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PARANOIA, DISRUPTION, AND DOMINANCE:
CORPORATE LESSONS FOR THE DOD

by

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Preface

In 1999, then Secretary of Defense William Cohen invited author and Harvard professor Clayton Christensen to a Pentagon meeting with the Joint Chiefs of Staff, the Service Secretaries and other senior civilians. Cohen asked Christensen to present the conclusions of his latest book, “The Innovator’s Dilemma: When New Technologies Cause Great Firms to Fail.” In the book, Christensen explains several factors that allow successful corporations with strong management teams and dominant market positions to fail when confronted with a competitor’s emerging or disruptive technology or technological innovation. My interest in this topic is the same as was Cohen’s. As such, the premise for this paper is: are there parallel lessons the U.S. military can learn from corporate failures in the marketplace brought about by management’s failure to acknowledge disruptive technologies, the failure or inability to embrace innovation quickly, or complacency? What are the potential consequences and strategy implications for the Department of Defense? Looking back on the four hour meeting with Christensen, Cohen commented, “And I think that was very instructive for all of the military leadership because we have to think forward and look into the future and say, “Who is it who’s going to challenge us directly? Should we be looking for some disruptive technologies, looking for somebody to come in at the low end of things to take the United States on?”

My approach in this research does not assume the U.S. military has or will have a peer competitor in the next decade or two. Rather, my approach is to look at the factors shaping the current debate surrounding the U.S. military—a “smug” attitude, outdated strategy and organization, “transformation hesitation”, inadequate funding, etc.—and how they might contribute to non-state actors challenging us.

I would like to acknowledge the professional advice, assistance and personal friendship of Dr. Abatan, Chairman of the Department of Engineering and the considerable resources and talents made available to me from the entire Clark Atlanta University Department of Engineering faculty.

Abstract

In 2001, the U.S. military clearly has no peer. We have the world's most dominating military capability. There is no other country that can assimilate and integrate combat capabilities of air, land, sea, and space forces to identify, locate, strike, assess and re-strike targets virtually anywhere on the planet like the U.S. military. Within the last decade, Operations Desert Storm and Allied Force showcased to the world the investment payoff of high technology—from the Global Positioning System, Joint Stars and cruise missiles to the F-117 stealth fighter, unmanned aerial vehicles and Joint Direct Attack Missiles (JDAMs)—and its powerful force-multiplying effects in joint and combined operations.

But there are fissures in the foundation. Declining combat readiness, aging weapon systems, inadequate force structure, and inappropriate strategy are all elements of the on-going debate on the current status and future direction of the U.S. military. For some, the debate surrounding national defense is about technology and platforms—space and information systems, stealth aircraft, aircraft carriers, tanks, etc. For others, the debate is about the budget. What percentage of gross domestic product is appropriate during times of relative prosperity and peace? How to equitably divide the pie amongst the Services? Finally, what is the right military strategy in the 21st century—what engagement policy to adopt, what likely threats to

prepare for, and what force structure to employ--that will ensure the U.S. military is as dominant into the future as it was in the 20th century?

Overlying that debate, this paper looks at the U.S. military institution as the bureaucracy it is—complacently clinging to a thus-far successful, but stressed, two Major Theater War strategy devised in a different era, paralyzed by fear of transformation, predisposed to incremental change, and smug in its own hollow battlefield success. The symptoms are familiar in the business world, and have humbled even the mightiest corporations—Sears, IBM, and Harley Davidson to name just a few. Each was dominant in its core business. Each listened to their customers intently and provided what they wanted. Yet, despite seeming to do all the right things, each lost its dominant position or significant market share or missed out on growth opportunities. What caused these great firms to fail? What roles did complacency, faulty strategy, or “low end” technology play in their disruption? What are the lessons that can be applied to the U.S. military? What are the factors that would allow the U.S. military to, in the words of former Secretary of Defense William Cohen, “succumb to what I would say is the gravitational pull of the status quo”?

Chapter One

Disruption

In any industry, a disruptive innovation sneaks in from below. While the dominant players are focused on their products or services to the point where the average consumer doesn't even know what she's using, they miss simpler, more convenient, and less costly offerings initially designed to appeal to the low end of the market. Over time, the simpler offerings get better--so much better that they meet the needs of the vast majority of users.

Clayton Christensen¹

Despite the decidedly dissimilar missions of national defense and traditional business, there are a number of corporate experiences and lessons that should be of great value to military strategists. Similar in many, but not all, aspects to military planners, challenges confront corporate strategists in their daily battles to gain or retain market dominance, deter or discourage competition, develop flexible strategies appropriate to the current and future environment, apply innovative technologies, and increase profits.

¹ Christensen, Clayton, Will Disruptive Innovations Cure health Care? Harvard Business Review, September-October 2000, p1.

Some of these challenges shared by the military and corporate world are overcome in similar fashion--by creating an environment where the vision, strategy and goals are clear, where success is not allowed to create an atmosphere of complacency, where new technology and innovation is embraced rather than suppressed, and where adequate funding is available to invest properly in both research and development and procurement. Should management lose focus of any or all of these challenges, market share can be surrendered quickly. Corporate leadership must provide a vision and strategy for achieving market dominance that is easily understood by all employees. Leadership must also encourage and foster a corporate culture that does not stifle technological innovation and is open to change. Finally, proper distribution of funding between procurement and research and development is a key component to keeping abreast of rapid advances in technology—at the expensive “high” end as well as the less expensive, but easily incorporated “low” end.

