

STAFF SUMMARY SHEET

	TO	ACTION	SIGNATURE (Surname), GRADE AND DATE		TO	ACTION	SIGNATURE (Surname), GRADE AND DATE
1	DFMI Dept Head	approve	<i>[Signature]</i> Col 22 Aug 13	6			
2	DFER	review	<i>[Signature]</i> Col 22 Aug 13				
3	DFMI	action		8			
4				9			
5				10			

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SUMMARY

1. PURPOSE. To provide security and policy review for the attached book chapter prior to public release.

2. BACKGROUND.

Author: LTC Brook Lee, USA (DFMI, 333-3248)

Title: Future Battles and the Development of Military Concepts

Abstract: This critique of the joint US Air Force/Navy Air-Sea Battle concept focuses on the likeness of this concept to the Air Land Battle concept dating from the Cold War era. The author maintains that such an approach is tied to old ways of thinking; the world has changed since the end of the Cold War and advent of the Global War on Terror. Thus, a new concept of operations is needed. LTC Lee proposes that the John Warden "5-Rings" model which treats the "enemy as a system" provides an initial construct for a new model, though he suggests a three-dimensional representation of the rings (rather than the two dimensions of Warden's theory) approach with a focus on systemic vulnerabilities. As Warden suggests, the main objective is to effect both the enemy's will and means, and as we've learned through fighting the insurgencies in Iraq and Afghanistan, winning the hearts and minds of the population is as important to winning as destroying the enemy's ability to fight.

Release Information: To be submitted to Joint Forces Quarterly for potential publication.

3. DISCUSSION. LTC Lee has researched and composed his thoughts while engaged teaching the MSS core sophomore course which focus upon military theory and strategy.

4. VIEWS OF OTHERS. N/A

5. RECOMMENDATION. Dept Head sign approval block and DFER sign review block indicating book chapter is suitable for public release. Suitability is based on the document being unclassified, not jeopardizing DOD interests, and because of the release statement which will subsequently be contained therein, stating: "The views expressed in this publication are those of the author and do not necessarily reflect the official policy of the Department of the Air Force, Department of Defense, or the US Government."

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Attach
LTC Lee's article

Future Battles and the Development of Military Concepts

By Lieutenant Colonel Brook Lee, U.S. Army

In light of the recent past, the current world economic and social state, along with anticipated future flash points around the globe; a new military operational concept titled Air-Sea Battle, is likely to prove inadequate and will woefully prepare the United States military to counter and abate multiple global crises.

With the conclusion of the war in Iraq, along with Afghanistan quickly winding down, and the Department of Defense (DOD) reeling from the budget cuts known as “sequester,” each service is cautiously jockeying, both internally and externally, for its piece of a reduced budget in order to prepare for an uncertain future. As the individual services and the DOD as a whole struggle to train, recover and refurbish war-torn equipment, and purchase future combat systems; the fundamental question that should drive this process remains unanswered: “what strategic interests and areas need to be protected in the years ahead, and most importantly, how do we mold our military to protect them?” These questions should drive strategy, doctrine, training, equipment procurement, and finally, budget requirements to prepare personnel and equipment to accomplish anticipated tasks. Though this question may seem simple, history has demonstrated that predicting the correct answer is quite elusive. First, if the response turns out to be incorrect for what the future holds or the administration deems necessary, the military will be ill prepared to accomplish the required tasks. Secondly, efforts to predict future military threats, or more specifically, areas of conflict requiring military involvement and the nature of those conflicts, have often failed and left the military marginally prepared (technically, tactically, materially, and conceptionally) to execute the tasks assigned. The myriad of challenges faced in Vietnam, during the Iraq insurgency, and ongoing in Afghanistan all highlight this point. Thirdly, preparing for a specific threat may prevent or dissuade adversaries from actual conflict if they realize that our strategy, resources, capabilities, and will are superior, but at the cost of narrowly focusing military personnel, training, and equipment towards accomplishing a specific set of tasks, while neglecting preparations to counter or subvert other extraneous threats. The significance is that the current DOD budget cuts are overshadowing the needed discussion and creation of a viable, dynamic, full ranging, and all service military strategy for the future.

