a similar fashion as the deterrence and homeland defense concepts imply. Phases 2 and 3 are the direct application of the major combat operations concept, although the irregular warfare concept may also apply to these phases. The primary arena for both the irregular warfare and stability operations concepts are Phases 4 and 5, however. The examination of the phases, therefore, demonstrates the linkage directly to the spectrum of conflict and, consequently the nature of war from which the spectrum originates. Each service bases its doctrine on this joint foundation, but each service interprets the foundation uniquely.

The View From The Army's Foxhole

The Future of Warfare

The Army views itself as the decisive instrument in military conflicts with the duty to fight and win America's wars.⁶³ Driven by that perception, the Army adapts to changes in

⁶¹ JP 3-0, IV-29.

⁶² JP 3-0, IV-29.

⁶³ US Government, Field Manual 1 *The Army*, (Washington DC, Department of Defense, 2005), 1-1.

strategic guidance and the evolution of warfare to remain capable of providing decisive effects. The evolution of warfare from the third generation to the fourth generation prompted the release of new strategic guidance. That guidance came in the form of DOD Directive 3000.05 *Military Support for Stability, Security, Transition, and Reconstruction Operations* (DODD 3000.05) and in the 2006 Quadrennial Defense Review Report (QDR). Each document provided specific guidance that shaped the Army's vision of future warfare and provoked changes to the acquisition, training and leadership development conducted by the Army.

DODD 3000.05 initiated a paradigm shift in the focus of Army operations. The directive stated that stability operations are a primary mission of all DOD agencies. Consequently, it directed all agencies prepare for that mission with equal effort as for combat operations. Further, it dictated changes in military planning, training, education, and execution to include stability operations as a primary concern.⁶⁴ This specific guidance represented a marked shift from the nearly exclusive focus on combat operations previously pervasive in the US military.⁶⁵ This document also foretold another, the QDR.

The QDR report further delineated the changes driven by the evolution of warfare. The QDR explained that the DOD needed a transition away from the current conventional capabilities toward capabilities better suited to engage irregular, catastrophic, and disruptive threats. The QDR then specifically directed US military ground forces to become as proficient in irregular warfare, including counterinsurgency and stability operations, as they are in traditional combat operations. The QDR only dictated such a broad mission shift to ground forces, thus this change

⁶⁴ US Government, Department Of Defense Directive 3000.05 *Military Support to Stability, Security, Transition, and Reconstruction Operations*, (Washington DC, Department of Defense, 2005).

⁶⁵ Lawrence A. Yates, Global War on Terrorism Occasional Paper 15 *The US Military's Experience in Stability Operations 1789-200*, (Fort Leavenworth, Combat Studies Institute Press, 2006), 21-22.

encompassed the entirety of the directed shift toward non-traditional warfare.⁶⁶ Reflecting the guidance from these documents, the Army began a transition toward increasing those capabilities.

Informed by the DODD 3000.05 and the QDR, General George Casey, US Army Chief of Staff, provided the House of Representatives Armed Services Committee (HASC) his view of the future of warfare. In September 2007, he described the future of warfare as “protracted confrontation among state, non-state, and individual actors that use violence to achieve their political and ideological ends.” These actors, he stated, will use multiple avenues to exploit populations and to gain control of lands or resources. He continued by asserting that they may use asymmetric or indirect techniques, including hiding among non-combatant populations, to address known conventional disadvantages. He postulated that they would use prolonged, variable-intensity conflict strategies intended to diminish the US political will to resist their efforts. To counter this future, the Army is currently focusing on counterinsurgency operations and allowing capability in more violent levels of conflict to diminish. The Army is also changing skill sets from traditional combat skills to those that are critical in this environment.⁶⁷ The increased emphasis and size of civil affairs and psychological operations forces as well as those forces associated with information operations and reconstruction reflect this shift. While the total force size is increasing, the enhancement in non-traditional capabilities also comes at the expense of traditional conventional forces and significant reductions in some areas are expected.⁶⁸ The Army’s leadership sees a future similar in description to fourth-generation irregular warfare stability operations and doctrine reflects this change.

⁶⁶ US Government, Quadrennial Defense Review Report, (Washington DC, Department of Defense, 2006), 19, 42-48.

⁶⁷ House Armed Services Committee, Hearing on the Army’s Strategic Imperatives, 110th Congress, 1st sess., 2007.

⁶⁸ Richard Cody, Address to Advanced Military Studies Program students, (lecture, US Army School of Advanced Military Studies, Fort Leavenworth, KS, 9 January 2008).

The doctrinal manifestation of the changing emphasis is in the newest version of the Army's Field Manual 3-0 *Operations: Full-Spectrum Operations* (FM 3-0). This manual is one of the Army's two capstone documents and provided guidance for the conduct of Army efforts. The seminal passage occurred in the introduction and established the foundation for the remainder of the manual. The manual stated:

At the operational and tactical levels, Army doctrine now gives equal importance to tasks dealing with the population—stability or civil support—as to those related to offensive and defensive operations. This parity is critical; it recognizes that conflict involves more than combat between armed opponents. While defeating the enemy with offensive and defensive operations, Army forces simultaneously shape the broader situation through nonlethal actions to restore security and normalcy to the local populace.

Soldiers operate in the midst of populations, not adjacent to them or above them. They often face the enemy among noncombatants, with little to distinguish one from the other until combat erupts. Killing or capturing enemy fighters while in close proximity to noncombatants complicates land operations exponentially. Winning battles and engagements is important, but alone is not sufficient. Shaping the civil situation is just as important to success. Informing and influencing public opinion and perceptions is central to mission accomplishment. Within the context of current operations worldwide, stability operations are often as important as—or more important than—offensive and defensive operations.⁶⁹

This section redefined the distribution of the Army's weight of effort. The specified equality between combat and non-combat missions contrasted sharply with previous guidance. The 2001 version of the same manual stated, "The doctrine holds warfighting as the Army's primary focus and recognizes that the ability of Army forces to dominate land warfare also provides the ability to dominate any situation in military operations other than war."⁷⁰ Analysts called this the doctrine of the "lesser-included case".⁷¹ The stark difference in the conception of the role of the

⁶⁹ US Government, *Field Manual 3-0 Operations: Full-Spectrum Operations*, (Washington, DC, Department of Defense, 2008), vii.

