The Quadrennial Defense Review: Rethinking the US Military Posture

by

Andrew F. Krepinevich

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Executive Summary

This report provides a point-of-departure framework for developing a post-9/11 defense posture. Its purpose is to assist those charged either with crafting the 2005 Quadrennial Defense Review (QDR) or evaluating it.

Three Enduring Challenges

Recent events have reduced much of the uncertainty under which defense planning occurred in the decade between the Soviet Union's collapse and the radical Islamist attacks on New York and Washington. The ongoing war against radical Islamists and continued military operations in Afghanistan and Iraq presents America with an immediate and likely enduring challenge to its security. Second, since 1998, the "nuclearization" of Asia has proceeded apace. Both India and Pakistan have detonated nuclear weapons and built nuclear arsenals. North Korea has declared its possession of nuclear weapons, and Iran has accelerated its efforts to develop a nuclear weapons capability. Finally, China's continued rise as a great power has yet to be matched by evidence that Beijing will seek to resolve its outstanding strategic objectives through peaceful means. These three enduring security challenges are likely to dominate US defense planning for the next decade or two, and perhaps longer.

The Planning Environment: Key Assumptions

Some assumptions must be made about the geopolitical and military-technical environment in which defense planning occurs. One assumption is that the level of effort required by the US military to secure the nation's vital security interests is almost certain to increase substantially over the next decade or two, while the emphasis on deterrence will decline in favor of greater relative focus on war-fighting, dissuasion and preemptive/preventive war. Furthermore, it seems

reasonable to assume that allies will prove less durable and reliable than during the Cold War era, or even during the recent past. Ironically, the United States will need allies much more than it has over the last 15 years.

- Among the key military competitions, the following is assumed:
- The missile/anti-missile competition will continue to favor the offense;
- The stealth/counter-stealth competition will continue to favor the former;
- Detecting and destroying time-sensitive and deep underground targets will remain difficult;
- Enemy attempts to establish sanctuaries against US forces will increase, while the US homeland's sanctuary status will erode, perhaps precipitously;
- Information warfare operations will not prove decisive at the strategic level of warfare; however, they will prove increasingly important in prevailing at the operational and tactical level of war; and
- Highly distributed, highly networked forces can be fielded in significant numbers.

The Challenges and the Color Plans

The three enduring challenges stated above are captured in Defense Department planning documents for the 2005 QDR, which place them within the following context:

- *Catastrophic Challenges* to US security, with primary emphasis given to attacks on the US homeland with WMD, especially attacks by nonstate actors.
- *Irregular Challenges* to US security, such as those posed by terrorist groups and insurgent movements. In the near term, the threat emanates from radical Islamist groups, and from the

Taliban and Ba'athist insurgent movements in Afghanistan and Iraq, respectively.

- *Disruptive Challenges* to US security, which involve dramatic shifts in the character of conflict from that which exists today. The challenge is to hedge against an uncertain future in an environment of dynamic change. Certain hedges, for example, might focus on how the US military would need to adapt if one of the fundamental assumptions concerning the character of key military competitions proved wrong, or on how to meet novel or asymmetric challenges such as those posed by enemies fielding anti-access/area-denial forces—what, in China's case, might be termed "Assassin's Mace" capabilities.

- *Traditional Challenges* to US security that range from the familiar threats posed by combined arms mechanized air-land forces that dominated warfare for much of the 20th century beginning with World War II, and those of nuclear-armed states.

To make informed decisions as to the size and shape of the US military, a set of representative contingencies must be derived from these challenges. The Color Plans employed in this study support the development of a military posture that addresses the full range of plausible threats to US security. The Color Plans examine:

- China (Disruptive Peer) (Plan Yellow)

- North Korea (Nuclear Rogue) (Plan Red)

- Pakistan (Failed Nuclear State) (Plan Green)

- Radical Islam (Plan Purple)

- Global Energy Network Defense (Plan Black)

- Global Commons Defense (Plan Orange)

- Nuclear/Biological Homeland Attack (Plan Blue)

Deterrence, Dissuasion and Reassurance

The US military's greatest success comes when, through its efforts, America's interests are preserved without having to resort to war. If defense planners are to avoid the horrors, costs and uncertainties of war, they must also keep the other elements, or pillars, of defense strategy in mind, namely deterrence of adversaries, reassurance of allies, and dissuasion of hostile and friendly competitors. These pillars should exert an important influence on the sizing, shaping and disposition of US forces.

The Program-Budget Disconnect

Given that the challenges confronting the United States are substantially greater now than during the 1990s, it is not surprising that the defense budget has increased by roughly 25 percent in real terms in recent years. Yet even this figure has not proven sufficient to cover the cost involved in waging the ongoing wars in Afghanistan and Iraq, the broader war against radical Islam, and transforming the military to deal with the Color Plan contingencies.

The Defense Department will likely have to exploit a range of options to redress the imbalance that exists between what will be needed for the defense posture versus those resources currently programmed to support it. The "rich man's" approach of simply increasing the Pentagon budget's top line is neither likely, nor desirable, although some increases may be warranted. It is not desirable because it discourages efforts to pursue a "thinking man's" approach that reorients the defense posture on the new security challenges of today and those that may emerge over the next 15–20 years. Greater efficiencies in defense management should be pursued vigorously. The force posture must be adapted to minimize risk. The US alliance portfolio and associated commitments should be revised: too much of the effort in this area is based on tradition rather than on hard-headed strategic assessment. Finally, force transformation should be pursued aggressively, out of opportunity as well as need. It offers perhaps the best chance to get more value for the nation's defense dollars.

A cursory review of the Color Plans reveals some first-order decisions that can be advanced with little fear of being overturned by more detailed analysis:

- The Army and Marine Corps need to reorient themselves on *irregular challenges* to our security, with principal emphasis on

capabilities associated with foreign military assistance, special operations, counterinsurgency, counter-terror "manhunting" and human intelligence.

- The Air Force and Navy need to increase their efforts to address existing and prospective *disruptive challenges*, to include emerging anti-access/area-denial capabilities and threats to the global commons (e.g., space, the infosphere; offshore undersea economic assets such as the global fiber optic grid and energy fields; and maritime commerce).

- It seems likely that the four Services have important roles to play in addressing direct, *catastrophic threats* to the US homeland. These include defense against ballistic and cruise missile attack, border control, defense against delivery of WMD through nontraditional means, and consequence management.

- Military operations over the past fifteen years have demonstrated that when our enemies challenge us in *traditional warfare*, as in the two Gulf Wars and in the Balkans, air power can play an increasingly important if not dominant role. While all four Services should maintain a significant residual capability for traditional warfare, the Army and Marine Corps should be able to migrate more of their capabilities into other challenge areas than either the Air Force or the Navy.

It must be understood that a definitive analysis—one that provides a set of clear, unambiguous answers defining the defense posture—is simply not possible. There are too many uncertainties that cannot be resolved. The best that one can hope for is that careful planning will reduce the degree of uncertainty confronted by senior defense decision-makers and provide them with options for hedging against an unpredictable future. Simply put, once the DoD analysis has been completed, the secretary of defense and his senior military advisors will have to apply their judgment. Waiting for a definitive analysis to make decisions is to wait in vain.

The 2005 QDR has the potential to be the most fundamental review of the US military posture since the dawn of the Cold War. It is thus critically important to seize this opportunity to craft a strategy and force posture to sustain the nation over what is likely to be a long and difficult period.

I. Core Challenges and Planning Assumptions

A Different World

This report provides a point-of-departure framework for developing a post-9/11 defense posture. Its purpose is to assist those charged either with crafting the 2005 Quadrennial Defense Review (QDR), or evaluating it. The focus is primarily diagnostic. Chapter I identifies the major enduring challenges to US security, the military competitions that will shape the military balance, and the critical planning assumptions that will exert the greatest influence on how military competitions will play out over the planning horizon, which is set at 15-20 years.

Chapter II presents the principal challenges confronted by US defense planners. A critique of recent force planning metrics is presented to provide guidance on the relative mix of forces required. This discussion is followed in Chapter III by an elaboration of the Color Plans—a set of contingencies representative of the new conflict environment. The Color Plans enable defense planners to move beyond the relatively sterile (and all too familiar) Desert Storm-like "Major Regional Conflict" (MRC) and "Major Theater War" (MTW) planning constructs that dominated, with modest variations, US strategic reviews during the 1990s and, arguably, the 2001 QDR.

Moving beyond warfighting, Chapter IV examines the potential influence a post-9/11 world may have on the other "pillars" of the US military posture: deterrence, reassurance, dissuasion and preemption/preventive attack, to include the implications for the US alliance portfolio and global basing posture. These pillars, though important, have generally been given short shrift in post-Cold War reviews of the nation's defense posture.

The report's penultimate chapter focuses on the hard choices that will likely confront defense planners owing to a substantial mismatch between the current defense program and projected defense estimates. Finally, Chapter VI presents by recommendations on major programs and the force structure, and concludes with a brief summary.

Those seeking a detailed prescription of modifications to the current defense program will be disappointed, as this is far beyond the scope of this report. However, some general observations are presented on capabilities whose relative value appears to be rising (or declining) significantly. The main effort remains on a diagnosis of the key issues confronting US defense planners, under the assumption that if they are working with the right "map" of the competitive environment, they are far more likely to arrive at the desired end point: a US defense posture that minimizes the risks to the national security.