The New Concept

The current outlook is the Air-Sea Battle concept established in September 2009 by the signing of a classified document by the US Air Force Chief of Staff and the Navy’s Chief of Naval Operations which has steadily gained traction within the DOD and government. The new operational concept created the dual service Air-Sea Battle Office at the Pentagon which is tasked to flesh-out and operationalize the concept.¹ While the new concept is still in its infancy and hidden behind a secret classification to protect its specific details, an unclassified briefing

from the Air-Sea Battle Office titled: “Overview of the Air-Sea Battle Concept”, two papers from the Center for Strategic and Budgetary Assessments (CSBA), and several journal articles provide significant details on its range and scope.² At its core, the concept focuses military forces on subverting the developing Anti-Access/Area Denial (A2/AD) measures in the Asia Pacific area. These measures are specifically designed to “challenge and threaten the ability of U.S. and allied forces to both get to the fight and to fight effectively once there.”³ Though stated as “not designed to threaten other nations,” the two papers from the CSBA clearly articulate that the rapidly developing A2/AD capabilities of mainly China, and also Iran, are the primary focus at the center of the new concept.⁴ The concept is overall designed around “highly integrated and tightly coordinated operations across warfighting domains” centered on a “networked, integrated, and attack-in-depth” methodology specifically designed to defeat A2/AD capabilities.⁵

Overall, Air-Sea Battle appears to be an updated and modernized rewrite of the Army’s AirLand Battle concept that was designed to counter the Soviet military threat to Eastern Europe in the 1970s and 1980s. During the 1970s and 1980s, strategists and military theorists realized that the Army and the Air Force were not capable of defeating the Warsaw Pact on their own. Consequently, the Army under General William DePuy proposed a joint, Army-Air Force strategy that integrated NATO doctrine to maximize and synergize military capabilities in order to counter Soviet offensive capabilities and deter aggression. Though AirLand Battle is often criticized for only being mildly embraced and implemented by the Army and Air Force, it is seldom praised for what it did achieve: preventing a direct military conflict in Eastern Europe. This argument is one that can potentially be carried forward for the development of Air-Sea Battle, but several cautions should be noted in modeling a future concept upon one from the past. First, modeling a future concept on one from the past potentially makes that concept outdated before it is even implemented. Secondly, the U.S. is not the financial power-house that was in the 1980s with only sluggish improvements being made to a still fragile economic recovery.

Beware of Past Success and What Made Success

“...What works well today will not work well tomorrow precisely because it worked well today” – Edward Luttwak.

America’s peer competitors and adversaries have studied our previous operational concepts to prepare for future conflict, thus gaps and limitations in our strategies will continue to be exploited. Iraq and Afghanistan are stark reminders to the fact that our adversaries will unlikely meet us on the battlefield in a straight forward conventional manner. Secondly, the current context of Air-Sea Battle clearly places it in the realm of a specifically-focused operational concept against A2/AD threats and lacks elements of a true “grand strategy.”⁶ The concept seeks to further battlefield success merely through better joint integration and networked forces, along with serving as a rationale for the Air Force and Navy to justify new and untested combat systems, like the Joint Strike Fighter and the Littoral Combat Ship.⁷

The fundamental flaw in lifting and shifting AirLand Battle to Air-Sea Battle is that the paradigm that made AirLand Battle successful has changed. What ultimately made the United States successful during the Cold War was the ability to raise and spend capital. This allowed the United States to outspend the Soviet Union and forced it into bankruptcy resulting in victory while a valid military operational concept kept the Soviet military in check. This paradigm is no longer valid against China with the current national debt at 16.8 trillion dollars.⁸ The United States and China are too economically intertwined, resulting in an interdependent symbiotic relationship, and with China owning 1.32 trillion dollars or eight percent of the total United States national debt; a conflict between the two countries would result in financial suicide.⁹ Additional fallacies in assuming the next big war will be with China “are compounded by China’s dependence on an export-driven economy, widespread corruption in the public and private sectors, dangerous levels of pollution, ... a growing housing bubble that, like all bubbles, must eventually burst,” an external reliance on many raw materials, and the growing manpower strain from its’ one child policy which will result in nearly every working adult supporting, through their taxes, the retirement of their two parents and four grandparents in the coming years, which all point to a pending decline in China’s ability to project power, let alone rival U.S. dominance on the high seas. An alternate and more plausible future is a world that will require frequent interventions in small scale conflicts like Libya.¹⁰