⁷⁰ US Government, *Field Manual 3-0 Operations*, (Washington, DC, Department of Defense, 2001), vii.

⁷¹ Jennifer Taw, David Persselin, Maren Leed, *Meeting Peace Operations Requirements While Maintaining MTW Readiness*, (Santa Monica, CA, RAND, 1998), 3.

Army reflects the developing understanding of the challenges posed by the evolution of warfare. Examination of the Army's force structure and equipment decisions reflects similar thinking.

Forces and Equipment

The force structure and equipment decisions implemented by the Army also reflected the transition of the Army from a major combat operations focused-force toward a force more appropriate to the Army's vision of the future of warfare. The force structure changes indicated the creation of an expanded set of stability capabilities while reducing the traditional combat forces. Equipment decisions included the cancellation of major weapons system programs, a refit of current systems for extended longevity, and a reduced modernization program. In each case, the decisions moved the Army away from third-generation warfare and toward capabilities in fourth-generation irregular warfare and stability operations. The Army committed to this change by directing a rebalancing of the force.

Between the fiscal years 2003 and 2013, the Army is transitioning one hundred sixty thousand personnel into fields appropriate for the conduct or support of stability operations and fourth-generation warfare. Those changes include increases of ninety-four percent for psychological operations forces, thirty-nine percent for military police forces, thirty-six percent for civil affairs forces, and nineteen percent for infantry forces. Other capabilities, including military intelligence and special operations forces, also increased significantly. Either an increase in Army end strength or a reduction in another area must offset each of these increases. While the total Army force is increasing by more than seventy-four thousand personnel, the remainder of the transition results from reductions.⁷² Forces focused on traditional combat operations, including armor, field artillery, combat engineers, and air defense artillery provide a substantial

⁷² Cody.

portion of the remainder.⁷³ The Army's recent history of acquisition and modernization decisions also reflects this shift.

Decisions regarding Army equipment also demonstrate a transition toward irregular warfare and stability operations. The Army's plan includes resetting current equipment to extend longevity, cancelling programs determined unfit for the new model of warfare, and a limited modernization program, hedged to support irregular warfare during its development and production. While each of these is indicative of the shift, the refit program demonstrates that it is, at best, the maintenance of the status quo.

The Army is spending more than seventeen billion dollars to return combat capability to the force. There are three levels of the reset process, repair, recapitalize, and replace. Repair functions return lightly damaged equipment to service without removing it from the field. Recapitalization is the process of repairing older pieces of equipment to original capability. The intention of this process is to extend the useful service life of equipment at minimal cost. The Army intends to recapitalize more than two hundred ninety thousand pieces of equipment, including Abrams tanks, Apache helicopters, and light vehicles. While the recapitalization program returns equipment to original status, it does not specifically increase capability unless executing a preexisting development plan. The replacement plan also maintains current capability. It does so by procuring new equipment that is identical to equipment deemed destroyed or too expensive to repair. The Army will replace more than fifty thousand pieces of equipment including four hundred sixty-two Abrams tanks and more than nineteen thousand light vehicles.⁷⁴ These actions maintain the status quo rather than increasing capability in major

⁷³ Specific numbers of units and personnel for each category are available from HQDA G-37/FM, but are For Official Use Only and pre-decisional.

⁷⁴ US Government, *Equipping America's Army*, (Washington, DC, Department of Defense, 2007), 14-16.

combat operations, but the cancellation of high profile weapons systems portends the shift away from a major combat operations focus.

The justifications for the cancellation of two major Army weapons systems, the Comanche helicopter and the Crusader artillery system, and the subsequent leveraging of their technologies and budgets, expose the Army's shift away from major combat operations. The DOD cancelled the Crusader, a self-propelled, one hundred fifty-five millimeter artillery system, in May of 2002. The former Secretary of Defense, Donald Rumsfeld, cited a changing view of the future of warfare and requirements to become more precise, lighter, and relevant in a broader array of environments in announcing the cancellation.⁷⁵ Former Deputy Secretary of Defense Paul Wolfowitz added to the cancellation logic by stating that the security environment envisioned during the initiation of the Crusader program, the Cold War, was no longer the relevant context for acquisitions. In the same press briefing, the former Secretary of the Army Thomas White referred to the need for future artillery pieces to function across the full spectrum of conflict, implying the major combat operations focus of the Crusader was too limiting for future conflicts.^{76,77} The Army provided a similar explanation for the cancellation of the Comanche helicopter.

The Army cancelled the Comanche helicopter in February of 2004. The justification for cancellation was an understanding of a changing threat and strategic environment. The then acting Secretary of the Army, Les Brownlee, stated that the expected future warfare environment

⁷⁵ Donald Rumsfeld, "DOD News Briefing – Secretary Rumsfeld" <http://www.defenselink.mil/transcripts/transcript.aspx?transcriptid=3432>, 8 May 2002, (accessed 31 January 2008).

⁷⁶ Paul Wolfowitz and Thomas White, "DOD News Briefing – Deputy Secretary Wolfowitz and Army Secretary White" <http://www.defenselink.mil/transcripts/transcript.aspx?transcriptid=3431>, 8 May 2002, (accessed 31 January 2008).