The world has changed dramatically since the Quadrennial Defense Review in 2001. Although that year's QDR was published following the attacks of 9/11 on New York and Washington, it was released less than three weeks after those events. The overwhelming majority of work done on the review was finished before the attacks. Yet, like the surprise attack on Pearl Harbor on December 7, 1941, Americans knew that the world would now be a very different place, with profound implications for US security. The 9/11 attacks made clear what many Americans had failed to appreciate. The country was at war; indeed, by the declarations of al Qaeda, it had been at war at least since 1998.[1]

Following these attacks, the United States undertook major military operations to unseat the Taliban regime of Afghanistan and

[1] In 1998, al Qaeda declared war on the United States. See Osama bin Laden's *Fatwa* "Jihad Against Jews and Crusaders," available at http://www.pbs.org/newshour/terrorism/international/fatwa_1998.html. The radical Islamist group had been planning or conducting attacks on US interests for a number of years prior to that date. An argument can be made that the conflict between radical Islamists and the United States began much earlier. Consider the Iranian radical Islamist regime's seizure of the US embassy in Tehran in 1979 and its subsequent support for attacks on the US Marine barracks in Beirut, the kidnapping of American citizens in the Middle East, and its likely role in the Khobar Towers attack in 1996 ("Iran Denies US Bombing Link," *BBC News*, May 9, 2001). Viewed from this perspective, the war between the United States and radical Islamists has been going on for over two decades, with its violence limited only by the enemy's relative weakness, and the complacency of a succession of US administrations.

the Ba'athist regime in Iraq. Washington now seeks to stabilize those states sufficiently to enable the development of some form of democracy. Correspondingly, the US defense budgets have increased substantially.

Recent events have reduced much of the uncertainty under which defense planning occurred in the decade between the Soviet Union's collapse and the Islamist attacks on New York and Washington. The ongoing war against radical Islamists and continued military operations in Afghanistan and Iraq present America with an enduring challenge to its security. Moreover, since 1998, the "nuclearization" of Asia has proceeded apace. Both India and Pakistan have detonated nuclear weapons and built nuclear arsenals. North Korea has declared its possession of nuclear weapons, and Iran has accelerated its efforts to develop a nuclear weapons capability. Finally, China's continued rise as a great power has yet to be matched by an increase in confidence that Beijing will seek to resolve its outstanding strategic objectives through peaceful means. These three enduring security challenges are likely to dominate US defense planning for the next decade or two, and perhaps longer.

Radical Islamists

The first, and most obvious long-term challenge, is that posed by radical Islamists. Today the United States does not confront a war against terrorism. Terrorism is a form of war, not an enemy. Rather, the United States is at war with radical Islam. Radical Islamists are employing terrorism as the only form of warfare available to them at the moment, just as an insurgent movement employs terrorism as its principal means of war while it seeks to gain strength for more ambitious forms of military operations. Radical Islamists constitute a transnational, theologically based insurgent movement seeking to overthrow regimes in the Islamic world that are friendly toward the United States, and to evict US presence from parts of the world viewed as vital to America's interests.

Aside from its transnational character and theological roots, this insurgency differs from most in that its leaders seek to employ advanced technology—in the form of telecommunications for coordination, and weapons of mass destruction—to cause maximum destruction. The radical Islamists' global network, their lack of respect for the laws of war and the lives of innocents, combined with their apparent willingness to employ weapons of mass destruction and disruption, should they acquire

them, makes this insurgency especially threatening. Radical Islamists have exploited elements of globalization, to include financial networks, the internet and increasingly porous borders, to form a network whose reach is global. Moreover, insurgencies and wars of religion tend to be protracted affairs and, particularly in the case of religious wars, often bloody as well. The roots of this insurgency run deep. No one should be under the illusion that this war will be won quickly, or that the price of victory will be cheap. As with most insurgencies, victory lies less in military action than in the successful treatment of political, economic and social ills, and in winning the "war of ideas" against those advancing a perverse and dangerous distortion of the Islamic faith. But success takes years, and often decades. In the interim, the military's job is to buy the time needed for these other elements of counterinsurgency to succeed.

Nuclear Proliferation

The second major, enduring challenge to US security is the spread of nuclear weapons to unstable and/or hostile states in Asia. Since 1998, India and Pakistan have tested nuclear weapons and created nuclear arsenals. North Korea apparently has nuclear weapons and is producing the fissile material necessary to fabricate more of these devices.[2] Iran, no doubt aware of the very different treatment accorded North Korea by the United States relative to a non-nuclear Iraq, is pressing forward vigorously with its nuclear weapons program. It is conceivable that before the decade is out, a solid front of nuclear armed states will stretch from the Persian Gulf to the Sea of Japan, running through Iran, Pakistan, India, China and North Korea, with Russia looming from above—a four-thousand mile "atomic arc of instability" in a part of the world which has become increasingly important to US security and economic well-being.

These states may not view nuclear weapons in the same way that the United States' political leadership has come to view them over the years; i.e., as weapons of last resort, to be used only under the most extreme circumstances. In particular, it is far from certain that Iran, North Korea and Pakistan, whose cultures are quite distinct from that of the United States, and whose regimes are either unstable or unremittingly hostile (or both), view the role of nuclear weapons in this way.

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[2] David E. Sanger, "North Korea Says it Now Possesses Nuclear Arsenal," *New York Times*, April 24, 2003.

The acquisition of nuclear weapons by hostile rogue regimes also threatens to disrupt the military balance. All things being equal, the United States' willingness to project power against nuclear-armed adversaries would likely be much more constrained then against those who do not possess them. Washington may be compelled to alter its war aims when confronted by rogue states armed with nuclear weapons (e.g., abandoning the objective of regime change).[3] This seems to be a principal motive for North Korea and Iran to acquire nuclear weapons. If they succeed, it will reduce substantially, and perhaps precipitously, US freedom of action in two regions of vital interest. It may also make it far more difficult to deal effectively with ambiguous forms of aggression, such as Iran's support for the insurgency in Iraq, or potential North Korean trafficking in fissile materials.[4]

The proliferation of nuclear-armed states also increases the likelihood that these weapons will be used. Again, it is not clear that they will be viewed as weapons of last resort, or that the regimes possessing them will take the kinds of precautions to secure them against unauthorized use that the mature nuclear powers put into place over the years. Owing to the relative instability of states like Iran, North Korea, and Pakistan when compared to the mature nuclear powers, it is conceivable that these weapons could fall into the hands of nonstate entities, either as a consequence of corruption (e.g., the unauthorized sale of a nuclear weapon to a nonstate entity), or state failure (e.g., possession by a faction in a civil war; seizure by radical Islamists). Nor can one discount the possibility that a state like North Korea, which proliferates ballistic missile technology, or Pakistan, whose prime nuclear scientist was running a nuclear weapons production materials bazaar, would consciously provide, for a price, nuclear weapons or fissile material to other states, or even nonstate groups.

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[3] It is fair to ask whether the United States would strike a nuclear-armed state under *any* circumstances. However, during the Cold War the US military had plans to attack its nuclear superpower rival, the Soviet Union, with nuclear and non-nuclear weapons. It is possible to envision plausible scenarios, to include those involving regime change, when a nuclear-armed adversary would be subjected to the full range of US military capabilities. For instance, were North Korea to employ nuclear weapons, or execute attacks that resulted in mass casualties (e.g., a chemical or biological attack on Seoul), the United States might consider regime change operations to be necessary.

[4] In the case of Iran and North Korea, there also exists the possibility that the regimes in power will, at some point, either collapse or be overthrown. Should this occur, a period of chaos may ensue. If so, the security of those countries' nuclear arsenals could be at risk.

To put it bluntly, the United States is now in an era that might be characterized as a "Second Nuclear Regime," with the First Regime, which began in 1945 with the attacks on Hiroshima and Nagasaki, having passed into history. That earlier regime was defined by two principal elements: first, a few, "mature" great powers possessing nuclear weapons, with all but China having a common European cultural orientation. Second, during that period, which lasted until the early 1990s, there developed a strong tradition of non-use of these weapons. Now the former characteristic no longer holds, while the latter is open to debate.

We might expand this regime's definition to include state and nonstate actors possessing biological weapons. By all accounts, biological weapons are becoming progressively easier to fabricate—certainly far easier than nuclear weapons—and, under the right conditions, can produce the mass casualties, economic disruption and terror associated with a nuclear strike. Yet little has been done to restrict the knowledge associated with developing biological weapons, and the infrastructure costs for producing them are quite modest when compared to those associated with nuclear weapons.[5] For nonstate entities, this combination of comparatively low cost and high destructive potential may make the pursuit of biological weapons irresistible.

China

The third enduring challenge the United States confronts is the rise of China to great regional power status and, perhaps, over time to global power status. To date, discussions about the disposition of China often describe it as either a threat that must be addressed along the lines of the Soviet Union, or as a state that simply needs to be engaged and brought more fully into the global economy to ensure it will remain a member in good standing of the international community.[6]

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[5] Steven M. Kosiak, *Homeland Security, Terrorism and Weapons of Mass Destruction: A Diagnostic Assessment* (Washington, DC: Center for Strategic and Budgetary Assessments, 2003), pp. 47-56.

[6] See, for example, Aaron L. Friedberg, "Ripe for Rivalry: Prospects for Peace in a Multipolar Asia," *International Security*, Winter 1993/1994, pp. 5-33; David C. Kang, "Getting Asia Wrong: The Need for New Analytical Frameworks," *International Security,* Spring 2003, pp. 57-85; and Amitav Acharya, "Will Asia's Past be its Future?" *International Security*, Winter 2004, pp. 149-164.

The truth probably lies somewhere in between these rosy and gloomy poles. China does not represent the type of threat posed by the Soviet Union. For example, unlike Soviet Russia, China is not wedded to an aggressive, expansionist ideology. However, this does not mean that China will not pose challenges to the United States. Rather, if it does, they are likely to be advanced in different forms, employing different means. For example, whereas the United States had no significant commercial relationship with the Soviet Union, it has an enormous economic relationship (and trade deficit) with China. Moreover, both the United States and China may have important common security interests in the area of limiting the proliferation of weapons of mass destruction (WMD) and combating radical Islamists.[7] Should this prove to be the case, a more appropriate analogy might be the alliance formed by Great Britain and the Soviet Union in the wake of Germany's invasion of the USSR in June 1941. Britain, which had been at war with Germany for two years prior, quickly embraced Stalinist Russia as an ally, despite their many mutual antagonisms.