A Second Possible Future

In his 1994 article, “The Coming Anarchy,” Dr. Robert D. Kaplan states that “the rise of crime, overpopulation, tribalism, and disease are rapidly destroying the social fabric of our planet.”¹¹ He asserts that future military service is likely to involve deployments to multiple small scale city-state conflicts in the Middle-East, Africa, India, Pakistan, and China. Kaplan’s theory, though slightly dated but no less valid, is based on three intricately entwined and compounding factors that will lead to turmoil in the future: “environmental scarcity, cultural and radical clash, and geographic destiny, which will lead to the transformation of war.”¹²

“Environmental scarcity” is the premise that the natural resources are disappearing at an astonishing rate. Deforestation in Sierra Leone has reduced the rain forest from “60 percent in 1961 to six percent” with other African, Asian and Latin American forests suffering the same fate.¹³ This deforestation will lead to other environmental consequences like increased soil erosion resulting in flooding that allows the proliferation of mosquitoes that bring diseases. Kaplan also points out that a majority of people live near the most fertile lands, further exacerbating and accelerating the problem of soil erosion that will lead to eventual food shortages. Other environmental factors, such as the uncontrolled spread of diseases and drug resistant versions, will only serve to further isolate and hasten the collapse of weak state governments. Water shortages throughout arid regions will also be a point of friction in the future as groups try to secure and control watersheds; such as the “Nile, Tigris, and Euphrates,” and thus cut off supplies to those downstream.¹⁴ The ever-decreasing natural resources will put

further strain on the ability of individuals to survive, leading to insurrection as one of the only few ways to provide for basic needs.

In the next fifty years the world population is expected to increase from 5.5 billion to more than nine billion, and as the population grows it is steadily gravitating towards urban centers.¹⁵ The population migration separated by “ethnic splits of history, language, and religion” will add to increasing tension between groups as individuals compete to survive.¹⁶ As the world population increases and shifts, increased friction is likely to develop between those of different ethnic origins, leading to cultural and racial clashes.

In the future, borders will essentially become meaningless. World maps outlining country boundaries fail to illustrate shifting population densities and more importantly, ethnic splits within those densities. The Kurds in northern Iraq are one example of a single ethnicity that transcends the borders of three countries.¹⁷ Another factor likely to affect the future world map is the “world’s fastest growing religion, Islam.”¹⁸ Couple this with mass population shifts to urban areas and add a high birth rate in Muslim states. Kaplan predicts ethnicity will be more dominant than state identity negating geography and country borders.¹⁹

Realistically, wars in the future will be transformed from how we currently understand them today. Many wars will no longer be a struggle between governments, but a combination of many physical, sociological, and ethnic factors. Future conflicts will likely not be between nations or governments, but between groups or city-states reminiscent of the Middle Ages. These conflicts will be more like smoldering fires around the globe and will require frequent intervention to control and prevent their spread. The recent events in Libya, Egypt, and Syria serve to reaffirm Kaplan’s two decade-old thesis.

The emphasis in the previous paragraphs on a potentially different future illustrate that, should future conflicts turn out differently from having to fight thru A2/AD defenses as emphasized in Air-Sea Battle, the U.S. military will not be adequately prepared technically, organizationally, and conceptionally to operate against threats that do not fit that mold.