⁷⁷ Some argue that the cancellation of the Crusader reflected a desire to change to a precision engagement, major combat operations philosophy rather than an expectation of fourth-generation and irregular warfare, but the inclusion of the application to the broader spectrum of conflict belies the exclusivity of that conclusion.

was inconsistent with the capabilities the Comanche provided the Army. General Peter Schoomaker, the Army's Chief of Staff, further explained that the Army designed the Comanche to penetrate a defense heavily reliant on electronic detection capabilities and act as a coordinator of large combat operations. Changes in the strategic and tactical environment reduced both the need for the Comanche's capabilities and its survivability. Additionally, operational experience demonstrated the need to integrate Army helicopter and infantry activities closely.⁷⁸

Consideration of these statements leads to the determination that the Army recognized the reduced need for major combat operations capability. The decisions made regarding the funding for both the Crusader and Comanche were also telling.

In each case, the Army diverted the funding initially allotted for program development. The programs supported with the funds provided some insight into the Army's strategic thinking. The more than fourteen billion dollars made available for use by the Comanche cancellation returned to Army aviation programs. This money funded increasing the number of existing airframes, without developing new models, and several airframe upgrades.⁷⁹ The upgrades, however, focused on survivability in a complex environment. This focus acknowledged that there was little expectation for the clean, linear battlefields of major combat operations; rather, the complex environments of fourth-generation warfare became the expectation.⁸⁰ Together the decisions maintained the force's status quo offensive capabilities while increasing defensive capabilities. The decisions regarding the Crusader's funding were altogether different. Following

⁷⁸ Les Brownlee, Peter Schoomaker and Richard Cody, "Briefing on the restructure and Revitalization of Army Aviation" transcript, <http://www.defenselink.mil/transcripts/transcript.aspx?transcriptid=2122>, 23 February 2004, (accessed 31 January 2008).

⁷⁹ Les Brownlee, Peter Schoomaker and Richard Cody, "Briefing on the restructure and Revitalization of Army Aviation" presentation slides, <http://www.defenselink.mil/news/Feb2004/d20040224armav.pdf>, 23 February 2004, (accessed 31 January 2008).

⁸⁰ Les Brownlee, Peter Schoomaker and Richard Cody.

the cancellation of the Crusader, the Army reallocated nine billion dollars in funding to the Future Combat System (FCS), an entirely new program.⁸¹ Initially this decision appeared to support a focus on major combat operations, but scrutiny of the FCS reveals a significant underlying emphasis on areas of the spectrum well away from major combat.

The Army touts the FCS as capable of operations across the full spectrum of conflict and as the first major Army modernization program in forty years. The system consists of fourteen separate systems intended to share information and operate as an integrated whole. Individual systems, such as the manned combat system and the infantry carrier vehicle replace current traditional forces such as the Abrams tank and Bradley fighting vehicle. Other systems provide situational awareness and standoff effects through sensors, unmanned devices, and indirect fires. Operating together, these systems could provide substantial capability in major combat operations.⁸² Unfortunately, neither the Army's leadership nor the procurement plan indicates major combat as the program's primary focus.

In January 2007, the then Secretary of the Army, Francis Harvey, stated that the Army designed the FCS to provide the exceptional situational awareness key to counterinsurgency operations. He argued that the type of intelligence collection and dissemination capability the FCS provides at the small unit level could stop an insurgency at the pre-insurgency level. If actions do not stop the insurgency from developing, the FCS's capabilities provide unique ability to defeat them through superior intelligence. Finally, he stated that the reduced manning requirement of FCS units releases personnel to increase the size of the infantry, a critical

⁸¹ Stephen Daggett and Amy Belasco, CRS Report for Congress, *Authorizations and Appropriations for FY2003: Defense*, (Washington DC, Congressional Research Service, 2002), 27.

⁸² US Government, *Future Combat Systems (Brigade Combat Team) White Paper*, (Washington, DC, Department of Defense, 2007), 2, 9-15.

capability against insurgencies.⁸³ Together these statements imply an intentional irregular warfare design for the FCS. The procurement process also propagates that impression.

Two aspects of the FCS procurement plan indicate a focus of effort on fourth-generation and irregular warfare. The first aspect is the order of the development and release of FCS components. The second aspect is the total number of units in the planned force of FCS battalions. The development and release order, though, makes the more compelling case for an irregular warfare focus.

The Army divided the procurement plan for the FCS into three graduated releases, called Spin Outs, and a final release. Each Spin Out sends capabilities to current units for use. The first Spin Out provides some limited communications capabilities, unattended sensors, and unmanned indirect fire systems. The second Spin Out provides an active defensive system for vehicles and vehicle-mounted advanced sensors. The third Spin Out provides a developed command and communications network and unmanned ground and air vehicles. Finally, the complete release provides all of the manned vehicles for the system.⁸⁴ The plan places emphasis on protection and intelligence collection over combat force. As noted previously through former Secretary Harvey's comments, the FCS brings those critical capabilities to fourth-generation and irregular warfare. The other indication that the FCS is not major combat operations focused is the small number and slow acquisition rate of planned FCS battalions.

The total Army force is growing to seventy-six brigade combat teams. The FCS will only provide fifteen, or less than twenty percent, of those. Additionally, the Army's planned procurement rate is one unit per year beginning in 2015. Assuming no delays in development or

⁸³ Ann Roosevelt, "FCS Would Bring Significant Advantages to Future Insurgency-Type Operations, Harvey Says", *Defense Daily*, Vol. 233, Iss. 13, 23 January 2007.

⁸⁴ Ralph Doughty, Chair of Army Transformation at the Army Command and General Staff College, interview by author, Fort Leavenworth, KS, 28 September 2007.

acquisition occur, the full weight of the capability of the FCS will not be available until 2030.⁸⁵ When examined holistically, the combination of the release order and final size of the FCS indicates a focus on fourth-generation and irregular warfare rather than third-generation major combat operations. The focus of Army training and leadership development also indicated that shift.

Training and Leadership Development

The Army recognized that the changing nature of warfare required different skill sets, perspectives, and leadership. To acquire those skills the Army's Training and Doctrine Command introduced fourth-generation and irregular warfare and stability operations concepts into several Army training and educational experiences. The leadership philosophy is also growing to include more challenging, non-hierarchical, leadership environments.