On the other hand, China could emerge as a major threat to US security in the manner of Germany against Britain a century ago. Like Germany in the late 19th and early 20th century, China is a rapidly rising power. China is also beset by questions of political legitimacy; growing ecological problems; an economy that has enjoyed remarkable growth, but which may be entering a more mature period characterized by slower growth; potentially serious demographic problems that could induce societal instability; a rapidly growing dependence on foreign energy supplies; and outstanding security issues in the form of Taiwan, the Spratley Islands, Tibet, and perhaps portions of the Russian Far East. This could lead to friction between Washington and Beijing, especially if the other two major threats to international peace and stability cited above are slow to mature.

China presents problems for US forces quite different in some respects from those posed by US adversaries in other post-Cold War conflicts. For instance, the scale of military effort that China can generate far exceeds that of any rogue state. China's anti-access/area-

[7] Conversely, radical Islamists or nuclear-armed rogue states might preoccupy the United States far more than China. If so, the latter might be tempted to exploit this preoccupation by engaging in military operations that would jeopardize US security interests (e.g., coercion of Taiwan). An example here is the Soviet Union's use of the 1956 Suez Crisis to reassert, by force, its control over Hungary.

denial (A2/AD) capabilities are far more mature than any potential US rival.[8] China's enormous size (it is the world's fourth largest country) also provides it with great strategic depth, a problem US defense planners have not had to address since the Cold War.

There is also some evidence that China seeks to displace the United States as the principal military power in East Asia, and to establish itself as the region's hegemonic power.[9] If this were to occur naturally, stemming from the evolution of Chinese economic power and a corresponding increase in influence, the United States would probably accept such an outcome. However, if Chinese preeminence were achieved through coercion or aggression, this would serve neither US interests in the region, nor the stability of the international system and rule of law.

The challenge, then, for the United States is to encourage China to cooperate in areas where the two states have common security interests, and to convince Beijing that the resolution of its outstanding geopolitical issues should be accomplished within accepted international legal norms. This means creating and maintaining a military balance in East Asia that is favorable to the United States and its allies against those kinds of contingencies that might tempt Chinese efforts at coercion or aggression. Since, for a variety of reasons, China is unlikely to challenge the US military symmetrically, the US defense planner's challenge will be to adapt its forces to confront more novel forms of Chinese military power.

A Relevant Transformation?

The challenges described above are likely to manifest themselves in forms quite different from those that dominated the Cold War American military's attention. The old, familiar threats posed by the

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[8] A combination of asymmetric capabilities sometimes referred to as "Assassin's Mace," comprise the core of China's A2/AD threat. Among these capabilities are advanced air defenses, information operations, ballistic and cruise missiles, and underwater systems (e.g., submarines) and munitions (e.g., anti-ship mines). See Michael Pillsbury, "China's Military Strategy Toward the U.S.: A View From Open Sources," *U.S.-China Economic and Security Review Commission,* Commission Contracted Research Paper, November 2, 2001, available at http://www.uscc.gov/researchpapers/2000_2003/pdfs/strat.pdf.

[9] Aaron L. Friedberg, "The Struggle for Mastery in Asia," *Commentary*, November 2000, pp. 17-26.

Soviet military have, in many instances, dissipated under the weight of the US military's primacy in key traditional warfare areas. There is no blue-water navy to challenge the US fleet's maritime dominance. Would-be adversaries seem more intent on acquiring missile forces, not manned fighter wings to counter US air power. One searches in vain to identify the country that seeks to field large, advanced mechanized ground forces as the best way to challenge the US Army.

The Department of Defense (DoD) asserts that it is transforming the US military to address the changing environment. As evidence it cites efforts under way among the military services to alter substantially their forces and approach to warfare. The Army, for example, is restructuring its forces to be more expeditionary, and more capable of conducting stability operations. However, serious questions remain as to whether its plans are practicable or whether its concept of lightly armored forces is viable over the 15-20 year planning horizon.[10] There are also doubts as to how the Army will be able to sustain itself in the face of the force requirements for sizeable, extended contingencies, such as those in Afghanistan and, especially, Iraq.[11]

The Navy plans to create squadrons of small, modular, networked combatants, while continuing efforts to distribute firepower throughout the fleet. However, as with the Army, there are some major questions concerning how this fleet will deal with the challenge of gaining rapid access to contested littoral areas, or how it can sustain itself through a series of protracted, low-end contingencies.[12]

The Air Force has also restructured its forces into Air Expeditionary Forces to be more deployable. The Service is moving toward a strike force that is dominated by stealthy fighter aircraft employing precision-guided munitions (PGMs), reflecting both the trends in strike operations over the last few decades, and the anticipation of less benign air defense environments in the future. However, it continues to pursue an investment strategy that is highly imbalanced in favor of short-range tactical fighter aircraft, even though, thanks to precision weaponry, the US military required less than half the number of these aircraft in the

[10] See Andrew F. Krepinevich, *Transforming the Legions: The Army and the Future of Land Warfare* (Washington, DC: Center for Strategic and Budgetary Assessments, 2004).

[11] Andrew F. Krepinevich, "The Thin Green Line," *Center for Strategic and Budgetary Assessments*, August 2004.

[12] See Robert O. Work, *Naval Transformation and the Littoral Combat Ship* (Washington, DC: Center for Strategic and Budgetary Assessments, 2004).

Second Gulf War as were needed in the First Gulf War.[13] The Service is persisting in this effort, even though access to forward air bases has become increasingly problematic, and will almost certainly only worsen over time.[14] The problems associated with a strike arm centered almost entirely around short-range aircraft are likely to be compounded further if (as has been the case to date) time-sensitive targets (TSTs) are better defeated through persistent loitering or "dwell" tactics than by aircraft attempting a high-speed dash to the target, or if an adversary's strategic depth demands long-range strike systems to cover all critical targets.[15] Yet the Air Force has no plans to field a new long-range strike (LRS) system until the 2030s time frame.[16]

The Defense Department's planning performance is mixed in other areas as well. For example, it is developing capabilities to defend the nation against attack by weapons of mass destruction. However, DoD has thus far accorded little priority to defending against arguably the most likely form of WMD attack—the infiltration of these weapons into the United States.[17]

It is clear, but perhaps not surprising, that defense planners are struggling to adjust to the rapid pace of events. But as much as the world has changed in three short years, the fact is that more change is on the way. Concerns regarding a fundamental change in the character of key military competitions remain valid. The attacks of 9/11 and the subsequent "Global War on Terrorism" (GWOT) and protracted irregular conflicts in Afghanistan and Iraq are only harbingers of a much broader transformation in the character of conflict. This should have a very sobering effect on the Defense Department. Transforming

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[13] Lt. Gen. T. Michael Moseley, "Operation Iraqi Freedom—By the Numbers," USCENTAF Assessment and Analysis Division, April 30, 2003, p. 6.

[14] For a discussion of this issue, see Christopher J. Bowie, *The Anti-Access Threat and Theater Air Bases* (Washington, DC: Center for Strategic and Budgetary Assessments, 2002).

[15] Short range here is defined as unrefueled combat radius up to 1,000 nautical miles (nm), with long-range being 3,000 nautical miles or greater.

[16] For a detailed assessment of the long-range strike issue, see Barry D. Watts, *Long-Range Strike: Imperatives, Urgency and Options* (Washington, DC: Center for Strategic and Budgetary Assessments, 2005).

[17] To be sure, it is not clear what specific role the Defense Department is supposed to fill in defending against non-traditional WMD attacks against the United States. See Andrew F. Krepinevich Jr., "Combating Terrorism: A Proliferation of Strategies," Testimony before the Subcommittee on National Security, Emerging Threats, and International Relations, House Government Reform Committee, March 3, 2003.

the US military in anticipation of these challenges to US security proved difficult in the decade preceding 9/11; indeed, historically speaking, transformation has always been a struggle for military organizations. Yet, given the demands of an ongoing war, transformation will be even more difficult now. There is a danger of viewing transformation through a rear-view mirror—undertaking major change principally to address immediate challenges that were not prepared for over the last decade, as opposed to anticipating coming discontinuities in warfare and adapting the military before the threats emerge in full form.

For example, "reactive transformation" appears to be driving the Army's efforts, which have been focused more on resolving issues emanating from the 1999 Balkan War and, most recently, the insurgency in Iraq. To be sure, the Army should be adapting in the face of contemporary challenges, but the Army needs to anticipate change as well. Put another way, if the Defense Department becomes overly focused on adapting the military to defeat ongoing insurgencies in Afghanistan and Iraq, the US military may lose sight of the need to prepare for challenges that are likely to be as different from what they confront in Central and Southwest Asia today, as these conflicts are from those of the Cold War era. These challenges will be outlined in more detail presently, in the form of the "Color Plans," and in the assessment of longer-term trends in warfare.

A Matter of Timing and Balance

The need to transform—to invest in a substantially different set of military capabilities, forces and warfighting concepts in anticipation of a discontinuity in the character of key military competitions—must be balanced with the need to maintain a sufficient level of military capability to address immediate challenges. The lower the immediate or near-term challenges, either existing or anticipated, the easier it is to emphasize investment in capabilities that will pay off over the longer-term. In this regard, the 1990s, a period in which the threat to US security was lower than at any time in the last half century, can be seen as a lost opportunity, especially since the need for transformation was clear to many defense experts.[18]

[18] For example, during the 1990s the Office of Net Assessment (Office of the Secretary of Defense); the National Defense Panel; the Hart-Rudman Commission; and certain senior military leaders all discussed the need for some

Transformation is a far more difficult proposition under current circumstances, when the nation is at war. This is especially true for the Army and, to a lesser extent, the Marine Corps, which are bearing the overwhelming brunt of combat in Afghanistan and Iraq. Moreover, there is an understandable view on the part of senior civilian and military leaders alike that the Defense Department's focus must be on what is needed to win today's war. This perspective, combined with a desire to focus defense resources on becoming more effective within familiar threat environments, as opposed to emerging military challenges, has dominated much of the US military's approach to modernizing its forces.[19]

Take the Army, for example, whose initial transformation effort began in 1999. But its emphasis on rapidly deployable forces was more reflective of its previous experience in the Balkan War and the Task Force Hawk deployment, than a well-defined vision of future warfare.[20] The Army modified its plans to field an Objective (or Future) Force comprising land force battle networks to enable the Service's Future Combat Systems. However, this approach is primarily oriented on defeating a conventional adversary waging an open battle in *blitzkrieg*-era operations; in other words, a familiar threat.[21] Recently, Army transformation has been further reoriented toward enabling the Service to conduct so-called Phase IV, or "post-conflict" stability/counterinsurgency operations, more effectively. In short, when the Army has focused on the future, it is primarily oriented on addressing a traditional problem—conventional mechanized forces. When it has moved to adapt, its transformation has been in reaction to unanticipated

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form of military transformation. Interestingly, there has not been a consensus as to what form transformation should take, or how quickly and thoroughly the transformation advocated should be effected. This report's assessment draws primarily on the author's work while serving in the Office of Net Assessment (1989-1993) and as a member of the National Defense Panel (1997).