Author Clayton Christensen presents an intriguing view of competition, success, dominance, and failure in the corporate world--and several attendant lessons for the U.S. military. His examination of several companies in different lines of business revealed that successful companies with international recognition and dominant market positions can often fail, even when it appears they are doing everything right. They listen to and solve the needs of their customers. Ironically, Christensen offers that sometimes listening to customers can work against the future success of the company. He discusses the role of complacency and "status quo" in the management tier--and how disastrous it can be for management to be lulled into a false sense of security.

Table 1

Established Technology	Disruptive Technology
Wireline telephony	Mobile telephony
Vacuum tubes	Transistors
Circuit-switched telecom networks	Packet-switched telecom networks
Notebook computers	Hand-held digital appliances
Desktop personal computers	Sony playstation, internet appliances
Bricks and mortar retailing	Online retailing
Offset printing	Digital printing
Manned fighter and bomber aircraft	Unmanned aircraft
Medical doctors	Nurse practitioners
Open surgery	Arthroscopic and endoscopic surgery
Cardiac bypass surgery	Angioplasty
Electric cars	Conventional gas engines

Table 1 – The Innovator’s Dilemma-How Great Firms Fail By Doing Everything Right, Boston, Harvard Business School, 2000, p. xxv

Successful companies can often be their own worst enemy when it comes to fostering a climate free of complacency. In today's fast-paced technological life cycle, there are significant opportunities for upstart companies to surprise well-established market leaders, often blissfully ignorant of alternative markets and strategies. The rapid pace of innovation nearly always outstrips the ability of customers to absorb it.² Thus is created the potential for upstart companies to introduce disruptive technologies or disruptive innovations—cheaper, simpler, more convenient products or services that start by meeting the needs of less-demanding customers.³ Table 1 illustrates existing or sustaining technologies supplanted by disruptive innovations. Christensen provides numerous examples where disruptive technologies have caused many of history's best companies to plunge into crisis and ultimately fail.

Disruptive technologies in military affairs will be problematic in the future. In Alvin and Heidi Toffler's classic, War and Anti-War, they describe disruption in future warfare between "smart" versus "smartened" armies:

Then there are the missiles themselves. Tomorrow's Saddam Hussein...will have the ability to take relatively old technology, like a SCUD missile, and...put it down precisely on a target. All you need to do is add a GPS navigational receiver like the Slugger, of Gulf War fame, plus some rewiring and some other items, and for around five thousand dollars in, say five years, Saddam or the Iranians or anyone else could have a smart SCUD—instead of the notoriously wobbly and hard-to-target SCUD launched against Tel Aviv and Riyadh.⁴

² Ibid., p. 1

³ Ibid., p. 1

⁴ Toffler, Alvin and Heidi Toffler, *War and Anti-War*, Little, Brown and Company, 1993, p. 186.

The proliferation and availability of commercial technologies will make it possible for many “second wave” countries and non-state actors to adapt and marry these advanced technologies with simpler, cheaper, less costly weapon systems. Today’s armies will find themselves faced by tomorrow’s “smartened” armies.⁵

In the commercial sector, consider the classic case of the motorcycle industry in North America. In the 1950s and 60s, the American motorcycle market was dominated by virtually one name--Harley Davidson. Its success rested on the foundation that American motorcycle enthusiasts, at that time, “used motorcycles primarily for over-the-road distance driving in which size, power and speed were the most highly valued product attributes.”⁶ There was a completely untapped market in North America for a lower end product--smaller, inexpensive, efficient transportation. Honda tapped that market. Its 50cc motorbike was a disruptive technology in the North American market.⁷ Harley later attempted to compete with Honda in the 150cc to 300cc motorbike class.⁸ But its dealer network favored the higher profit margin top end bikes and did not want to compromise Harley’s image with its loyal customers.

Sears Roebuck pioneered several innovations critical to the success of today’s most admired retailers: for example, supply chain management, store brands, catalogue retailing, and credit card sales.⁹ An excerpt from a 1964 issue of Fortune magazine revealed:

How did Sears do it? In a way, the most arresting aspect of its

⁵ Ibid., p. 186.

⁶ Christensen, *The Innovator’s Dilemma*, Harvard University Press, 2000, p. 150.

⁷ Ibid., p. 151.

⁸ Ibid., p. 152.

⁹ Ibid., p. ix

story is that there was no gimmick. Sears opened no big bag of tricks, shot off no skyrocket. Instead, it looked as though everybody in its organization did the right thing, easily and naturally. and their cumulative effect was to create an extraordinary powerhouse of a company.¹⁰

The accolades Sears received in the 1960s were long gone by the 1990s. By one estimate, “Sears Merchandise Group lost \$1.3 billion (in 1992) even before a \$1.7 billion restructuring charge. Sears let arrogance blind it to basic changes taking place in the American marketplace.”¹¹ At one time heralded as one of the most innovative, best managed companies in America, arrogance contributed heavily to an atmosphere that resisted change, lowering its appeal to many consumers, and ultimately disintegrated its market share.