While introduction of fourth-generation irregular warfare and stability operations concepts permeate the training and educational experience provided to Soldiers, possibly the best examples come from the Battle Command Training Program (BCTP) and the Combat Training Centers (CTC). The BCTP simulation scenarios changed to include cross-cultural communication, multifaceted insurgent organizations, media scrutiny of Soldier actions, reconstruction planning, and interagency coordination. The resulting program educates staffs in the complex environment of modern warfare. Staffs then apply that education in the CTCs.⁸⁶

The CTCs train Soldiers to conduct their wartime missions in a realistic training environment. The Army changed the CTC scenarios to reflect the expected future of fourth-generation irregular warfare and stability operations. The scenarios include counterinsurgency related requirements, challenging intelligence collection, and interagency interaction. The CTC

⁸⁵ Doughty.

environment includes media relations, increased interaction with culturally appropriate civilians, and complex terrain. The CTCs “shifted their training programs from replicating battles against large formations of mechanized forces to fighting an elusive, asymmetric threat”.⁸⁷ Clearly, this is an application of the transition of Army focus from third-generation major combat operations to fourth-generation irregular warfare and stability operations. The scenarios also provide the opportunity to practice a new aspect of leadership.

Many aspects of leadership remain consistent regardless of the specific situation.⁸⁸ The transition to fourth-generation warfare did not alter the character, knowledge, and desire to act that define leadership. Some skills, however, become more important when dealing with issues resulting from fourth-generation irregular warfare and stability operations. Perhaps the most critical of the newly revalued skills is the ability to influence. Fourth-generation irregular warfare and stability operations place Army leaders into situations where the traditional hierarchal structure, and the leadership model it implies, does not apply. Army leaders are developing the critical skill of influencing across interagency, cultural, and multinational lines. The Army’s Center for Army Leadership is emphasizing this requirement in its instruction and doctrine.⁸⁹

Implication

The Army’s strategic leadership recognized a fundamental change in warfare, the transition from the third generation to the fourth as the dominant condition. Reacting to this change, the Army changed its philosophy of warfare and, subsequently, its doctrine. That

⁸⁶ US Government, Combined Arms Center Posture Statement *Preparing the Army or Counterinsurgency*, (Washington, DC, Department of Defense, February 2006) 5-6, 12-15.

⁸⁷ Combined Arms Center Posture Statement, 15.

⁸⁸ US Government, Field Manual 6-22 *Army Leadership*, (Washington, DC, Department of Defense, 2006), 1-1.

⁸⁹ Angela Karrasch, PhD. Research Psychologist, Leadership Research, Assessment, and Doctrine Division, interview by author, Fort Leavenworth, KS, 18 January 2008.

foundation shaped force structure and equipment decisions, training, and leadership education. The result is a force that is optimizing for irregular warfare and stability operations at the expense of conventional excellence.

The Air Force's Sight Picture

The Future of Warfare

A much different perspective shaped the Air Force view of the future of warfare. In addition to the common canon of military theory, the Air Force relied on a separate group of theories. Early air power theorists predicted that control of the air would be critical in any future conflict. With control of the air, any location on the ground became threatened. The theories continued that applying decisive force to the correct target achieved victory.⁹⁰ Over time, the targets selected vacillated from population, as a means to reduce will to fight, to infrastructure and fielded forces, as a means to frustrate an enemy's strategy or render the enemy unable to support the conflict.^{91,92} Examination of the theories, however, demonstrates a consistent foundation of annihilation. The purpose of air operations was to ensure a quick victory with minimal casualties through a decisive air battle. The Air Force viewed recent historical examples as definitive demonstrations of its dominant position in third-generation warfare major combat operations.

The three critical examples of the dominance of air power were Operation DESERT STORM (ODS), Operation ALLIED FORCE (OAF), and the initial battles of Operation IRAQI

⁹⁰ Julio Douhet, "Command of the Air", *Roots of Strategy, Book 4*, ed. David Jablonsky, (Mechanicsburg, PA, Stackpole Books, 1999), 277, 283, 290, 297.

⁹¹ David Mets, *The Air Campaign: John Warden and the Classical Air Power Theorists*, (Maxwell AFB, AL, Air University Press, 1998), 74-79.

⁹² US Government, Air Force Doctrine Document 2-1.2 *Strategic Attack*, (Washington, DC, Department of Defense, June 2007), 2-4.

FREEDOM (OIF). Each case demonstrated a developing capability for air power to assert dominance in third-generation major combat operations. The scale began tipping during ODS.

Although the effectiveness of the ODS strategic attack operation was, and remains, disputed, attacks from the air dominated Iraqi ground forces. Air attacks destroyed twenty percent of Iraqi heavy military equipment deployed to the Kuwaiti theater of operations and caused more than one hundred thousand desertions and surrenders. The effectiveness of air attacks also minimized the Iraqi's ability to maneuver combat forces and logistics supplies in Kuwait without severe attrition. As a result, much of Iraq's combat capability remained stationary behind revetments until too late to react effectively to coalition ground maneuvers. This combination, regardless of the additional impact of the strategic attack operation or the ferocity of the coalition ground operation, defeated the Iraqi strategy to hold Kuwait and determined the outcome of the conflict.^{93,94} The Air Force achieved this utilizing only eight percent precision-guided munitions.⁹⁵ Such munitions proved ever more critical as air power continued to exert dominance in OAF.

In OAF, the percentage of precision munitions increased to thirty-five percent. This increased the capability to attack specific targets in many environmental conditions. The terrain and a lack of a viable ground threat from North Atlantic Treaty Organization (NATO) forces, however, reduced the effectiveness of air power against fielded forces as compared to ODS. In Kosovo's case, the ability to attack strategic targets undermined the ability of the decision-maker, then Yugoslavian President Slobodan Milosevic, to continue operations without unacceptable risk. Milosevic intended to resist a ground attack, at least initially, but capitulated because of fear

⁹³ Robert Pape, *Bombing to Win*, (Ithica, NY, Cornell University Press, 1996), 241-252.