[19] The overwhelming majority of the Defense Department's modernization funding is allocated toward fielding improved versions of existing capabilities (e.g., manned aircraft; large surface combatants), as opposed to capabilities that have the potential to enable a quantum leap in military effectiveness (e.g., robotics; networks; advanced training; distributed sensors). What is needed, of course, is an optimum mix of emerging and legacy systems that, together, support operational concepts oriented on meeting the new challenge to US security. See Andrew F. Krepinevich, *Defense Investment Strategies During Periods of Military Discontinuity*, unpublished paper, December 2004.

[20] At that time, the Army was strongly criticized for its inability to deploy ground forces rapidly (i.e. Task Force Hawk) into Albania during Operation Allied Force.

[21] See Krepinevich, *Transforming the Legions*, pp. i-iii.

requirements, such as the need to deploy rapidly or to cope with an insurgency. To be sure, it is better to react to a change in the character of the military competition than not adapt at all. However, it can be said with equal certitude that it is far better to anticipate change than to react to it. In short, "anticipatory" transformation is superior to "reactive" transformation, which is preferable to organizational inertia in the face of change.

Finally, the reader should understand that the Army is cited here not because it is the "poster child" for lagging transformation. The Army has arguably expended more energy and resources on effecting change than any other Service. This is particularly remarkable given that the Army is today by far the most stressed branch of the US military, given its dominant role in Afghanistan and Iraq. What is of concern is whether the Army, and the US military more broadly, are pursuing the right transformation path.

The Heart of the Matter

The US military thus confronts the challenge of adapting itself to wage a kind of war—counterinsurgency—for which it had not prepared, while also anticipating disruptive shifts in the military competition. These disruptions, or major shifts in the military competition can be stimulated by several factors, principal among them a combination of new military capabilities, warfighting concepts and organizational structure that together bring about a military revolution.[22] An example is the revolution in naval warfare during the 1920s and 1930s brought about principally by the rapid advances in aviation that enabled aircraft carriers to supplant battleships as the preeminent form of military power at sea.[23]

Such shifts are often difficult to predict, both in terms of *when* precisely they will occur and *how* they will influence the character of

[22] Andrew F. Krepinevich, *The Military-Technical Revolution: A Preliminary Assessment* (Washington, DC: Center for Strategic and Budgetary Assessments, 2002). This is a reprint of an internal Defense Department document initially published in 1992 by the Office of Net Assessment, Office of the Secretary of Defense. See also Michael G. Vickers and Robert C. Martinage, *The Revolution in War* (Washington, DC: Center for Strategic and Budgetary Assessments, 2004).

[23] For a discussion of this revolution, see Andrew F. Krepinevich, "Revolution at Sea: The US Navy and Carrier Aviation," unpublished paper, n.d.

warfare. Consequently, during periods of great military discontinuity, or military revolution, defense planners confront a level of risk and uncertainty that is considerably higher than during periods of evolutionary change. Thus militaries can incur severe penalties if they fail to transform, or if they pursue the wrong transformation path.[24] What this also means is that there is typically strong resistance within organizations against change, especially among organizational sub-cultures that stand to lose the most. Thus those advocating transformation are often accused of possessing a flawed vision of the future.[25]

Another problem with anticipating discontinuities is that the newly dominant force characteristics tend to under perform legacy force characteristics in at least one key area of the passing military regime.[26] This makes it difficult for advocates to win over more traditionally minded individuals as to the merits of the new capability. For example, the carrier air wing that came to dominate warfare in the Pacific during World War II possessed only a small fraction of a battleship's firepower. What proved crucial, of course, was the carrier air wing's ability to apply that firepower over far greater distances than could a battleship.

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[24] Pursuing the wrong transformation path presents the illusion that the military is adapting to different circumstances, when in fact it is not. Moreover, it may prove very difficult to deviate off the chosen path as new force elements, doctrine and capabilities are developed and take root. For example, Admiral John Fisher, the Royal Navy's First Sea Lord from 1904-1910, identified the rapidly growing range of torpedoes as a threat to traditional fleet operations. Part of his solution was to design a battle fleet built around speed and extended-range firepower. Alas, Fisher erroneously came to believe that the challenge of hitting enemy ships at long-range was resolved, when in fact serious problems remained. For the story of Fisher's efforts to transform the Royal Navy, see Jon Tetsuro Sumida, *In Defense of Naval Supremacy* (Boston, MA: Unwin Hyman, 1989), and Nicholas A. Lambert, *Sir John Fisher's Naval Revolution* (Columbia, SC: University of South Carolina Press, 1999). This points out the need to pursue a "hedging" strategy that incorporates alternative transformation paths. For a discussion of hedging strategies, see Krepinevich, *Defense Investment Strategies During Periods of Military Discontinuity*, pp. 26-31.

[25] At times, the skeptic's views are proven correct. One example is that of France's *Jeune Ecole*, which erroneously argued in the late 19th century that torpedo boats could effect a radical shift in the maritime balance. See Peter Padfield, *Battleship* (Edinburgh, UK: Birlinn Limted, 2000), pp. 57-58.

[26] See Joseph L. Bower and Clayton M. Chistensen, "Disruptive Technologies: Catching the Wave," *Harvard Business Review* (January-February 1995). The authors write for a very different audience—corporate America—than do military strategists. However, it is possible, and often quite beneficial, for defense planners to glean insights from how the highly competitive corporate sector identifies potential sources of advantage.

Unfortunately, there may be little time to adapt for those who fail to anticipate and prepare for discontinuities. For example, the French military had only weeks to adapt in the face of Germany's *Blitzkrieg* onslaught in May 1940. Alternatively, had the United States not been prepared and able to conduct fast carrier task force operations immediately following the attack on Pearl Harbor, the Imperial Japanese Navy would have had a free hand in the Pacific. This would almost certainly have made defeating Japan a far more difficult proposition than it was historically. Given that the penalty for failing to prepare properly for the dramatic changes in warfare brought about by discontinuities can be severe, the Pentagon needs to pursue transformation vigorously now, to anticipate change (and *shape* it wherever possible), rather then find itself in the uncomfortable—and dangerous—position of reacting to change.

The degree of risk described here is somewhat circumstantial. A *status quo* power seeks to transform to better secure its existing position. Here transformation establishes a blocking position of sorts against the efforts of revisionist rivals to alter the character of key military competitions for the purpose of overturning the existing order.[27] *Blitzkrieg* capabilities in the hands of Hitler's revisionist Germany proved far more calamitous then they would have if they had been perfected first by, say, the French, who sought to affirm the existing international order. Similarly, the world would have looked quite different if the Soviets, and not the Americans, had enjoyed a monopoly over nuclear weapons at the end of World War II.

Critical Planning Assumptions

Uncertainty is no excuse to defer planning. Some assumptions must be made about the environment in which defense planning must occur. These assumptions are needed as a first step in evaluating the Color Plans that follow. The plans reflect the challenges emerging from the three protracted competitions presented above, which in turn define significant changes in the form of military competitions that separate the current planning environment from that which existed in the late Cold War and in the 1990s. These critical planning assumptions describe the character of key military competitions and aid the planner in defining specific threats or contingencies. They also highlight the

[27] I am indebted to Michael Vickers for this observation.

need to hedge against the possibility that some key assumptions may prove wrong.

One clear assumption that emerges from this diagnosis is that the net scale of effort required by the US military is almost certain to increase substantially. To be sure, Iraq has (at least temporarily) been struck from the list of rogue states, and al Qaeda may have been dealt a significant setback following 9/11. However, these positive conditions will likely be more than offset by the need to continue balancing a rising China in such a way to discourage it from resolving outstanding issues though the use of force, adapting to the increase in nuclear-armed states, and dealing with the eruptions of a volatile Islamic World. To this must be added the decline in US alliance cohesion. The problem of "scale" is best illustrated today by the Army's difficulties in sustaining its forces in the field. This may be seen as "the canary in the mineshaft," forewarning a potential crisis in the nation's ability (or perhaps more accurately, *willingness*) to provide sufficient human and material resources to meet the demands of a new, and more threatening, security environment. It is assumed here that the nation will be more generous with its pocket book than with its sons and daughters; i.e., that the United States and its military will prefer to increase the defense budget and seek capital-intensive solutions to the threats confronting the nation, rather than move to increase manpower by instituting a program of involuntary service (e.g., a draft).[28] This also tells us something about the kind of allies that may be most desirable for the United States.

This assessment further assumes that the force posture's relatively high emphasis on deterrence will decline in favor of greater relative emphasis on warfighting (after all, the United States *is* at war), dissuasion and preemptive/preventive war. As for the other pillar of US military strategy, reassurance of allies, it assumes that allies will prove less durable and reliable than during the Cold War era, or even the recent past. Ironically, it is also assumed here that, owing to the problem of scale mentioned above, the United States will need allies

[28] It may be possible to increase the US military to its Cold War troop levels, which were roughly 50 percent greater then today's troop strength, by spending more to attract and retain young men and women. Military pay, benefits and quality of life have increased substantially in recent years, so much so that the Bush Administration's military buildup has had little appreciable impact on equipment recapitalization. Yet the Army is still experiencing difficulties sustaining a much smaller force than that which fought in the First Gulf War. This makes it difficult to conclude that a far larger all-volunteer Army could be fielded at anything approaching an acceptable cost.

much more than it has over the last 15 years. Moreover, it will need allies in different parts of the world, and for a different set of mission priorities than those associated with the Cold War era. Unfortunately, this occurs at a time when traditional US allies are reducing their defense efforts and focusing more on local security.