What Type of Operational Concept is Needed

“Victory smiles upon those who anticipate the changes in the character of war, not upon those who wait to adapt themselves after the changes occur.” - Italian Air Marshall Giulio Douhet

In the past two decades, war theory has barely evolved beyond technological advances from AirLand Battle to Air-Sea Battle and must do so for a successful future concept. Dependence on technological advancements in current weapons systems is no longer sufficient to guarantee success on the twenty-first century battlefield. In order to guarantee some measure

of success, the theory of warfare must evolve. As demonstrated in World War I and World War II and the pre-Napoleonic era, militaries with similar structures and organizations routinely fought indecisive and protracted campaigns with little or insignificant gains throughout the course of major campaigns, and only when complete and total exhaustion was reached by one of the combatants, was victory claimed. That victory was also usually achieved at the narrowest of margins, with significant costs to both sides in human and financial capital. Only when advancements in war theory, organization, and a technologically advanced force faced an antiquated foe, were major campaigns decisive. Examples of this include the Napoleonic Wars 1800 to 1815, Desert Storm I, and Desert Storm II.²⁰ These examples all combine the three elements against what turned out to be second rate competitors who had failed to adequately evolve. Success in these examples is directly attributed to the winner possessing all three characteristics, with the first two factors being significantly more crucial than the last.

Before proceeding forward, a critical assumption to the building of a viable future military concept must be defined: there must be a limit to the amount of violence countries will resort to in order to achieve political ends. More specifically, is that mutual nuclear deterrence will continue. Without this critical supposition, any conventionally based military strategy will fail in application against a peer competitor with a significant nuclear arsenal and will only result in total destruction to both sides. Warfare in this realm quickly escalates to what Clausewitz referred to as “total war,” a theoretical concept describing war with no limit to the destruction that will be attained.²¹ In contrast, a viable operational concept must be grounded in “real war,” war bound by constraints, rules, and limitations, with only the limited use of nuclear weapons considered as a last resort and only after firmly weighing the consequences against the potential gains. Nuclear warfare is the highest end of the warfare spectrum which effectively limits options for an adversary to capitulate and turns warfare from the intent to impose will or coerce compliance, into only a binary system of total destruction or non-destruction.

For the future, a viable operational concept should provide a combatant commander with a variety of tools that span all domains and operate across the entire spectrum of conflict from which the correct tool or tools can be selected and applied to the given situation. Multiple tools provide flexibility and allow combatant commanders to apply the tenants of war appropriately to the situation to achieve the strategic objective and tailored to the given situation, while the overarching military strategy drives the peacetime training, equipment procurement, and conceptual knowledge to comprehend the type of warfare and successfully operate in that environment. In its current form, Air-Sea battle presents only a limited set of operational tools specifically geared towards solving the mid- to high-intensity A2/AD problem set and neglects the lower end of the conflict spectrum like those experienced in Iraq and Afghanistan.²²

Technology

The consistent pursuit of advanced technology by the American military in the past several decades has served to add depth, increase accuracy, and compressed the time component of warfare while reducing casualties; but overall, it has not changed the theory on how wars are conducted. While improving current combat systems or their effectiveness has merit; simple, versatile, multi-role, and adaptable systems have proved to be the most effective systems in a variety of conflicts from high-intensity warfare to insurgencies. These include general purpose troops, the A-10 Air-to-Ground attack aircraft, and the Aegis class of destroyers. This is not to say that technological developments do not have a place, but the quest for a magic bullet must be weighed and balanced across the force, and more so now than ever in a fiscally constrained future. The other continuing problem with the pursuit of advanced technology is that the initial cost estimates for development, testing, and production continually proves to be inaccurate under the Department of Defense's current procurement model. The problem that arises from this is that new combat systems are initially looked at in terms of their capabilities and the numbers required to perform anticipated missions when they are conceived. As production and unexpected costs continually spiral beyond initial estimates, the overall numbers of purchased combat systems are inevitably cut and the military is left with inadequate numbers to perform required missions, thus resulting in vulnerabilities or a limited ability to react to contingencies. This effectively limits the military's overall capabilities and the ability to exert influence to support political strategic aims from what was initially presumed.

Organization

If the past decade in Iraq and Afghanistan has taught us anything, it is that conventional forces trained for high-intensity combat are initially ill suited to operation in an asymmetric environment. They often undo significant hard fought gains through single, heavy-handed miscalculations. Moreover, it takes a significant amount of time to adequately train forces to think and operate asymmetrically. The cost, beyond financial training dollars, is that conventional forces then lose much of their conventional high intensity warfighting capabilities in the retraining process, creating additional strategic vulnerabilities.