⁹⁴ Richard Hallion, *Storm Over Iraq*, (Washington, DC, Smithsonian Institution Press, 1992), 264.

⁹⁵ US Government, *Weapons Acquisition: Guided Weapon Plans Need to be Reassessed*, (Washington, DC, General Accounting Office, December 1998), 28.

increasing attack from the air and a reduction in international support for his regime.^{96,97} Air power achieved NATO objectives with little direct influence from ground forces. OIF marked a return to the destruction of ground forces to dominate major combat operations.

During the initial phases of OIF, the percentage of guided munitions increased to sixty-eight percent.⁹⁸ This fact, along with improved targeting capabilities proved overwhelming to Iraqi conventional forces. Air power devastated the cohesion, effectiveness and morale of Iraqi forces. The mere threat of precise strikes forced Iraqi commanders into limited communications and dispersed operations that hindered defense coordination. Once attacks began, morale quickly disintegrated in the Iraqi Army. As an example, the combination of attrition from air attacks and desertion for fear of precise air power dwindled one division from thirteen thousand soldiers to a mere one thousand while losing ninety percent of its armored vehicles to destruction or desertion.⁹⁹ The capabilities also proved lethal to Iraqi forces attempting to reposition during a sand storm. Air forces attacked Iraqi units as they tried to mass or maneuver and devastated Iraqi units over the three-day storm.¹⁰⁰ The depth of air power's success against third-generation warfare major combat operations forces resulted in "a tactical condition whereby coalition ground

⁹⁶ David Johnson, *Learning Large Lessons: The Evolving Roles of Ground Power and Air Power in the Post-Cold War Era*, (Santa Monica, CA, RAND, 2006), 79, 84-85.

⁹⁷ Stephen Hosmer, *The Conflict Over Kosovo: Why Milosevic Decided to Settle When He Did*, (Santa Monica, CA, RAND, 2001), 92-94, 110-111.

⁹⁸ US Government, *Operation IRAQI FREEDOM – By the Numbers*, (Washington, DC, Department of Defense, 2003), 11.

⁹⁹ Kevin Woods, Michael Pease, Mark Stout, Williamson Murray, and James Lacey, *Iraqi Perspectives Project: A View of Operation Iraqi Freedom From Saddam's Senior Leadership*, (Washington, DC, Department of Defense,), 125-126, 128-129

¹⁰⁰ Williamson Murray and Robert Scales, *The Iraq War*, (Cambridge, MA, Harvard University Press, 2003), 171-173.

forces never faced large conventional Iraqi formations”.¹⁰¹ From this history, the Air Force formulated its view of the future.¹⁰²

Although the Army and Air Force utilized the same joint doctrine, each service emphasized different aspects in its formulation of the future. While the Army focused on the ability to fight fourth-generation and irregular warfare, the Air Force maintained its focus on third-generation and conventional warfare while developing a small set of critical fourth-generation skills. Guidance provided by Air Force senior leaders, Air Force doctrine, and Air Force acquisitions perpetuate that primary focus. The clearest statement of that focus was the Secretary of the Air Force Michael Wynne’s testimony before the HASC.

On 24 October 2007, the Secretary testified before the HASC regarding Air Force strategic initiatives. His statement clarified the Air Force’s position on its role in future conflicts. He stated that the Air Force must maintain air dominance as a vital national security necessity. To maintain that capability the Air Force would husband the advantages it currently enjoys over competitors while developing capabilities in the space and cyberspace domains. Additionally, he warned against risking the strategic advantage provided by air power to support the current war effort.¹⁰³ The priority given the maintenance of air dominance reflected an understanding that in dominance of third-generation warfare lay the core Air Force mission. The current Chief of Staff White Paper on strategy also reflected this prioritization.

The December 2007 Chief of Staff White Paper on strategy introduced the concept of cross-dimensional dominance. This concept advocated the extension or creation of dominant

¹⁰¹ Johnson, 115.

¹⁰² James Corum and Wray Johnson examine a parallel history of airpower in small wars in their book, *Airpower in Small Wars: Fighting Insurgents and Terrorists*. They argue that airpower has significant ability to influence the conduct of conflict and the success of forces in small wars. This history, however, does not appear as the dominant background for the Air Force’s vision of the future of warfare.

¹⁰³ House Armed Services Committee, Hearing on the Air Force’s Strategic Initiatives, 110th Congress, 1st sess., 2007.

capability across the air, space, and cyberspace mediums. The paper stated that all US military forces must consider the changing environment, including irregular warfare, but that significant conventional threats are developing that require concern. Other world powers are developing and proliferating advanced conventional capabilities that pose a threat to US dominance in conventional warfare. He directed continued development of conventional capability while creating capability to dominate the cyberspace arena.¹⁰⁴ The implications of the paper are a clear focus on assuring continued conventional dominance while creating the cyberspace skills needed in fourth-generation warfare. Air Force doctrine also demonstrates the focus on third-generation warfare.

The most telling aspect of Air Force doctrine as it relates to fourth-generation and irregular warfare is its lack of regard for them. Two cases demonstrate this most effectively. The first is the fact that the Air Force's capstone doctrinal document, Air Force Doctrine Document 1, has not changed since 2003, before the NDS's or JOE's emphasis on fourth-generation and irregular warfare. The second case is the doctrine produced to address irregular warfare, Air Force Doctrine Document 2-3, Irregular Warfare (AFDD 2-3). Examination of AFDD 2-3 reveals a paucity of new skills or requirements. Instead, the document explains how to apply current skill sets to an irregular environment. Unlike the Army's need to develop a broader array of skills and education to address fourth-generation and irregular warfare, outside the cyberspace domain the Air Force's skills do not change when applied to fourth-generation and irregular warfare. Improving those capabilities, regardless of the application environment, is the purpose of the Air Force's acquisition plan.