Any discussion of military competitions that looks 15-20 years into the future must acknowledge considerable uncertainty with respect to how they will play out. Over the past century, the US military experienced several major shifts in warfare that could not have been easily predicted fifteen years in advance. It is necessary, therefore, both to identify the principal uncertainties that will most influence the future military competition, and to be explicit about the assumptions as to how these critical uncertainties will be resolved.

Among the key military competitions, it is assumed that the following conditions will obtain:

- The missile/anti-missile competition will continue to favor the offense;
- Stealth will endure;
- Detecting and destroying time-sensitive targets and deep underground targets will remain difficult;
- Enemy attempts to establish sanctuaries against US forces will increase, while the US homeland's sanctuary status will erode, perhaps precipitously;
- Information warfare operations will not prove decisive at the strategic level of warfare; however, they will prove increasingly important to prevailing at the operational and tactical level of war; and
- Highly distributed, highly networked forces can be fielded in significant numbers.

These assumptions will be elaborated upon below. They are also woven into the Color Plans that follow.

The Missile/Anti-Missile Competition Will Remain Offense Dominant

The missile age has been with us since the latter part of World War II. Since that time, despite significant advances in a range of technologies relating to ballistic missile attack and missile defense, the competition has consistently favored the attacker. That is to say, assuming each side has equal resources, ballistic missile attacks have maintained a wide advantage over missile defenses. Although ballistic missile payloads are quite small relative to bomber capacity, nuclear weapons have made this distinction irrelevant.

Moreover, the attractiveness of ballistic missiles to US rivals is augmented by America's dominance in aerial combat. A large-scale US effort to develop effective defenses against ballistic missile attacks has been under way for over two decades. The overall effort dates back more than half a century. However, it has yet to produce the kind of missile defense systems that would overturn the existing offense-dominant regime. Indeed, there are doubts as to those systems' prospective effectiveness against even the modest missile arsenals of a rogue state.[29] To be sure, the maturing of missile defenses, especially those based on advances in directed energy, could obviate this assumption. However, the enduring offensive-dominance in this key area of military competition argues strongly in favor of the assumption that the *status quo* will prevail.

Stealth Will Endure

The competition in identifying stealthy systems (e.g., aircraft, submersibles) appears generally to favor those seeking to avoid detection. This regime, however, seems less stable than that of missile attack and defense. The disparity that favors stealthy systems does not appear to be anywhere near as wide as that favoring the offense in the missile/anti-missile competition. It does seem likely, however, that over the foreseeable future, stealth will continue to afford significantly greater protection from detection than nonstealthy aircraft, surface ships and land combat systems. Hence, stealth will likely remain an attractive capability for those able to afford it, in that it will cost substantially

[29] Even small powers like North Korea have ballistic missiles that number in the hundreds.

more in time and resources to offset the benefits of stealth then it will to create them.

We can expand the definition of stealth beyond military systems to include terrorists or insurgents who make identification and discrimination difficult by blending in with the local population. It is assured that, so long as the indigenous population remains supportive of such people (or intimidated by them), this competition will favor those seeking to avoid detection over those trying to identify them.

Identifying and Defeating Time-Sensitive and Deep Underground Targets Will Remain Difficult

The US military has not yet succeeded in solving the challenges involved in identifying, tracking and neutralizing critical, time-sensitive targets, such as the Scud missile transporter-erector-launchers (TELs) encountered in Operation Desert Storm, or al Qaeda and Taliban leaders in Operation Enduring Freedom, or Saddam Hussein and other key Iraqi leaders in Operation Iraqi Freedom. Despite significant progress in recent years, dramatic improvements seem unlikely in the near- to mid-term future to the point where these targets will be vulnerable at a level comparable to that of fixed-point targets. As mobile ballistic and cruise missile launchers continue to proliferate, the challenge may grow even more formidable. The reason is that these missile systems will likely be able to hold forward air ports of debarkation (APODs) and sea ports of debarkation (SPODs) at high risk of destruction. Other elements of an enemy's A2/AD force may restrict US forces' access on an even wider scale (e.g., in littoral waters). This may force key elements of any US capability for defeating the critical mobile threat to operate at greatly extended ranges. This could significantly extend engagement cycle times and further complicate efforts to neutralize key time-sensitive targets. Indeed, if long-loitering tactics prove key to defeating TSTs, the demand for extended-range Intelligence, Surveillance, and Reconnaissance (ISR) and strike elements could be far greater than planned for in the Bush Administration's defense program. If terrorists and insurgent groups proliferate, they may stretch US resources further and become progressively more difficult to track and destroy before intelligence on their whereabouts grows stale.

Detecting and destroying deep underground targets also seems destined to remain difficult. No matter how accurate US precision weapons may become, and despite improvements in explosives and weapon penetration, their ability to destroy hardened underground targets is almost certain to be trumped by an enemy who can bury key facilities ever deeper. Assuming the United States rules out the use of nuclear weapons, it may be possible to neutralize these sites through effects-based operations (EBO).[30] But this is far from certain. Of course, ground forces conducting commando-style raids could physically occupy the site of a deep underground target and destroy it; but this may take a level of effort that makes the prompt destruction of these sites impossible. Finally, while the United States has a number of initiatives under way to address this problem, considerable uncertainty exists as to the location of critical deep underground facilities in countries like North Korea.[31]

Efforts to Deny Sanctuary Will Grow in Importance

Enemies are finding ways to create sanctuaries, while at the same time denying the United States the relative sanctuary it has long enjoyed from most forms of attack.[32] Despite the Cold War's end and the rise of a *Pax Americana*, the United States still finds itself having to deter rogue regional powers.[33] Depending on the character of the conflict, should

[30] For a discussion of EBO, See Major General David A. Deptula, *Effects-Based Operations: Change in the Nature of Warfare* (Arlington, VA: Aerospace Education Foundation, 2001).

[31] Indeed, prior to the First Gulf War US intelligence substantially *underestimated* the number of WMD production and storage sites in Iraq.

[32] To be sure, the US military is capable of destroying any terrestrial target, thanks to the enormous destructive power of nuclear weapons. However, not every war is a total war. (Indeed, most wars are limited in their character.) In limited wars, the participants do not apply force at the maximum potential intensity, and/or limit the targets against which force is applied. This is sometimes referred to as placing limits on the vertical or horizontal escalation, respectively, of the conflict. Those targets that are "out of bounds" owing to these limits are sanctuaries from attack that are granted by the belligerents.

[33] Some might question the use of the term *Pax Americana*, given that the United States is currently at war in Afghanistan and Iraq, and more broadly against radical Islamists. However, the *Pax Britannica* saw Britain engaged in a major conflict (the Crimean War), numerous colonial wars, and policing the seas to combat pirates and the slave trade. During the *Pax Romanum*, Rome was almost continuously at war.

deterrence fail, an aggressor's territory might be accorded sanctuary status (as was the case, for example, with China during both the Korean and Vietnam wars) to avoid escalating the conflict. Sanctuary status in some form may also be accorded to lesser powers, especially if they possess a nuclear arsenal-in-being. Such an arsenal might be used by an enemy the way a fleet-in-being was used by states in the past—to limit the actions of a stronger adversary.[34] Thus a rogue state with a small nuclear capability may refrain from employing it as long as the United States refrains from engaging in "regime change operations" (e.g., striking at leadership targets, invading the rogue state's territory, etc.).

If states are accorded sanctuary status owing to their acquisition of nuclear weapons and/or the capacity to inflict serious damage on the US homeland (e.g., through covert introduction of biological agents), it could call into serious question some current US warfighting concepts, such as EBO, which anticipate extensive strikes on an adversary's homeland.[35] The diffusion of nuclear and biological capabilities to America's adversaries could render warfare far more limited in scope than the "limited" US wars of the past half-century in Korea, Vietnam and the Persian Gulf. Put another way, seizing the enemy's capital city and unseating his regime have long been viewed as the culmination of a decisive military campaign—but would the US-led coalition have deposed Saddam Hussein had he possessed even a few nuclear weapons?

Enemy militaries also seem likely to secure sanctuaries of a sort by creating target discrimination problems for vastly superior US military forces. These efforts may include deploying in urban areas, or positioning forces and materiel in areas that have been viewed by recent US administrations as "out of bounds" (i.e., schools, houses of worship, hospitals, etc.). The enemy may also rely more heavily on irregular warfare, adopting the local population's dress and blending in with it. All of these tactics have been on display in the Second Gulf War and the ongoing insurgency in Iraq.

Sanctuaries remain important both for terrorist organizations and insurgents. Radical Islamist groups like al Qaeda have attempted to find sanctuary in failed states, like Afghanistan and Sudan. Until 9/11,

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[34] A fleet-in-being was not employed to fight an enemy fleet, but rather to occupy its attention, thereby precluding it from performing other tasks. By avoiding a decisive engagement—by remaining "in-being" as opposed to being destroyed in combat—the fleet-in-being could serve an important purpose.

[35] Krepinevich, *Transforming the Legions*, pp. 33-34.

denying these sanctuaries proved difficult, as it involved violations of state sovereignty. Ultimately, however, it is the United States that chooses the conditions under which it will grant sanctuary. Washington may grant sanctuary from certain forms of attack, or attacks on certain targets in certain locations, out of a desire to avoid horizontal (i.e., geographic) or vertical (i.e., intensity) conflict escalation, or for humanitarian reasons (e.g., minimizing noncombatant casualties). However, as demonstrated by the US strategic bombing campaign during World War II, and the recent wars with Iraq (which was believed to possess WMD), the United Stated is capable of waging a war of regime change with little regard to notions of sanctuary.