¹⁰ Ibid., p. x

¹¹ Ibid., p. x

Chapter Two

Complacency

"IBM's strength is technology. Technology is not enough, though. They have to totally change the way they're doing business."

Glenn Henry, former IBM Fellow and Executive¹²

"What happened to this company was not an act of God, some mysterious biblical plague sent down from on high-- It's simple. People took our business away."

Lou Gerstner, CEO, IBM¹³

Perhaps the most difficult challenge facing a market leader is maintaining its leading position. This challenge has become even more daunting in the reality of today's global economy. Technological developments and breakthroughs occur at ever increasing frequency, assisted by the enormous advances in global telecommunications. The rapid pace of technological evolution over the past three decades has enabled the linkage of industry and economies around the world. The ability and willingness of companies to embrace technological advances and to harness and manage change, has ultimately become necessary for both survival and continued growth. History has shown that

¹² Smith, Hedrick, Rethinking America, New York, Random House, 1995, p. 72.

¹³ Ibid., p. 72.

companies who view change as a threat, rather than as an opportunity, are doomed to lose influence, market share, and relevance. Regaining lost influence, market share, and relevance usually only occurs after a fundamental change in management philosophy and direction. IBM (International Business Machines) provides an intriguing historical example of a major international corporation that garnered worldwide respect for its dominance in information technology and, especially, the large computer mainframe industry. Ironically, despite its success, IBM simultaneously managed to create an environment that stifled, rather than embraced, the development of the personal computer (PC). Although IBM engineers had pressed management repeatedly to enter the "future" of personal computing, management's decision to harness this burgeoning technology was slow in coming.¹⁴ In the end, IBM had been humbled by a technological "revolution from below". Big Blue became vulnerable to the "attacker's advantage"--meaning that new companies were driving the process of change, moving into new market territory, allowing the complacent IBM to sell to existing markets.¹⁵

What happened to IBM has been chronicled and studied in business schools across the country. Despite the obvious lessons to be learned from IBM's experience, it's failures have often been repeated by other companies. "IBM was bleeding internally. It was suffering a brain drain. Some of its best people were quitting in disillusionment over how IBM was being run. They were frustrated by rigidity at the top, by how slowly IBM made decisions, by IBM's refusal to change, by its stifling of new ideas from its most creative people."¹⁶ IBM was long the world leader in the manufacture, production and servicing of high-end mainframe computers. But management was slow to see the future

¹⁴ Ibid., p. 75.

¹⁵ Ibid., p. 78.

demand and potential growth of personal computing. IBM provides just one example wherein the complacency of its senior management resulted in a defensive posture--protecting the status quo.

The Intel Corporation has never allowed complacency to interfere with its phenomenal growth. Under the leadership of Andrew Grove, now Chairman, the semiconductor manufacturer has been wildly successful. But the journey has not always been a smooth profit trajectory upward--there were stumbling blocks along the way. Grove is often credited with the motto, "only the paranoid survive".¹⁷ He credits his own healthy sense of paranoia as an important factor in Intel's success. "I believe that the prime responsibility of a manager is to guard constantly against other people's attacks and to inculcate this guardian attitude in the people under his or her management. And, of course, I worry about competitors. I worry about other people figuring out how to do what we do better or cheaper, and displacing us with our customers".¹⁸

Intel manufactured the world's first dynamic random access memory (DRAM) integrated circuit, making it one of the world's most profitable companies.¹⁹ However, it didn't take the Japanese to mass-produce DRAM integrated circuits as well. In the mid 1970s to mid 1980s Japanese semiconductor manufacturers began to flood the market with cheaper DRAM chips—forcing Intel's profit margins down.²⁰ In reaction, Intel swiftly shifted focus. While maintaining a DRAM manufacturing capability, they shifted emphasis into the manufacture of microprocessors.²¹ As mainstream as microprocessors

¹⁶ Ibid., p. 74.

¹⁷ Grove, Andrew, "Only the Paranoid Survive", www.andygrove.com/intel/paranoid

¹⁸ Ibid.

¹⁹ Christensen, p. 153.

²⁰ Ibid., p.153.

²¹ Ibid., p. 153.

are today, when they first emerged, they were disruptive technologies, capable of only limited functions, small and simple compared to the complex logic circuits they displaced.²² With this shift in strategy, Intel was able to grow revenues in the manufacture of microprocessors and still create modest profits in the manufacture of DRAM circuits.

²² Ibid., p. 153.

Chapter Three

Strategy-Funds Mismatch

"We take great pride in our superiority as far as technology is concerned, but we have to take care that that pride doesn't become or turn into a sense of triumphalism or that we succumb to what I would say is the gravitational pull of the status quo."