¹⁰⁴ T. Michael Moseley, *Chief of Staff White Paper: The Nation's Guardians – America's 21st Century Air Force*, (Washington, DC, Department of Defense, December 2007), 2, 4-6.

Acquisitions

Air Force acquisitions priorities provided a clear avenue to assess the service's view of the future of conflict. The F-22, an air dominance fighter, remained the number one Air Force acquisition priority until the Air Force guaranteed multiyear funding for the program in 2006.¹⁰⁵ The Air Force designed the F-22 to penetrate heavily defended regions and conduct offensive counterair attacks in an air-to-air or air-to-surface role.¹⁰⁶ Once the Air Force secured the future of the F-22, procurement priorities changed to other third-generation, major combat operations capabilities. The 2007 Air Force Posture Statement specified the replacement air refueling tanker as the new top priority. Following that were the replacement combat search-and-rescue helicopter, a set of space-based intelligence and communications systems, the F-35 multi-role fighter, and a new bomber.¹⁰⁷ Each of these systems has application to the fourth-generation and irregular warfare arenas, but their primary functions are associated with the defeat of traditional forces.

Implication

The Air Force views the future of warfare from the perspective of a service that dominates third-generation warfare. The Air Force recognized that changes in warfare required the development of some new capabilities and responded with the development of the Cyber command. With this beginning, it intended to foray into the information domain that is critical to fourth-generation warfare. The majority of its efforts, however, focus on continuing to maintain a

¹⁰⁵ Todd Lopez, "Tanker hits top of the charts for recapitalization priority" <http://www.af.mil/news/story.asp?id=123029037>, Air Force Print News, 13 October 2006, (accessed 6 February 2008).

¹⁰⁶ US Air Force F-22 Raptor Factsheet <http://www.af.mil/factsheets/factsheet.asp?id=199>, (accessed 6 February 2008).

¹⁰⁷ US Government, *2007 US Air Force Posture Statement*, (Washington, DC, Department of Defense, 2007), 25.

substantial lead in the dominance of conventional warfare. Statements by Air Force leaders, doctrine, and acquisition priorities indicate the Air Force's continuing belief that its role is supremacy in the continuing advancements of third-generation warfare.

Conclusions and a Caution

The Air Force and Army are preparing for two different futures. The Army's future consists of the ugly, dirty, unpredictable fourth-generation irregular warfare fight and stability operations. The Army recognizes the need to maintain third-generation warfare capability, but is willing to sacrifice some of that capability to develop the skills and education needed to achieve objectives in fourth-generation warfare. The Air Force's future recognizes the need to provide a few critical skills to fourth-generation conflicts, but focus on maintaining the dominance of third-generation conflicts. The Air Force's guidance and acquisition plan demonstrates a philosophy that, with a few exceptions, the same Air Force skills apply to both fourth-generation and third-generation warfare. The Air Force is leveraging the Army's "lesser included" doctrine in this philosophy. Since the services are preparing for different futures, what are the implications of the divergent paths?

The different views create complimentary capability in national defense. The services combine to provide decisive capability across the spectrum of conflict. In irregular warfare and stability operations, arenas where the strengths of the Air Force are less deterministic of successful outcomes, the Army is creating the capability to accomplish national objectives. In planning terms, the Army is preparing for the enemy's most likely course of action. The Air Force must accept a supporting role in this environment. The Army will directly interact with populations, build relationships, and host nation capability to defeat ideologies and insurgencies. The Air Force will enable that effort by providing critical air mobility, intelligence, and, when called, overwhelming firepower. The Air Force will also support the effort in the global information environment through its Cyber Command. Together the services provide the correct

array of capabilities to address the challenges of fourth-generation irregular warfare and stability operations. The roles will be reversed, somewhat, in third-generation major combat operations.

On several occasions, the Air Force demonstrated decisive capability against conventional forces. It may not be able to provide such success completely alone. Ground forces provide critical operational maneuvers that drive opponents to expose themselves to lethal Air Force firepower. They also provide critical targeting information to Air Force assets. The Army will always be required to occupy territory, but if planners appropriately orchestrate the operation, the Air Force will provide decisive firepower, reducing the enemy below any need for large-scale conventional Army operations. In properly executed third-generation major combat operations, the Army should not face an enemy capable of engaging in a decisive battle. Simply put, the Air force will provide the open door; the Army just has to walk through it. In doing so, the Air Force is preparing for the enemy's most dangerous course of action.

The Air Force and Army provide complimentary capabilities across the spectrum of conflict and address both the most likely and most dangerous enemy courses of action. To accomplish this, the Army is reducing some capability in third-generation major combat while the Air Force is continuing to develop unprecedented capability in that arena. The Army is developing the ability to accomplish national objectives in the less violent portions of the spectrum of conflict. The Air Force is providing support where the service's strengths allow. This combination is the epitome of joint interdependence. Joint Publication 1 defines joint interdependence as "the purposeful reliance by one service on another service's capabilities to maximize complimentary and reinforcing effects of both".¹⁰⁸ This balance of capability across the spectrum of conflict brings joint interdependence from the operational to the strategic level. The US must be careful, however, not to remove too much conventional capability from the Army.

¹⁰⁸ JP 1, I-2.

The 2006 war between Israel and Hezbollah in Lebanon provided an object lesson in the danger of moving ground forces too far toward irregular warfare and stability operations. Following the 2006 action, Israel commissioned several committees to examine the conflict. Some of the findings determined that the Israeli Defense Force's focus on counterinsurgency and stability operations, to the detriment of higher-end combat skills led to an atrophy of those skills. The Israeli Army failed to seize initiative and, relying on their experience in irregular warfare and stability operations, often avoided offensive operations. This mentality is congruent with a force trained to minimize the negative effects of violence on a population it intends to influence. The ground forces also struggled to coordinate large operations requiring armor, engineer, and Air Force cooperation to achieve success. Finally, the logistics forces were unable to provide sufficient supplies for major combat operations after executing the lower requirements of stability operations for several years.¹⁰⁹ These failures resulted from an army balanced too far toward irregular warfare and stability operations and an overly optimistic view of the capability of an air force to provide decisive results in complex terrain.¹¹⁰ US forces must avoid both the atrophy of critical ground fighting skills and the hubris of total reliance on air power. Striking a balance of capability across the spectrum of conflict in each service is the challenge facing senior leaders for the foreseeable future.