Finally, if history is any guide, the weaponization of space will likely occur at some point in the future. However, it is assumed here that this will not occur during this assessment's planning horizon.[36] In this sense, space will remain a sanctuary. However, there may be efforts at space denial through such means as jamming, attacks against terrestrial elements of an enemy's space infrastructure, or the use of a system such as a ground-based laser (GBL) weapon to disrupt satellite performance or render it inoperative.

The United States Sanctuary Status will Erode Further

Ironically, although its adversaries may enjoy sanctuary status more in the future than in the immediate post-Cold War period, the United States is less likely to enjoy the kind of sanctuary from attack than it has in the past. The reasons for this are relatively clear, and the trends that underlie them fairly compelling. The world is witnessing the proliferation of the means of mass destruction beyond states to radical groups (e.g., Aum Shinrikyo), as well as the means for delivering them over extended ranges (e.g., ballistic and cruise missiles).[37] Thus the relatively secure sanctuary status accorded to US forces operating from

[36] Barry D. Watts, *The Military Use of Space: A Diagnostic Assessment* (Washington, DC: Center for Strategic and Budgetary Assessments, 2001), pp. 113-114.

[37] "Global Proliferation of Weapons of Mass Destruction: A Case Study on the Aum Shinrikyo," Staff Statement. Senate Government Affairs Permanent Subcommittee on Investigations, October 31, 1995 http://www.fas.org/irp/congress/1995_rpt/aum/index.html. Aum Shinrikyo conducted a nerve gas attack on Tokyo's subway system in 1995.

large, fixed forward bases seems likely to erode, perhaps precipitously. America's increased vulnerability was brought home in the al Qaeda attacks on 9/11 and the anonymous anthrax attacks that followed shortly thereafter. The trend toward increased WMD availability and the prospect of its falling into the hands of nonstate entities seems particularly worrisome for the United States, whose combination of long borders, democratic form of government, emphasis on individual rights, and links to an expanding global transportation and trade network makes it relatively susceptible to covert WMD strikes.[38] Moreover, as the United States leads the world further into the information age, it is becoming perhaps the most vulnerable target for attacks on its national information infrastructure.

Information Operations Will Not, of Themselves, be Decisive

There is great uncertainty regarding the potential of information warfare (IW) to achieve strategic results as an independent form of warfare. In this respect, debates over strategic IW resemble those over air power's potential to be an independent, war-winning combat arm in the 1920s and 1930s. To be sure, air power proved indispensable for waging modern warfare. However, it did not achieve rapid, decisive results independently during World War II. A similar assumption is made here with respect to the ability of information operations to dominate future conflicts independent of other forms of military operation. This assumption should be viewed as tenuous. Knowledge concerning existing or prospective IW capabilities and vulnerabilities is quite limited. Furthermore, IW capabilities and defenses can be developed with very little in the way of a clear "signature." That is to say, there are a range of IW weapons that, comparatively speaking, would require very little in the way of infrastructure to develop and produce when compared to, say, the plant and capital equipment needed to develop and produce a modern warship or fighter aircraft.

[38] Andrew F. Krepinevich, *The First War of the New Century: A First-Blush Assessment* (Washington, DC: Center for Strategic and Budgetary Assessments, September 2001).

Highly Networked Military Operations are Possible Within the Planning Horizon

If they prove feasible, forces conducting highly distributed, highly networked military operations could offer substantial gains in military effectiveness across a wide range of conflict contingencies. Thanks to rapid advances in information-related technologies, integrated operations are becoming possible on a far greater scale and level of effectiveness. Information-related technologies, when linked to other advances in military capability, have transformed war in the past. For example, the telegraph greatly enhanced the command and control of land forces in both the American Civil War and the wars of German Unification. The development of radio facilitated the coordination—and thus the effectiveness—of widely dispersed forces, and was crucial to the development of *Blitzkrieg*.

New information systems, ranging from global positioning system (GPS) satellites, to unmanned aerial vehicles (UAVs), to tactical internets working in combination have enabled significant advances in military effectiveness with the promise of even greater gains in the next decade. Combined with the growing ability to conduct precision fires at extended ranges, new information systems could enable militaries to violate the principle of mass by dispersing their forces (thereby, along with stealth, reducing their vulnerability to detection and destruction) without suffering the traditional penalty of loss of effectiveness. Along with stealthy long-range systems—both strike and reconnaissance—highly distributed and networked forces may be key elements in defeating the growing A2/AD threat (which will be elaborated upon presently).[39] Thus, the US military's ability to develop distributed, networked forces will likely be critical to its long-term dominance. There is no doubt this assumption can be characterized as a "big bet." Networking forces is

[39] For a more complete discussion of the A2/AD threat, see Andrew F. Krepinevich, Barry D. Watts, and Robert O. Work, *Meeting the Anti-Access and Area-Denial Challenge* (Washington, DC: Center for Strategic and Budgetary Assessments, 2003), pp. 3-5. Stealthy, long-range forces may prove important in that they could be based beyond the effective range of an adversary's capabilities, and penetrate his defenses at relatively low risk. Distributed, networked forces, on the other hand, would operate *within* an adversary's A2/AD umbrella, employing stealth, operating dispersed and independent of access to large, fixed forward bases to reduce their vulnerability.

proving to be challenging. For example, the demands for bandwidth may greatly exceed projected capacity.[40]

To the extent highly networked forces are capable of compressing so-called "sensor-to-shooter" timelines; they may also prove important in reversing the balance in favor of time-sensitive targets (e.g., terrorist leaders; insurgent bands; mobile missile launchers) against those that seek to defeat them. Of course, the assumption that such networked forces are *possible* does not assume that the US military (or other militaries) will move aggressively to develop and field them. Nor does it assume that such forces will be fielded in a way that is *relevant* for the challenges they will face.[41]

Implications

Given the importance of these assumptions, should they prove wrong, the military competition would be dramatically altered. The implications for the US military's competitive posture would be substantial, and possibly profound. This leads to two critical conclusions. First, if the opportunity exists for the United States to alter one of these assumptions in its favor, it may be worth the investment of substantial resources toward that end. Second, US planning should take into account the possibility that some assumptions (e.g., the persistence of stealth; the creation of networked forces) may not prove correct, and that options, or hedges, must be created to deal with this possibility.

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[40] Krepinevich, *Transforming the Legions*, pp. 57-58.

[41] The author, for example, has expressed concern that the Army's concept for networked forces is oriented principally on waging open battle against a symmetrically armed adversary, whereas the challenges it will confront are likely to be quite different. See Krepinevich, *Transforming the Legions*, pp. 107-109.

II. Toward a New Planning Construct

What metrics should the Defense Department adopt to gauge the effectiveness of its force posture? And what kinds of forces might it need to support those metrics? An exhaustive discussion of this issue is beyond the scope of this assessment.[42] Nor is it possible to provide a detailed evaluation of various force options against the Color Plan contingencies that follow. However, it is possible to offer some analysis of strategic metrics, and to make some general observations concerning the kinds of forces that would be useful in addressing these contingencies.

Strategic Metrics

Given the great changes in the defense planning environment since 9/11, there is a clear need to rethink the metrics associated with force planning. From 1993 to 2001 the Clinton Administration centered its defense planning primarily on a two-war posture, defined first as two major regional contingencies, and then two major theater wars. Both focused primarily on conventional warfare of the type waged in the First Gulf War. Consequently, the Defense Department's emphasis, both in terms of force structure and modernization, was weighted primarily toward this kind of conflict, which is a derivative of conventional "*Blitzkrieg*-era" warfare. The term small-scale contingencies (SSCs) became part of defense planning terminology in the 1997 QDR. Yet SSCs had no significant effect on force planning. Indeed, the major planning efforts that addressed SSC contingencies viewed them principally in terms of force deployments, rather than how these forces might be

[42] For a discussion of the importance of choosing good performance metrics, see James G. Roche and Barry D. Watts, "Choosing Analytic Measures," *The Journal of Strategic Studies,* Vol. 14, June 1991, pp. 165-209.

employed effectively against an enemy. Furthermore, little weight was given to addressing contingencies where adversaries were pursuing asymmetric strategies, or to enemies that might gravitate toward the extreme ends of the conflict spectrum.

In 2001, the Bush Administration assumed office, advocating the need to "transform" the US military. However, even after 9/11, its alteration of the Clinton Administration's strategic metric was quite modest. The 2001 QDR adopted "1-4-2-1" as its overall "force planning construct." The breakdown in terms of capability requirements is as follows:

- Defending the homeland ("1");

- Deterring aggression and reassuring allies and friends through forward deployments in four key regions—Europe, the Persian Gulf, along the East Asian littoral, and Northeast Asia ("4");

- Waging, in overlapping timeframes, two major regional conflicts of a size and type comparable to the First Gulf War, and swiftly defeating the enemy ("2"); and

- Effecting regime change and, if necessary, occupying one enemy state in one of the two regional conflicts ("1").

Although the 1-4-2-1 force planning construct may appear to represent a major shift from the 2-MTW metric it succeeded, a closer look reveals little significant change. The homeland defense requirement ("1") was tacked on to the QDR in the few weeks between the 9/11 attacks and the defense review's release. No substantial changes in the US force structure or defense program were made as a consequence of this new metric. While not reflected in the 2 MTW metric, the US military had been maintaining forward presence in at least three of the four ("4") regions called for in the 2001 QDR. Again, no significant change in the US force structure was made to address this new requirement. The "2-1" appendage is little more than an admission that the Clinton Administration's two-war metric could not meet the requirement of effecting regime change in two major conflicts occurring in overlapping time frames. Thus the Bush Administration limited the requirement to effecting regime change in only one of the major contingencies.

Perhaps the clearest expression of how little has changed is the remarkable stability of the US military's force posture and the defense

program. Where change is occurring (e.g., the Army's shift toward rapidly deployable units, or the Air Force's reconfiguration into Air Expeditionary Forces), one finds that it was already in train prior to 2001, or brought on by the protracted commitment of US forces to Afghanistan and Iraq. With respect to the latter changes, they are reactive in nature and lie outside the 1-4-2-1 force planning construct's parameters.