William Cohen, Secretary of Defense²³

At the beginning of this new millenium, in a time of relative peace and prosperity and with the U.S. military enjoying a position of clear dominance in the world, there is tremendous debate over how best to continue that advantage the U.S. now clearly enjoys throughout the next century. In some sense, transformation of the U.S. military began with the adoption of the “base force” policy after the fall of the Berlin Wall—drawing down U.S. forces from many European bases and a reduction in force (RIF) manpower policy across the services. Debate over the proper size and accompanying transformation of the U.S. military reached a fever pitch in 2000. During the presidential campaign, then candidates Bush and Cheney argued that defense cutbacks during the previous administration occurred too swiftly, were too deep, and ultimately broke

²³ Cohen, William S., policy speech to the Center for Strategic and International Studies, October 2, 2000, Washington DC

the force. Transformation has its critics as well. Even Senator Joseph Lieberman (D-Conn) recently cautioned that America's trimmer, post-Cold War military is less a new fighting machine than a shrunken version of the force mounted against the Soviet Union, with stealth weapons and precision-guided munitions tacked onto it.²⁴ Lawrence Korb, a former assistant secretary of defense official during the Reagan administration and current Vice President and Director of Studies of the Council on Foreign Relations, asserts that the armed forces can be modernized and strengthened while *saving* over \$60 billion a year.²⁵ He criticizes the prevalent Cold War mentality, arguing the U.S. spends twice as much on defense as Russia, China and all other potential adversaries; if Allied defense is included, then he says the ratio is 3-1.²⁶ In Korb's view, there is at present no threat or combination of threats that justifies America's costly strategy of preparing for two simultaneous wars. He asserts the necessity of maintaining the capability to fight two wars simultaneously defies logic and history—during the Korea, Vietnam and Persian Gulf conflicts, no other nation took advantage of the situation by threatening U.S. interests elsewhere.²⁷ In his view, America could meet any military challenge if we replaced the two-war strategy with a “one war plus” strategy involving preparations for one major regional war and a concurrent Bosnia type operation.²⁸ Korb's views on defense savings may be at odds with what the service chiefs are testifying to on Capitol Hill. Air Force

²⁴ Mann, Paul, “*Bush Gore Promises Fall Short Of Desired Military Spending*”, Aviation Week and Space Technology, October 2, 2000, p. 34.

²⁵ Ibid., p.34

²⁶ Ibid., p.34

²⁷ Korb, Lawrence J., “*Bush's First Battle: His Own Military Myths*”, Los Angeles Times, March 11, 2001, p. M2

²⁸ Ibid., p. M2.

Chief of Staff General Michael Ryan recently testified that the Air Force needs an additional \$20 to \$30 billion a year.²⁹ He asserts that unit combat readiness is down 23% since 1996, the Air Force has flown 31,000 sorties the past two years and the average age of its fleet is nearly 22 years.³⁰ The active duty Air Force is the smallest in the service's history. To stem the decline in operational readiness, Gen Ryan testified that the Air Force is "mortgaging the infrastructure aspect of our force readiness. Over the past six years, we have averaged an investment in infrastructure at a 250-year replacement rate. Industry standard is 50 years."³¹ Neglecting infrastructure requirements has a direct negative affect on the morale and retention of service members. The Chairman of the Joint Chiefs of Staff, Gen Henry Shelton, stated recently that since 1989, the U.S. Army is 40% smaller—now the seventh largest Army in the world—but deployed 300 percent more often.³² Gen Eric Shinseki, Army Chief of Staff, said his service is too small for the demands of taking on two conflicts at once and that its budget is short by some \$10 billion per year.³³ For the Navy, Chief of Naval Operations Adm Vernon Clark recently testified the Navy's budget is short by \$17 billion annually and its aviation force is now the oldest it has ever been in its history.³⁴ These shortfalls may actually be conservative, according to a recent study published by the Center for Strategic and International Studies. It states the budget shortfall in more drastic terms: "The inescapable fact is that, in terms of maintaining and

²⁹ Mann, p. 34.

³⁰ Mann, p. 34.

³¹ Mann, p. 34.

³² Deardorff, Julie, "*Shelton: Military Stretched*", Chicago Tribune, March 27, 2001, https://ca.dtic.mil/cgi-bin/ebird?doc_url=/Mar2001/e20010328shelton.htm

³³ Mann, p. 34.

sustaining the military capabilities of the QDR force—the desired force for fiscal 1997 – 2015—the DoD is facing budget shortfalls of at least \$100 billion per year, instead of in the range of \$5 billion to \$25 billion per year”.³⁵ The defense budget of fiscal 2002 would have to be \$380 billion to support fully the QDR force.³⁶ (note—President Bush just submitted his proposed fiscal 2002 defense budget at roughly \$310 billion.) Note: these forecasts were made relative to the 1997 QDR, which incorporates the two MTW concept. Based on these forecasted budget shortfalls, the study makes several rather dire predictions. First, the current U.S. military position of unmatched power is a temporary condition.³⁷ If strategy, forces and budgets are not reconciled or balanced, military capabilities will be lost forever. Second, the U.S. will face defacto demobilization if the current underfunding of national defense is allowed to continue.³⁸ The study concludes “six inescapable facts”:³⁹

- Higher DoD budgets are needed
- U.S. military forces are entering a new period of vulnerability
- DoD operations and support costs will continue to grow during FY 2001-2010 and will increasingly squeeze DoD procurement costs
- DoD is facing a substantial acquisition challenge
- New DoD acquisition goals are needed
- Additional force structure reductions are likely

³⁴ Mann, p. 34.

³⁵ Averting the Defense Train Wreck in the New Millennium, Rand, Washington DC, The Center for Strategic and International Studies, 1999, p. 2.