¹⁰⁹ Anthony Cordesman, *Lessons of the 2006 Israeli-Hezbollah War*, (Washington, DC, Center for Strategic and International Studies, 2007), 91-93.

¹¹⁰ Winograd Committee Final Report English Summary <http://www.nytimes.com/2008/01/30/world/middleeast/31winograd-web.html?pagewanted=print>, New York Times, 30 January 2008, (accessed 6 February 2008).

BIBLIOGRAPHY

- Brownlee, Les, Peter Schoomaker and Richard Cody, "Briefing on the restructure and Revitalization of Army Aviation" presentation slides, <http://www.defenselink.mil/news/Feb2004/d20040224armav.pdf>, 23 February 2004, (Accessed 31 January 2008).
- Brownlee, Les, Peter Schoomaker and Richard Cody. "Briefing on the restructure and Revitalization of Army Aviation" transcript, <http://www.defenselink.mil/transcripts/transcript.aspx?transcriptid=2122>, 23 February 2004. (Accessed 31 January 2008).
- Charter of the United Nations. <http://www.un.org/aboutun/charter/index.html>. (Accessed 3 January 2008).
- Clausewitz, Carl. *On War*. Translated and edited by Michael Howard and Peter Paret. Princeton, NJ: Princeton University Press, 1976.
- Cody, Richard. Address to Advanced Military Studies Program students. Lecture, US Army School of Advanced Military Studies, Fort Leavenworth, KS, 9 January 2008.
- Corum, James and Wray Johnson. *Airpower in Small Wars: Fighting Insurgents and Terrorists*. Lawrence, KS. University of Kansas Press, 2003.
- Craig, Gordon. "Delbrück: The Military Historian", *Makers of Modern Strategy*. Edited by Edward Earle. Princeton, NJ: Princeton University Press, 1943.
- Creveld, Martin van. *The Transformation of War*. New York, NY: Macmillan Incorporated, 1991.
- Cordesman, Anthony. *Lessons of the 2006 Israeli-Hezbollah War*. Washington, DC. Center for Strategic and International Studies, 2007.
- Daggett, Stephen and Amy Belasco. CRS Report for Congress, *Authorizations and Appropriations for FY2003: Defense*. Washington DC. Congressional Research Service, 2002.
- Delbrück, Hans. *The History of the Art of War, IV*. Translated by Walter Renfroe. Westport, CT: Greenwood Press, 1985.
- Douhet, Julio. "Command of the Air", *Roots of Strategy, Book 4*. Edited by David Jablonsky. Mechanicsburg, PA. Stackpole Books, 1999.
- Easton, David. *The Political System: An Inquiry into the State of Political Science*. New York, NY. Alfred A. Knopf, 1953
- Echavarria II, Antulio. *Fourth-Generation War and Other Myths*. Strategic Studies Institute, <http://www.strategicstudiesinstitute.army.mil/pdffiles/PUB632.pdf>, 2005. (Accessed 10 January 2008).
- Gat, Azer. *War in Human Civilization*. New Yory, NY: Oxford University Press, 2006.
- Hallion, Richard. *Storm Over Iraq*. Washington, DC. Smithsonian Institution Press, 1992.
- Hammes, Thomas. *The Sling and The Stone*. St. Paul, MN: Zenith Press, 2004.
- Harper, David, "Targeting the American Will and Other Challenges for 4th-Generation Leadership", *Military Review* (March-April 2007): 94-104.
- Hinde, Robert. "A Note on Patriotism and Nationalism", *The Institution of War*. Edited by Robert Hinde. New York, NY: St. Martin's Press, 1992.

- Hobbes, Thomas. *Leviathan*. Public Domain <http://www.gutenberg.org/dirs/etext02/lvthn10.txt>, 1651. (Accessed 20 December 2007).
- Hosmer, Stephen. *The Conflict Over Kosovo: Why Milosevic Decided to Settle When He Did*. Santa Monica, CA. RAND, 2001.
- Johnson, Dana, Scott Pace, C. Bryan Gabbard. *Space: Emerging Options for National Power*, RAND http://www.rand.org/pubs/monograph_reports/MR517/, 1998. (Accessed 5 January 2008).
- Johnson, David. *Learning Large Lessons: The Evolving Roles of Ground Power and Air Power in the Post-Cold War Era*. Santa Monica, CA. RAND, 2006.
- Klare, Michael. *Resource Wars*. New York, NY. Metropolitan Books, 2001.
- Lind, William, Keith Nightengale, John Schmitt, Joseph Sutton, and Gary Wilson, "The Changing Face of War: Into the Fourth Generation", *Marine Corps Gazette* (October 1989): 22-26.
- Lopez, Todd. "Tanker hits top of the charts for recapitalization priority" <http://www.af.mil/news/story.asp?id=123029037>, Air Force Print News, 13 October 2006. (Accessed 6 February 2008).
- Mets, David. *The Air Campaign: John Warden and the Classical Air Power Theorists.*, Maxwell AFB, AL. Air University Press, 1998.
- Michael, T. Moseley. *Chief of Staff White Paper: The Nation's Guardians – America's 21st Century Air Force*. Washington, DC. Department of Defense, December 2007.
- Murray, Williamson and Robert Scales. *The Iraq War*. Cambridge, MA. Harvard University Press, 2003.
- Pape, Robert. *Bombing to Win*. Ithica, NY. Cornell University Press, 1996.
- Patai, Raphael. *The Arab Mind*. Long Island City, NY. Hatherleigh Press, 2002.
- Roosevelt, Ann. "FCS Would Bring Significant Advantages to Future Insurgency-Type Operations, Harvey Says", *Defense Daily*, Vol. 233, Iss. 13. 23 January 2007.
- Rousseau, Jean Jacques. *A Discourse Upon the Origins and Foundation of the Inequality Among Mankind*, Public Domain <http://www.gutenberg.org/files/11136/11136.txt>, 1755. (Accessed 20 December 2007).
- Rumsfeld, Donald. "DOD News Briefing" <http://www.defenselink.mil/transcripts/transcript.aspx?transcriptid=3432>, 8 May 2002. (Accessed 31 January 2008).
- Svechin, Aleksandr. *Strategy*. Translated and edited by Kent Lee. Minneapolis, MN: East View Publications, 1992.
- Taw, Jennifer, David Persselin, Maren Leed. *Meeting Peace Operations Requirements While Maintaining MTW Readiness*. Santa Monica, CA. RAND, 1998.
- Toffler, Alvin and Heidi. *War and Anti-War*. Boston, MA. Little, Brown and Company, 1993.
- US Air Force F-22 Raptor Factsheet <http://www.af.mil/factsheets/factsheet.asp?id=199>. (Accessed 6 February 2008).
- US Congress. House. House Armed Services Committee Hearing on the Army's Strategic Initiatives. 110th Congress, 1st Session, 26 September 2007. <http://hascaudio.house.gov/FC092607.wma>. (Audio file accessed 28 January 2008)