To close this vulnerability and prevent the strategic dilemma of whether to have a conventional force trained and organized for high intensity combat or a humanitarian force trained and organized for security, governmental development, and nation building: the need for both has become clear. The time and training required to perform high-intensity or low-intensity combat is significant and conservatively encompasses at least three to five years to comprehend, train, and become proficient. This negates the ability to have one force do it all. There are too many tasks to train individuals and organizations to conduct, the mind set to operate in the two environments are diametrically opposed, and the required individual skills sets are significantly different. To successfully operate in a particular environment, a military force must study, comprehend, and most importantly, embrace the methodology to successfully operate in that

environment and then train on the required tasks to be effective. The differences between high and low intensity combat are so significant that numerous books and papers propose multiple theories outlining how to achieve success in one arena or the other. The evolution in conflict is now so diverse that career-long specialization in a particular arena is required. In order to effectively prepare for the full range of conflict, the military must organizationally evolve and create a permanent and dedicated low-intensity conflict force within the current force structure.²³ This force would have a charter under the DOD to man, train, and equip to operate at the lower end of the conflict spectrum. In broad terms the new force would operate jointly, much like the hand-in-hand relationship between the Navy and Coast Guard, but would operate on land. Each would have a separate and distinct mission (humanitarian versus combat) that is mutually supporting to achieve the desired strategic ends.

The creation of a dedicated low conflict force would fill the current strategic vulnerability that exists within the current force structure and would give the United States military a true full spectrum capability. While the specifics in creating, organizing, and funding such a force is beyond the scope of this article, the need is clear. Vietnam, Iraq, and Afghanistan are the validation that such a force is needed, and trying to continually adapt the current force to one threat or another only serves to continually expose strategic vulnerabilities.

Theory

Beyond organizational evolvment, and most crucial, is the need for a new full range operational concept. A viable concept must make the linkage between multiple warfare theories (land, sea, air, space, and cyberspace), and not narrowly focus the military towards only solving one problem set or it risks being proven irrelevant over the course of time. It must embrace all currently accepted tenants of war (objective, offensive, mass, maneuver, economy of force, unity of command, security, surprise, simplicity, restraint, perseverance, and legitimacy), which Air-Sea Battle's "networked, integrated, and attack[ing]-in-depth" joint force are but three potential additions to the list.²⁴ A relevant concept must "link theory, history, experimentation, and practice" towards the ends of solving complex military problems across the entire range of conflict, while understanding its nature and anticipating the changing character of war in the arenas of low, mid, and high intensity.²⁵ The concept must embody and synergize the capabilities of all services, not just two, and integrate into the other elements of national power, while tying together the physical and psychological components of war to ultimately achieve what B. H. Liddell Hart termed "Grand Strategy" towards the attainment of the desired strategic aims.²⁶

Currently, the components for such a concept already exist in the writing of multiple theorists. In order to make the leap to an advance new concept, the military must shift its' focus from looking at a particular enemy or single operational problem set, to looking at potential

threats holistically as a system that can be analyzed and dissected with specific components targeted directly or indirectly to achieve desired effects. The writings of John Warden and his “5-ring” theory provide an initial construct to this end.²⁷ The rings at the center contain the leader and moving outward encompasses organic essentials, infrastructure, population, and finally the fielded forces [or better termed the fighting force to encompass combatants in lower spectrum conflicts]. (See figure 1.) This construct is most often displayed as flat concentric rings which create the visual representation of a bulls-eye and have led some to view the theory as a target where the objective is to take out the center. These interpretations are, however, misguided, and by simply turning the five rings into a layered sphere, much like an onion, a better representation of Warden’s theory is derived. (See figure 2.) This representation also, more accurately, demonstrates the challenges and complexities to attacking a given enemy through all the layers that protect the center and provide its ability to function.