³⁶ Ibid., p. 2

³⁷ Ibid., p.xv

³⁸ Ibid., p. xv

Secretary of Defense Rumsfeld is currently conducting a “top to bottom” review of defense capabilities and force structure, as directed by President Bush. The President has insisted that no meaningful budget pluses are to be forthcoming until the Rumsfeld report is completed in late Spring 2001. To that end, the current QDR is on hold. Very little information has been forthcoming as to the conclusions of Rumsfeld’s study, but there is plenty of speculation.

Much of the speculation surrounds the level of resistance to whatever proposals emerge from the top to bottom review. Several reports speculate that the Air Force’s highest priority aircraft development system, the F-22. The concern is that the Air Force may be directed to have procurement “scaled back or cut altogether because of the aircraft’s relatively short operating range”.⁴⁰ The Air Force has discounted the effectiveness of a reduced “silver bullet” force. “This country does not buy silver bullet tanks, silver bullet aircraft carriers, or silver bullet submarines. It cannot afford to enter an uncertain future with a silver bullet force of stealthy land-based airpower” according to Brig Gen Dave Deptula, Director of the Air Force QDR Division.⁴¹ Leaks over what the review may have in store for the Navy reportedly have Navy officials reviewing strategy and procurements. Unnamed defense officials reportedly have said that aircraft carriers may be particularly vulnerable to cutbacks.⁴² “The review is expected to call for a reduction in aircraft carrier battle groups from twelve

³⁹ Ibid., pp. 125-129.

⁴⁰ “*US Defence Review Likely to Meet Opposition*”, Jane’s Defence Weekly, April 4, 2001, p. 1.

⁴¹ Ibid., p.1.

⁴² Ibid., p. 1.

to ten and a redesign of future carriers to be smaller—a move likely to draw fire from the Navy”.⁴³

The Revolution in Military Affairs (RMA) proposed to radically transform the military from dependence on aging Cold War weapons to reliance on information based technologies that would take full advantage of the explosive growth and utility of computing power—network-centric warfare became closer to reality. Current strategy and doctrine, the capability to fight two nearly simultaneously major theater wars (MTWs) is criticized as unrealistic, unnecessarily taxing on people and platforms, and outdated—cementing the view in some circles that the U.S. military continues to prepare for and "fight the last war." Arguments abound that the mismatch between strategy and funding is hampering transformation efforts, creating an incremental, rather than revolutionary, approach to upgrading Cold War weapon systems. Have recent highly successful demonstrations of U.S. military capability in Desert Storm and Allied Force lulled the American people, the Congress and Executive Branch into a false sense of security? Have we demonstrated that the aging fleet of Navy and Air Force fighters and bombers is “good enough” such that incremental improvements to existing platforms will meet the challenges we’re likely to face in the coming decades? The debate is complex and multi-faceted, but these are the concerns and questions that need answers before the world’s sole remaining superpower finds itself unexpectedly challenged. Is the new administration properly preparing to improve the strategic, operational and technological advantages the U.S. military enjoys today? Will the new administration make the tough choices to properly fund the research and development and procurement accounts required to assure U.S. military leadership in the new millennium?

⁴³ Ibid., p. 1

Chapter Four

Threats

A discussion of the future threats facing the U.S. military in the first decades of the 21st century and how best to formulate a cogent defense policy and strategy to deal with those threats is a never-ending debate. There appears to be no clear consensus on which specific threats to focus national security efforts or the proper national defense policy that takes into account all the attendant aspects of active worldwide engagement and limited resources. This chapter will focus on potential threats--based upon the various viewpoints of defense officials. Although the U.S. faces a number of potential challenges and threats, the ongoing transition period where military focus shifts from the Cold War emphasis to emerging threats in the 21st century may actually see a rise in the number of challenges—but they are less likely to be full scale conventional war. In the past 50 years, U.S. forces conducted sustained combat operations on three occasions.⁴⁴ In the same period, U.S. forces were committed to military operations other than war more than 300 times, in every region of the world.⁴⁵ Most of these were multinational and largely, but not exclusively, noncombat operations that entailed peacekeeping, humanitarian, and nation-building activities of one kind or another. Even so, there is no established database or repository for military operations other than war information; not

⁴⁴ Turley, Col Gerald H., USMC (ret), *"Prepare for the Most Likely Commitments"*, Proceedings, April, 2001, p. 88

⁴⁵ Ibid., p. 88.

is there a single location where historical information (i.e., dates, locations, types of actions and lessons learned) is stored.⁴⁶

The U.S. military must always be prepared to confront the full range of threats across the spectrum of conflict--from military operations other than war and low intensity conflict to nuclear war. Within that context, the Director, Defense Intelligence Agency recently detailed his views on the most likely threat scenarios facing the U.S. in the near future. While the lack of a military peer suggests that conventional war against the U.S. is unlikely, asymmetric warfare is a likely choice to challenge U.S. military presence overseas, especially by non-state actors. Asymmetric warfare encompasses anything—strategies, tactics, weapons, personnel—that alters the battlefield to negate one side’s advantages.⁴⁷ Asymmetric threats can be defined as attempts to circumvent or undermine an opponent’s strengths while exploiting his weaknesses, using methods that differ significantly from the opponent’s usual mode of operations.⁴⁸ In testimony before the Senate Select Committee on Intelligence on Feb 7, 2001, Adm Thomas Wilson said the most likely threat is a "major terrorist attack against the United States interests, either here or abroad, perhaps with a weapon designed to produce mass casualties."⁴⁹ According to Adm Wilson, "the most likely threats are foes whose challenges render U.S. military power indecisive or irrelevant to their operations or objectives".⁵⁰ Asymmetric warfare an attractive strategy against the U.S. military’s overwhelming capabilities because it usually employs low cost strategies or technologies that achieve

⁴⁶ Ibid., p. 89.