- US Congress. House. House Armed Services Committee Hearing on the Air Force's Strategic Imperatives. 110th Congress, 1st Session, 24 October 2007.
<http://armedservices.edgeboss.net/wmedia/armedservices/fc102407.wvx>. (Video file accessed 5 February 2008)
- US Government. *2007 US Air Force Posture Statement*. Washington, DC. Department of Defense, 2007.
- US Government. Air Force Doctrine Document 1 *Air Force Basic Doctrine*. Washington, DC. Department of Defense, November 2003.
- US Government. Air Force Doctrine Document 2-1.2 *Strategic Attack*. Washington, DC. Department of Defense, June 2007.
- US Government. Air Force Doctrine Document 2-3 *Irregular Warfare*. Washington, DC. Department of Defense, August 2007.
- US Government. Combined Arms Center Posture Statement *Preparing the Army or Counterinsurgency*. Washington, DC. Department of Defense 2006.
- US Government. *Capstone Concept for Joint Operations Ver 2.0*. Washington, DC. Department of Defense, 2005.
- US Government. Department of Defense Directive 3000.05 *Military Support to Stability, Security, Transition, and Reconstruction Operations*. Washington DC. Department of Defense <http://www.dtic.mil/whs/directives/corres/pdf/300005p.pdf>, 2005. (Accessed 22 January 2008).
- US Government. *Department of Defense Homeland Defense and Civil Support Joint Operating Concept Ver 2.0*. Washington, DC. Department of Defense, 2007.
- US Government. *Deterrence Operations Joint Operating Concept Ver 2.0*. Washington, DC. Department of Defense, 2006.
- US Government. *Equipping America's Army*. Washington, DC. Department of Defense, 2007.
- US Government. Field Manual 1 *The Army*. Washington DC. Department of Defense, 2005.
- US Government. Field Manual 3-0 *Operations*. Washington, DC. Department of Defense, 2001.
- US Government. Field Manual 3-0 *Operations: Full-Spectrum Operations*. Washington, DC. Department of Defense, 2008.
- US Government. Field Manual 6-22 *Army Leadership*. Washington, DC. Department of Defense, 2006.
- US Government. *Future Combat Systems (Brigade Combat Team) White Paper*. Washington, DC. Department of Defense, 2007.
- US Government. *Irregular Warfare Joint Operating Concept Ver 1.0*. Washington, DC. Department of Defense, September 2007.
- US Government. *Japan: a country study*. Washington, DC. Department of Defense, 1992.
- US Government. *Joint Operational Environment: The World Through 2030 and Beyond*. Washington, DC. Department of Defense, December 2007 Living Draft.
- US Government. Joint Publication 1 *Doctrine for the Armed Forces of the United States*. Washington, DC. Department of Defense, 2007.

- US Government. Joint Publication 3-0 *Joint Operations*. Washington, DC. Department of Defense, 2006.
- US Government. *Major Combat Operations Joint Operations Concept Ver 2.0*. Washington, DC. Department of Defense, December 2006.
- US Government. *Military Support to Stability, Security, Transition, and Reconstruction Operations Joint Operating Concept Ver 2.0*. Washington, DC. Department of Defense, December 2006.
- US Government. *National Defense Strategy*. Washington, DC. Department of Defense, September 2005.
- US Government. *Operation IRAQI FREEDOM – By the Numbers*. Washington, DC. Department of Defense, 2003.
- US Government. *Quadrennial Defense Review Report*. Washington DC. Department of Defense, 2006.
- US Government. *Weapons Acquisition: Guided Weapon Plans Need to be Reassessed*. Washington, DC. General Accounting Office. December 1998.
- Winograd Committee Final Report English Summary
<http://www.nytimes.com/2008/01/30/world/middleeast/31winograd-web.html?pagewanted=print>. New York Times. 30 January 2008. (Accessed 6 February 2008).
- Wolfowitz, Paul and Thomas White. “DOD News Briefing – Deputy Secretary Wolfowitz and Army Secretary White”
<http://www.defenselink.mil/transcripts/transcript.aspx?transcriptid=3431>, 8 May 2002. (Accessed 31 January 2008).
- Yates, Lawrence A. Global War on Terrorism Occasional Paper 15 *The US Military’s Experience in Stability Operations 1789-200*. Fort Leavenworth, KS: Combat Studies Institute Press, 2006.