Clearly, a new force planning construct is needed. It is not clear, however, what that metric should be. Any new force planning framework would need to account for reassurance, deterrence, and dissuasion requirements. Given the change in the form of conflict now confronting the US military, and the increased scale of demand for US capabilities, it also seems clear that the US military will likely need a more diversified force structure and modernization program, both to address the wider range of contingencies it now confronts, and to hedge against an uncertain future.

The National Defense Strategy

Four main challenges are outlined in Defense Department planning documents for the 2005 QDR:

- *Catastrophic challenges* to US security, with primary emphasis given to attacks on the US homeland with WMD, especially attacks by nonstate actors involving nuclear weapons or biological warfare agents.

- *Irregular challenges* to US security, such as those posed by terrorist groups and insurgent movements. In the near term, the threat emanates from radical Islamist groups such as al Qaeda, and by the Taliban and Ba'athist insurgent movements in Afghanistan and Iraq, respectively.

- *Traditional Challenges* to US security that range from the familiar threats posed by combined arms mechanized air-land forces that dominated warfare for much of the 20th century beginning with World War II, and those of nuclear-armed states.

- *Disruptive challenges* to US security, which involve dramatic shifts in the character of conflict from that which exists today. The challenge here is to hedge against an uncertain future in an environment of dynamic change. Certain hedges, for example, might focus on how the US military would need to adapt, or transition, itself if one of the fundamental assumptions concerning the character of key military competitions proved wrong (e.g., if highly distributed, highly networked forces could not be fielded during the planning period; if offensive information warfare operations proved dominant at the strategic level of warfare; etc.), or to meet a novel or asymmetric challenge such as those posed by enemies fielding anti-access/area-denial forces.

We now turn to a discussion of the challenges and their potential implications for the US force structure.

Catastrophic Challenges

The catastrophic challenge to US security relates primarily to homeland defense. For much of the nation's early history, stretching from the days of the Revolutionary War until the late 19th century, the US military focused predominantly on defending the United States proper. The relative level of effort devoted to defending the homeland underwent a slow decline beginning around the Spanish-American War. This general decline lasted, with a few notable interruptions, until 9/11.

The al Qaeda attacks on New York and Washington in September 2001 are likely only a precursor of potentially catastrophic terrorist attacks on the US homeland. The proliferation of ballistic and cruise missile technology to a growing number of states, combined with the diffusion of knowledge on how to fabricate weapons of mass destruction/disruption to both states and nonstate entities, will place the US homeland at increasing risk of major attack.[43] The cost in human life and national treasure from an attack involving WMD could easily dwarf the 9/11 attacks. The challenge of defending against catastrophic

[43] As long as the United States maintains sizable military forces overseas, they too would be at risk of suffering catastrophic attacks. One can hardly imagine the destruction that could have been caused if those groups who perpetrated the attacks on the Marine barracks in Lebanon, Khobar Towers in Saudi Arabia, and the *USS Cole* in Yemen had had access to nuclear or biological weapons.

WMD attacks is compounded by the relatively high uncertainty surrounding the national information infrastructure's vulnerability to electronic attack (i.e., "information warfare").

The United States' long, relatively open borders and extended coastline make defending against both missile (especially cruise missile) and unconventional attacks on the homeland (e.g., irregular or nonstate forces employing WMD) a challenging proposition. The homeland defense problem is further complicated by the US political system, which places high value on individual liberties, thus making it more difficult to identify groups planning covert attacks, and on a federal government structure, which may make coordinating national defenses relatively difficult.

The United States could also confront ambiguous attacks on the homeland, manifested in one of several ways. Broad-based, "no fingerprint" electronic attacks (e.g., computer viruses) could be mounted against America's information infrastructure by another state or group. Computer systems might be "hijacked" and actively employed to inflict damage and promote disorder. The attacker might even disperse his electronic strike force to other countries before executing his attacks. An attacker might also infiltrate irregular forces carrying chemical or biological agents into the US homeland. Strategic strikes could then originate from *within* the US homeland. Tracing the true origins of such attacks could prove difficult.

Investments in homeland security increased from $14 billion in 2000 to over $47 billion annually in 2005. However, homeland security is not primarily a DoD mission. Little of this funding is directed toward changing the US force structure or the defense program. Nevertheless, should an attack on the US homeland succeed in creating casualties or destruction on a scale comparable to 9/11, the relative weight of US defense efforts associated with homeland defense could increase dramatically. Among the military forces that appear most likely suited for this mission are:

- Retaliatory strike forces (e.g., nuclear and information strike; counter-terror strike teams) to deter such attacks in the first place, or to inflict punishment on the attacker should deterrence fail;

- Air and missile defense units, to include combat air patrol (CAP) interceptors;

- Ground forces associated with site/facility security, infrastructure protection and disaster relief, such as local units of the National Guard, military police, civil affairs, transportation and logistics units, and similar force elements;

- Air transport units, which enable rapid deployment of disaster relief units and supplies;

- Coast Guard and Navy littoral sea control combatants to protect the nation's coastline;

- Long-endurance, unmanned air surveillance platforms to monitor borders and areas under attack;

- Redundant, distributed sensor networks, particularly those oriented on detecting radiological signatures and bio toxins;

- Information warfare attack, defense, and infrastructure recovery teams; and

- WMD consequence management forces.

Allies and Partners

Can the United States military rely on others to assist it in defending its homeland? America's allies may prove important in deflecting or defeating threats (particularly those emanating from nonstate groups operating in friendly states).[44] In terms of defending the United States itself, however, self-reliance is likely to be the order of the day. Territorial security forces dominate the militaries of nearly all US allies. However, large-scale support seems problematic, owing to limitations on ally resources and their general lack of ability to project these forces overseas. (They are, after all, forces established for *their* counties' territorial defense.)

But the homeland defense mission should not be the US military's alone. A division of labor ought to be established between the US military and other relevant arms of the US Government, to

[44] The reader will recall that much of the planning for the 9/11 attacks took place in Germany.

include the Department of Homeland Security (DHS), Department of Transportation and the Department of Justice, to name the most prominent, as well as with the appropriate state, municipal and local law enforcement elements, such as those responsible for port security and protection of critical infrastructure. Alas, at present there does not appear to be a unified strategic plan for defending against a catastrophic attack on the American homeland.[45]

It has often been said that "the best defense is a good offense." The United States and its allies may find that defending their homelands is best accomplished by defeating the threat at its source.[46] Evidence of this can be found in the US military's offensive operations in Afghanistan and other parts of the world following the 9/11 attacks on New York and Washington. Allied participation in these operations has been significant. Over time one might win allied support in other homeland defense missions, such as missile defense, raids against enemy targets, or in the conduct of maritime forward-defense operations, such as the search-and-seizure of threatening maritime cargo.[47]

Irregular Challenges

For much of its history, the US military has engaged in operations at the lower end of the conflict spectrum. These operations include peacekeeping, peace enforcement, stability and counterinsurgency operations.[48] These operations were conducted by US forces on the western frontier during the 19th century and in various places in the 20th century, to include

[45] Krepinevich, "Combating Terrorism: A Proliferation of Strategies."

[46] Indeed, US military leaders are fond of saying that they prefer to play "away games" as opposed to fighting an enemy close to home.

[47] This contingency will be elaborated upon later in the discussion of Plan Orange.

[48] The Department of Defense defines peacekeeping as the "military operations undertaken with the consent of all major parties to a dispute, designed to monitor and facilitate implementation of an agreement (ceasefire, truce, or other such agreement) and support diplomatic efforts to reach a long-term political settlement"; peace enforcement as the "application of military force, or the threat of its use, normally pursuant to international authorization, to compel compliance with resolutions or sanctions designed to maintain or restore peace and order"; and counterinsurgency as "those military, paramilitary, political, economic, psychological, and civic actions taken by a government to defeat insurgency." See *DOD Dictionary of Military Terms*, available at http://www.dtic.mil/doctrine/jel/doddict/.

the Philippines, Central America, Greece, Vietnam, Haiti, Rwanda, the Balkans, and now, in a new century, in Afghanistan and Iraq.

Indeed, recent US history finds US forces conducting a remarkably high number of "regime change" operations (e.g., Panama, Haiti, the Balkans, Afghanistan and Iraq). This greatly increased the demand for forces capable of conducting stability operations until a new government can be formed and indigenous forces trained to assume responsibility for the country's internal security. As the Balkans, Afghanistan and Iraq have shown, these operations can be protracted in nature, especially in cases where a robust insurgent movement develops. The lapse of Haiti back into its pre-intervention state also serves as a reminder of what can happen when stability operations are too brief in duration to enable badly needed reforms to take root.

This trend may well continue, whether or not the US military conducts regime change operations. This is because adversaries confronting states with overwhelming advantages in conventional capabilities (e.g., the United States) have often adopted unconventional methods of waging war to offset these advantages. Thus Israel is confronted with the Palestinian Intifada, while moderate Islamic states, parts of Europe and the United States must contend with Islamist insurgent movements.

Given the Bush Administration's determination that the United States must be willing, if need be, to effect regime change as a preventive measure along the lines of Afghanistan and Iraq, and the clear incentives of America's nonstate enemies to adopt irregular warfare, it seems quite likely that stability operations and counter-terror operations (typically referred to as the "Global War on Terrorism," or GWOT) will be a staple of US military operations over the next decade or two.

Although the US military's record in such operations is mixed, institutionally the armed forces have shied away from fielding forces structured for irregular warfare, for several reasons. First, irregular warfare operations are typically manpower intensive, while the US military has become increasingly capital intensive. The movement to an all-volunteer force in 1973, coupled with the high cost of recruiting and retaining volunteers, has made manpower-intensive solutions expensive and, thus, relatively unattractive. Military leaders also point out that, given limited resources, the American military cannot be optimized around irregular warfare operations without compromising

its ability to deal effectively with other challenges to US security (e.g., traditional, catastrophic and disruptive). Operations against irregular threats also tend to be protracted in nature, especially when compared to recent conventional wars (e.g., the Korean War, Suez War, Six-Day War, the India-Pakistan wars, Yom Kippur War, Gulf Wars I and II, and the Balkan and Afghan Wars). Aside from the temporal, material and human costs involved, the nation's (and the military's) experience in the Vietnam War has led to a great reluctance to engage in these operations and, correspondingly, a lack of proficiency in them as well.[49]

Yet throughout history empires have confronted this form of resistance. While the United States is not an empire in the traditional sense, its combination of dominant power and global interests gives it some of the attributes of an imperial power. However, unlike earlier imperial powers such as Rome and Great Britain, the United States has yet to develop a military posture or doctrine for dealing with what is likely to be an enduring problem. The Army, which bears the brunt of the burden in stability operations, is now attempting to rebalance its force structure and to introduce new doctrine, in anticipation of similar missions in the future.