⁴⁷ O’Brien, Kevin, *"Intelligence Gathering on Asymmetric Threats"*, Jane’s Intelligence Review, October 1, 2000, Vol 12, No 10

⁴⁸ Ibid.

⁴⁹ Garamone, Jim, *"Intelligence Chief Details Threats Facing America"*, American Forces Press Service, February 22, 2001, p. 1.

⁵⁰ Ibid., p. 1.

disproportionate effects. The most recent example is the terrorist bombing of the USS Cole (DDG-67) while docked in the port of Aden. As compared with conventional war, asymmetric warfare can involve relatively few people, minimizing the need for a sophisticated command and control structure. This type of warfare also allows the perpetrator to keep a low profile--as did the terrorists while planning and executing the attack against the USS Cole. Finally, adoption of "low end" technologies, like car bombs, truck bombs and shape charges, can achieve disproportionate results--the killing of 19 U.S. sailors and significant physical damage and repair costs to the premier warship of its kind. Adm Wilson offered the following example of asymmetric warfare and its potential effects on U.S. policy: "a classic example is Somalia. After the "Day of the Rangers", when Somali warlords killed 18 U.S. soldiers and wounded 73 in the capital of Mogadishu in 1992, the United states changed its policies and eventually withdrew."⁵¹

There is a glaring hole in U.S. defense and force protection policy pointed out by Adm Harold Gehman, US Navy (ret), that created an opportunity for the USS Cole to be attacked—and will present future opportunities for attacks upon U.S. forces if his recommendations continue to be ignored. Adm Gehman served as commissioner of the ten-week review on the attack of the USS Cole. He recently published the following:

We did look at DoD policies and practices as they apply to small transiting units such as the Cole and aircraft. For example, what is done for the single U.S. Air Force C-141 and its crew when they stop in Nairobi for fuel? Who is protecting them? Who is doing their threat analysis? Who is providing them intelligence? We

⁵¹ Ibid., p. 1.

*also found that individual engagement activities such as small humanitarian demining teams act just like the Cole. They have all the same characteristics. They are like the lost patrols of the world. They are out there by themselves without much oversight.*⁵²

Adm Gehman states that tailored oversight is not being done. His recommendation, by his own admission, has been made before:

like Gen Wayne Downing after Khobar Towers; Adm William Crowe after the East Africa bombings; and Admiral Robert Long after the Beirut barracks—concluded that the U.S. intelligence organizations need to shift more assets and resources to analytical resources supporting antiterrorism.⁵³

This deficiency points to the heart of the three pillars of U.S. doctrine for combating terrorism—detect, disrupt and deter. As Adm Gehman points out, the terrorist threat against the Cole was not detected.⁵⁴ But he also points out the similarities between the Beirut, Khobar Towers, the World Trade Center, the federal building in Oklahoma City, the two East African embassies and the USS Cole—they were all truck bombs (in the case of the Cole, a truck bomb with an outboard motor) and all attacks were done in daylight.⁵⁵ He also points out still another similarity in that the pattern of attack in each

⁵² Gehman, Adm Harold, USN, (ret), “Lost Patrol, The Attack on the Cole”, Proceedings, April 2001, p. 35.

⁵³ Ibid., p. 35.

⁵⁴ Ibid., p. 36.

⁵⁵ Ibid., p. 35.

case was just a “bit different”.⁵⁶ Gehman’s conclusion is that the next attack “is going to be a truck bomb in daylight, and it is going to be applied in some new and different way.”⁵⁷

As previously stated, the terrorist attack against the USS Cole is but the latest in a series of well- chronicled asymmetric warfare attacks against U.S. interests. Current U.S. National Security Strategy and U.S. National Military Strategy suggest for the foreseeable future, we are going to actively engaged around the world—no act of terrorism has changed that. Consider the recent testimony before the Senate Judiciary Subcommittee on Technology, Terrorism and Government Information, by Mr Anthony Cordesman of the Center for Strategic and International Studies:

We exaggerate the existence of foreign networks, such as Usama Bin Ladin, and understate the risk that individual terrorist elements may lash out against us in ways we do not expect. Much of our analysis is grossly ethnocentric: It assumes that we are the key target of attacks which generally grow out of theater tensions and conflicts where we become a target – if at all – because of our ties to allies and peacekeeping missions. The fact is, however, that if one looks at the recent patterns in terrorism, the US is no more subject to such attacks today –whether measured in numbers of incidents or casualties - than in the past. The net threat also remains a small one in actuarial terms. The word "terrorism"

⁵⁶ Ibid., p. 35.

⁵⁷ Ibid., p. 35.