Still, this is just a starting point. The components of each layer must then be mapped to expose connections and relationships that are both physical and psychological across the entire system and all layers. This will create a three dimensional nodal network of an enemy and expose the interconnections within the system. (See figure 3.) This construct additionally shows the redundancy and resiliency of any system which must be accounted for in developing a plan of attack. The final step in the process is to find vulnerabilities in the system which can be attacked, directly or indirectly and kinetically or non-kinetically, in order to cause the system to collapse or substantially fail, and must be accomplished in a manner that prevents the system from repairing itself or adapting to negate the effects of the attacks.²⁸ In the physical realm of kinetic weapons against physical targets, it is easy to predetermine the effects; but in the non-kinetic and psychological realm, this task is at best time-intensive and often met with varied and unanticipated results, but cannot be discredited due to difficulty. The end result from correct analysis and a successful operation is that the enemy system is broken physically [no longer having the means to resist] and psychologically [no longer having the will to resist]. This concept applies equally well to conventional war as it does to irregular or guerrilla war. The main distinction is in the application of force.

In conventional war the main objective is to strike your enemy in order to prevent its ability to generate mass by attacking across the depth of your adversary’s system and inflicting enough damage that the system fails. The main effort is to destroy the enemy’s means to wage war and secondarily to attack his will in order to defeat the psychological desire to continue resisting.

In irregular war the main fight is over the power of ideas or ideology, and to gain support of the population. This makes conventional war tactics less effective. In irregular war the main effort is to sway the population by building new and stronger networks inside the existing system to eventually supplant the old network, which is where a humanitarian force would be employed,

while conventional tactics are used to break the linkages between the insurgent system and the population, thus causing their support structure and support system to collapse without destroying the entire system.

Conclusions

The DOD needs to relegate the Air-Sea Battle concept to a combatant command operational plan, specifically geared to solving the A2/AD problem set and develop a new viable operational concept to prepare the military for the future. This new theory must be broad ranging, dynamic, and leverage all services across all domains and most importantly, have utility across the full range of military operations. Secondly, the DOD needs to organizationally evolve its combat force into a force capable of operating in any environment and against any threat without the cost of time and money to re-train a single purpose force against threats that do not match the high intensity combat role outlined in Air-Sea Battle. A dual, humanitarian and combat, force will satisfy this requirement and eliminate the strategic vulnerabilities inherent in a single purpose force. Finally, the military needs to re-evaluate its acquisition process and focus on the development of simplistic, versatile, multi-role, and adaptable systems that can operate and have utility in all forms of warfare. The current pursuit of exceptionally expensive and limited utility aircraft and ships is fiscally irresponsible and potentially damaging to national security if the next conflict is not what that system was designed to defeat. In the end, to quote Robert A. Pape, “the United States ... still wins wars the old-fashioned way,” with boots on the ground and with a joint multi-service system that works together to place the enemy on the “horns of a dilemma.”²⁹



Figure 1.



Figure 2.

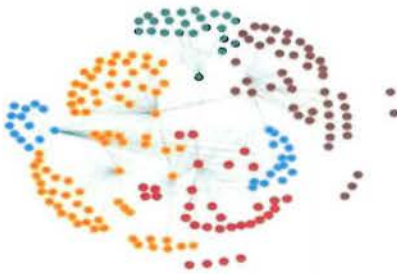


Figure 3.

¹ CAPT Philip Dupree, USN and COL Jordan Thomas, USAF, "Air-Sea Battle: Clearing the Fog", (Armed Forces Journal, May 2012). <http://www.armedforcesjournal.com/2012/05/10318204> accessed 16 July 2012.

² Jason Kelly, "Overview of the Air-Sea Battle Concept", (Navy Live: Official Blog of the United States Navy, 3 June 2013). <http://navylive.dodlive.mil/2013/06/03/overview-of-the-air-sea-battle-concept/> accessed 29 July 2013; Andrew F. Krepinevich, "Why AirSea Battle?", (Washington, D.C.: Center for Strategic and Budgetary Assessments, May 2010);

Jan Van Tol, "AirSea Battle – A Point-of-Departure Operational Concept", (Washington, D.C.: Center for Strategic and Budgetary Assessments, May 2010);

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General Norton A. Schwartz, USAF, and Admiral Jonathan W. Greenert, USN, "Air-Sea Battle, Promoting Stability in an Era of Uncertainty", (The American Interest, 20 February 2012). <http://www.the-american-interest.com/article.cfm?piece=1212> accessed 16 July 2012.