*may trigger a great emotional reaction, but actual casualties and losses are almost actuarially insignificant. Far more people die of traffic accidents on a bad weekend than dies annually of terrorism.*⁵⁸

Cordesman's testimony begs a few questions. Are we, in fact, exaggerating the threat of terrorism to U.S. forces overseas? Have the repeated "lessons learned" and recommendations from the various terrorist after action reports going unheeded for a reason? Is organizing for terrorist attacks fruitless? If we are to continue to engage abroad in support of U.S. National Military Strategy, are we trained, equipped and organized for the obvious threat we continue to face? According to Gehman, the DoD is not. "We found that organizations in Washington are not well placed to fight terrorism and to provide force protection for units such as the USS Cole. In DoD, there is no unity of effort."⁵⁹ Gehman's report did recommend an organizational change. "We recommended to Secretary of Defense that he appoint someone at the Assistant Secretary of Defense level to do something about this issue. *Interestingly, the 2001 Authorization Act requires the Secretary of Defense to do that.* By the filing of our report in January, the Secretary had chosen not to."⁶⁰

Information Warfare has become a chief concern as information systems are integrated more and more into the fabric of military and civil society. As the U.S. remains among the leaders in the use of information technologies, we become more vulnerable to cyber warfare. Disruption of information systems is no longer the select purview of part time hackers. Recent reports suggest that are being imbedded into military strategy. Specifically, reports have surfaced about the Chinese People's

⁵⁸ Testimony of Anthony H. Cordesman, Vice President and Arleigh H. Burke Chair for Strategy, Center for Strategic and International Studies, before the Senate Judiciary Subcommittee on Technology, Terrorism, and Government Information, "*The Changing Face of Terrorism and Technology And the Challenge of Asymmetric Warfare*", 27 March 2001. www.csis.org/hill/testimony

⁵⁹ Gehman, p. 37.

⁶⁰ Gehman, p. 37.

Liberation Army (PLA) upgrading their IW/IO capabilities. The PLA has reportedly published a number of studies stating that “hacking into web sites, targeting financial institutions, terrorism, assassinating U.S. financiers, using the media and conducting urban warfare” are among the methods considered by the PLA.⁶¹

⁶¹ O'Brien, p. 4

Chapter Five

Organization

He must also live with an organization I have had to live with for forty years. Napoleon could reappear today and recognize my Central Command staff organization: J-1, administrative stove-pipe; J-2, intelligence stove-pipe--you get the idea. This antiquated organization is at odds to what everyone else in the world is doing: flattening organization structure, with decentralized operations and more direct communications. Our staff organization must be fixed.

General Anthony C. Zinni⁶²

What is to be said of an organizational structure that hasn't changed in over forty years? How can a vertically aligned organization with an ensconced stove-piped structure take full advantage of tremendous progress in the telecommunications revolution over the past twenty years? To what extent has this staid organizational structure hampered military operations? What are the possible reasons this structure has stood the test of time within the military--while organizational structure in corporate

⁶² Zinni, Gen Anthony C., USMC (ret), "A Commander's Farewell", National Network News, Vol 7, No 2 – Summer 2000, p. 8.

America has evolved along with changes in technology? Consider the above remarks of General Anthony Zinni upon his retirement as Commander-in-Chief of the United States Central Command. He reflected on the current military staff organization his newly commissioned (second lieutenant of Marines) son would inherit.

Gen Zinni's military experience spans direct combat action during two tours in Vietnam. He's commanded several multi-service, multi-nation Joint/Combined and Interagency Task Forces and ultimately was selected as warfighting Commander-in-Chief of the United States Central Command. His views, based on forty years of military service, are solemn, but not solitary. In order to fully exploit the potential advantages offered by the Revolution in Military Affairs (RMA), Admiral Bill Owens, USN (ret), former Vice Chairman of the Joint Chiefs of Staff wrote the following, which is eerily congruent to Gen Zinni's concerns:

Within the existing military force structure, we need to conduct a thorough reexamination of the industrial age hierarchy that defines the U.S. military. Patterned after the Napoleon Grande Armee, our system of divisions, brigades and battalions may well prove to be archaic and top heavy, given the revolution in communications and networking made possible by computer power. The computer age is the age of networks, "flattened" hierarchies, and initiative being taken at the lower ends of any complex organization. Computer power and advance communications will dictate new terms of effectiveness for military commands no

less profoundly than for business or other private organizations.⁶³

Owens makes very salient points regarding the often over-emphasis on high technology, as if it were a panacea. He cautions, "Fielding high technology alone will not provide the U.S. military with the combat power and strategic agility we will need in the wars and crises of the future. The revolution must transcend new weapons and information systems to include a thorough reexamination of basic size, force structure, roles, and missions of the services".⁶⁴ The synergy required for organizing around future space-based and information-based warfare is lost on many advocates of high tech weaponry. But there is a disturbing trend among many advocates who push the technological revolution—including Adm Owens. He refers to replacing the chain of command with secure networks that "relay commands and critical battlespace information from the area of conflict to key decision makers, and from leaders and national intelligence agencies directly to the combatants".⁶⁵ This growing advocacy of directing combat action from Washington via high-speed networks should be disconcerting to every field commander.