³ Kelly, "Overview of the Air-Sea Battle Concept".

⁴ Dupree, "Air-Sea Battle: Clearing the Fog".

⁵ Schwartz, "Air-Sea Battle, Promoting Stability in an Era of Uncertainty".

⁶ B. H. Liddell Hart, *Strategy* London: Faber & Faber, 1967. 2nd rev. ed., 322.

⁷ CAPT Philip Dupree, USN and COL Jordan Thomas, USAF, "Air-Sea Battle: Clearing the Fog", *Armed Forces Journal*, (May 2012).

⁸ US Debt Clock.org, <http://www.usdebtclock.org/> accessed 30 July 2013.

⁹ About.com, <http://bonds.about.com/od/bondinvestingstrategies/a/Chinadebt.htm> accessed 30 July 2013.

¹⁰ Douglas MacGregor, and Young J. Kim, "Air-Sea Battle: Something's Missing", (Armed Forces Journal, April 2012). <http://www.armedforcesjournal.com/2012/04/9772607> accessed 30 July 2013.

¹¹ Robert D. Kaplan, "The Coming Anarchy," *The Atlantic Magazine* (February 1994), http://www.theatlantic.com/magazine/archive/1994/02/the-coming-anarchy/4670/4/?single_page=true, accessed on 5 July 2012.

¹² Ibid.

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- ¹³ Ibid.
- ¹⁴ Ibid.
- ¹⁵ Ibid;
Worldometers-Real Time world Statistics, <http://www.worldometers.info/population/>. Accessed 18 July 2012.
- ¹⁶ Kaplan.
- ¹⁷ Ibid.
- ¹⁸ Ibid.
- ¹⁹ Ibid.
- ²⁰ Robert M. Epstein, 1994, *Napoleon's Last Victory and the Emergence of Modern War*, University Press of Kansas, 9-32.
- ²¹ Carl von Clausewitz, *On war*, trans. Michael Howard and Peter Paret, ed. Eatrice Heuser (Oxford: Oxford University Press, 2007), 77.
- ²² For a further explanation on the spectrum of warfare, see Field Manual (FM) 3.0 *Operations*, Chapter 2, (Headquarters: Department of the Army Washington, DC, February 2008).
- ²³ Dr. John Nagl, "Institutionalizing Adaptation: It's Time for a Permanent Army Advisory Corps," Center for a New American Security, June 2007, <http://www.cnas.org/node/130> accessed 1 August 2013. Dr. Nagl's article advocates for the creation of a permanent advisory Corp within the U.S. Army. While this is a part of the solution to a humanitarian force, it only addresses the training and development of host nation security forces. In addition to what Dr. Nagl proposes would be the need for governance teams to assist with the development of the myriad of governmental services.
- ²⁴ Joint Publication 3-0, *Joint Operations*, (11 August 2011), 1-2;
Schwartz, "Air-Sea Battle, Promoting Stability in an Era of Uncertainty".
- ²⁵ FM 1, *The Army* (Headquarters: Department of the Army Washington, DC, 14 June 2005), 1-21.
- ²⁶ Hart, 322.
- ²⁷ Col John A. Warden III, "The Enemy as a System," *Airpower Journal* 9 (Spring 1995), 40-55.
- ²⁸ This paragraph is not a direct quotation, but an adaptation of the writings from Joe Strange and Richard Iron, "Understanding Centers of Gravity and Critical Vulnerabilities," <http://www.au.af.mil/au/awc/awcgate/usmc/cog2.pdf> accesses 30 July 2013. A more detailed analysis and explanation to the process of determining vulnerabilities is contained in the article and should be applied to the development of a new operational concept.
- ²⁹ Robert A. Pape, "The True Worth of Air Power," *Foreign Affairs* 83 (Mar/Apr 2004). [EBSCO Host Version]; On the "horns of a dilemma." Origin unknown.