The organization structure itself is not the only concern. Defense leadership and legislation have not yet solved a critical shortcoming in the overall military corporate culture--inter-service rivalry--despite several attempts to do so. Inter-service rivalry is unfortunately ingrained especially in the minds of the young officer corps. It is a "zero-sum" mentality that suggests "winner take all"--in terms of budget, force structure, and weapons procurement. While some duplication and overlapping mission areas is acceptable (allowing some flexibility and robustness), inter-service rivalry generally

⁶³ Owens, Adm Bill, USN (ret), Lifting the Fog of War, New York, Farrar, Straus and Giroux, 2000, p. 23.

⁶⁴ Ibid., p. 22.

manifests itself in inefficient and wasteful procurement and a tendency for commanders to "divide the pie", perhaps unnecessarily, during military operations.

The National Security Act of 1947, for example, set up the most dysfunctional, worst organizational approach to military affairs I could possibly imagine. In a near-perfect example of the Law of Unintended Consequences, it created a situation in which the biggest rival of any U.S. armed service is not a foreign adversary but another one of its sister U.S. services. Virulent inter-service rivalry still exists--and it's going to kill us if we don't find a better way to do business. Goldwater-Nichols is not the panacea everybody thinks it is.

*Gen A.C. Zinni, USMC (ret)*⁶⁶

We must reaffirm and truly implement the concept of inter-service cooperation, and undertake to implement the true "joint" military organizations to harness their mutual strengths. Despite legal mandates from the mid-1980s, today's joint military organizational structure is rarely joint. Rather, the array of task forces and unified commands consist mostly of components from different services that are administered and trained separately. When brought together they still suffer from insufficient interoperability and poor coordination.

*Adm Bill Owens, USN (ret)*⁶⁷

⁶⁵ Ibid., p. 205.

⁶⁶ Zinni, p. 5.

⁶⁷ Owens, p. 23.

Chapter Six

Summary

It was the greatest military power of its day. Always the innovator, its technologies of war were the newest; its command and control the best of the best. Its ability to mobilize national resources was matchless; its traditions the envy and admiration of all. It was the world's military superpower. But now peace was everywhere...so the great nation refocused, turning its military toward new roles. It built a mobile deterrent force: a rapidly deployable army that could be rushed to quell a regional contingency (or two!) and restore stability. It reshaped its military forces around a core, professional force that could be used flexibly to achieve...the preservation of a stable world system.⁶⁸

This could well be the future epitaph describing the U.S. military a decade or two from now. It is actually a telling description of the French Army in 1860. “Ten years after that milestone, France and Germany fought the Franco-Prussian War, a little-remembered clash between the two neighboring states that took place between July 15, 1870 and May 10, 1871. *Despite numerical superiority, more combat experience, and an apparent lead in weapons technology, France was decisively defeated on the battlefield, saw its armies crushed by superior German tactics, was occupied by a foreign army and suffered a loss in power and international credibility that it never recovered.*”⁶⁹ What was the reason for France’s military defeat? Historians point to France’s ability to

⁶⁸ Owens, p. 21.

⁶⁹ Owens, p.21.

exploit the civilian railroad.⁷⁰ It was France's ability to utilize a disruptive technology during Europe's transformation age.

The U.S. military needs a makeover. Like any complex organization, its bureaucratic tendencies—incrementalism, malaise, resistance to change, institutional paralysis—are easy to assess, but difficult to remedy. Its organization has not changed in decades, even as it touts the potential of technology. While the business world has progressed to flatter organizations, enabled by telecommunications, the DoD remains mired in a segmented, stove-piped structure. However, the complex debate is not just about strategy, organization, funding, technology or a Revolution in Military Affairs—but the integration of each of these matters into an innovative organization responsive to the National Command Authorities.

The U.S. military is not in danger of being supplanted by another military power in the near term. However, military strategists should take heed of the warning signs that mark the potential for continued downturn in the capability of the U.S. military—and the numerous factor outlined that could lead to an unexpected surprise. The significant capability advantages we enjoy today may only be temporary. The inability or unwillingness to take bold, aggressive steps to stem the hemorrhage of capability, adopt a coherent strategy with appropriate funds and re-organize to match 21st century warfare could render the U.S. military dominance a thing of the past. The new administration is at the front end of a strategic inflection point—a point in time where fundamental decisions can change the direction of the DoD or the U.S. military can continue down a perilous path.

⁷⁰ Owens, p. 21.

We are trapped in a “death spiral.” The requirement to maintain our aging equipment is costing us more each year: in repair costs, down time, and maintenance tempo. But we must keep this equipment in repair to maintain readiness. It drains our resources—resources we should be applying to modernization of the traditional systems and development and deployment of the new systems. So, we stretch out our replacement schedules to ridiculous lengths and reduce the quantities of the new equipment we purchase—raising their costs and still further delaying modernization. Compounding this problem is the increased operational tempo required by our worldwide role as the sole remaining superpower, which more rapidly wears out the old equipment.⁷¹

The U.S. military is one of the most trusted organizations in America. As an institution, it is consistently rated at or near the top of all U.S. institutions. But the foundation is cracking at the seams. The challenges facing the U.S. military are not unlike those faced by corporate America in its daily and quarterly battles to fend off competition, increase market share and maintain dominant positions. There are compelling lessons to be learned.

⁷¹ Rand, p. 5.

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