Two factors have made defeating groups like al Qaeda a difficult undertaking. First, one must consider these groups' rapidly growing destructive potential. They hope to use the highly interdependent structure of modern societies, to include the globalization process and society's own assets (e.g., airliners) to inflict catastrophic damage. They also seek to obtain weapons of mass destruction—not for deterrence purposes, but rather to employ them. Second, there is the relative sanctuary these groups have been able to enjoy, either by establishing a base of operations in friendly or failed states, or by exploiting the laws of liberal democracies to avoid detection.[50] In addition to conducting stability operations, military forces are also needed to monitor suspicious activities in "ungovernable areas," conduct strike operations against hostile enemy elements when needed, interdict dangerous cargo

[49] The lack of proficiency stems, in large measure, from the US experience in Vietnam, which led the US political establishment, both on the left and right, to emphasize its determination to avoid similar conflicts in the future.

[50] For example, there are a number of states that have sponsored terrorist organizations, to include radical Islamic groups. Among them are Afghanistan (under the Taliban), Iran, North Korea, and Syria. Among the weak or failed states that have served as havens for such groups are Lebanon and Sudan. Yet much of the planning for the 9/11 attacks was accomplished in Germany and the United States itself.

(e.g., biological weapons), and defend the global commons from attack (e.g., terrorist efforts to disrupt the global energy trade).

Among the forces most likely suited for operations against irregular threats are:

- Military intelligence (in support of US and indigenous intelligence efforts, and with particular emphasis on human intelligence, or HUMINT);
- Special operations forces (SOF);
- Light infantry;
- Ground forces associated with governance, site/facility security and infrastructure repair and improvement, such as military police, civil affairs, transportation and logistics units, and engineers;
- Air transport, to include rotary lift, which enable both rapid deployment of disaster relief units and provision of supplies in austere environments;
- Coast Guard and Navy littoral control combatants to block infiltration along coastal regions, interdict dangerous cargo (e.g., WMD), and protect legitimate trade;
- Long-endurance, unmanned ISR platforms;
- A redundant network of sensors, including those capable of detecting radiological signatures and bio toxins; and
- Military leaders, officers and troops well-versed in the cultures and traditions of those areas in which these operations are conducted, and experts in training indigenous forces to conduct stability operations.

Correspondingly (and not surprisingly), among the forces least likely suited for duty as constabulary forces are:

- Heavy, armored ground forces;[51]

[51] The urban character of the Iraqi insurgency and the effective use of heavy armor units in urban operations has led some to argue that the Army should

- Air and missile defense forces;[52]
- Tactical air forces; and
- Large maritime combatants and submarines.

As the US Army's force deployment challenges in Afghanistan and Iraq have demonstrated, the United States military is not organized, trained, or equipped to conduct protracted counterinsurgency and counter-terror operations on a large scale. In particular, the manpower requirements to sustain these counterinsurgency campaigns are considerably greater than those that can be supported by current force structure.[53]

Allies and Partners

In addition to rebalancing the existing force to better address the increased requirements associated with irregular challenges to its security, the United States should aggressively pursue allies that are able, and willing, to contribute forces capable of conducting operations against enemies pursuing irregular warfare. Allies should be encouraged to develop such forces, and dissuaded from investing in less desirable military capabilities (e.g., nuclear weapons). In the case of friendly countries that are directly challenged by enemies waging irregular warfare, the US military must increase its capacity to train indigenous forces to conduct effective stability and counter-terror campaigns. This will require US trainers and advisors, transforming the existing US training infrastructure to address these kinds of contingencies, and providing the necessary capabilities and equipment.

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retain this capability in the force structure. Many experts agree with this position. However, the fact remains that six of the ten divisions in the active Army are "heavy;" i.e., they emphasize heavy armored fighting vehicles. This represents excess capacity. The Army plans to reduce significantly, over time, its dependence on heavy units, by replacing many of them with "medium weight" Units of Action (UAs) and Units of Employment (UEs) based on networked Future Combat Systems (FCS).

[52] This may change when irregular enemy forces gain access to cruise missiles. See Thomas Mahnken, "The Cruise Missile Challenge," *Center for Strategic and Budgetary Assessments*, March 2005.

[53] See Krepinevich, "The Thin Green Line."

Traditional Challenges

Traditional threats dominated US security concerns for most of the 20th century. The Kaiser's army, Germany's *Wehrmacht* and *Luftwaffe*, the Imperial Japanese Navy and Soviet military posed threats that were, for the most part, traditional and symmetrical (i.e., their militaries were rough mirror-images of the US military at the time). Although Iraq's military in the two Gulf Wars was also organized along relatively traditional and symmetrical lines, the challenges confronted by the United States today—as well as those that are anticipated over the QDR's planning horizon—will not likely be traditional or symmetrical in character. Simply put, the US military is entering an era of nontraditional, asymmetrical warfare.

Consequently (and as will be elaborated upon presently in the Color Plans), some US conventional forces—in particular, heavy Army ground forces, large Navy surface combatants, and Air Force units requiring access to sophisticated forward air bases—will almost certainly decline in *relative* value. The Services are already taking some fitful steps in this direction. The Army's program emphasizes lighter, more expeditionary forces that, ideally, would be capable of operating independent of access to major fixed forward facilities (i.e., major ports, airfields and logistics hubs). The Navy and Marine Corps have haltingly proceeded with transformation. The fleet, under pressure from senior DoD officials, converted some of its retiring nuclear fleet ballistic missile submarines (SSBNs) to a nuclear guided-missile submarine (SSGN) configuration to provide enhanced capabilities in A2/AD threat environments. The Navy's decision to build a flotilla of littoral combat ships (LCSs) to address the peculiar challenges of coastal sea control fit well in a number of Color Plan contingencies. The Air Force, however, while it has restructured to become more expeditionary, seems intent on maintaining a force posture that remains heavily dependent upon prompt access to advanced air bases that will remain sanctuaries against the emerging anti-access threat. This assumption is highly problematic.[54]

Given the Cold War's 40-year duration, and the decades-long life of most major US military systems, conventional forces oriented on the traditional, symmetrical warfare of that era still dominate the US military. Given their relatively limited utility in addressing the threats posed by catastrophic, irregular and asymmetric challenges to US

[54] See Bowie, *The Anti-Access Threat and Theater Air Bases*.

security, and the current budget environment, these forces must serve as "billpayers" to enable a more balanced force that better reflects the new competitive environment.[55] This may be what is happening with the recent cuts to the defense program.[56]

Outsourcing

Given the discussion above, there would appear to be little need to "outsource" the requirement for conventional forces oriented on waging traditional warfare against an enemy posing a symmetrical challenge. The United States has both an exceptional level of competence in the operations associated with such threats, and possesses them on a scale so imposing that it has effectively dissuaded most, if not all, efforts to challenge its dominance over the foreseeable future.

Disruptive Challenges

The United States military must take into account the consequences of an ongoing military revolution that may produce disruptions, or discontinuities, in the character of military competitions. As noted above, military revolutions have occurred periodically for centuries. Often they are stimulated by major surges in technology that facilitate a discontinuous leap in military effectiveness over a relatively short period of time. The last military revolution in conventional forces occurred between the world wars, when mechanized armored forces came of age on land, aircraft carriers supplanted the battleship at sea,

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[55] In the Army's case, the adaptive process is already underway. The Service is converting a sizable portion of its traditional forces, in the form of air defense and field artillery units, to forces more optimized for rapid deployment and, in reaction to the ongoing conflicts in Afghanistan and Iraq, stability operations. See "New Battle Plan for U.S. Reserves," *International Herald Tribune*, March 9, 2004, available at http://www.military.com/NewsContent/0,13319,FL_reserves_030904,00.html, and Joe Burlas, "Army Restructure Effort Needs Additional Troops Through 2007," *Army News Service*, January 29, 2004, available at http://www.globalsecurity.org/military/library/news/2004/01/mil-040129-usa01.htm.

[56] These cuts are set forth in the Defense Department's Program Budget Decision (PBD) 753, which, among other things, scaled back production of the Air Force F/A-22 fighter, and the Navy's DD(X) destroyer. Department of Defense, "Program Budget Decision 753," December 23, 2004.

and strategic aerial bombardment was established as a new way of war.[57] In mid-century the world witnessed the introduction of nuclear weapons, once again leading strategists to rethink, in fundamental ways, the calculus of war.

These transformations of war typically displace, or even render obsolete, some formerly dominant weapons and forces central to the previous military regime. Just as dramatic technological advances in mechanization, aviation and radio stimulated a transformation in the character of conflict between the two world wars, today the United States is confronted by the challenge of interpreting the implications of a revolution in information and information-related technologies. The former offer military organizations the potential to know much more about their adversaries than they ever have before. The *potential* exists to locate, identify and track, at extended ranges, a far greater number of enemy forces and supporting elements, over a far greater area and for far longer periods of time, than has ever before been possible. Of course, if or when this potential is realized, it will become important to deny the enemy similar information concerning friendly forces, perhaps through such means as stealthy systems and dispersed operations supported by extended networks of systems and forces. The military revolution also is characterized by the advent of conventional weapons capable of engaging their targets with far greater lethality, precision and discrimination, over a broad geographic area, and in far less time than had previously been possible.

This military revolution seems likely to be influenced, and perhaps succeeded, by yet another revolution rooted in the rapid advances being made in the biosciences, which could yield a "wholly new array of toxins or live agents that will require new detection methods and preventative measures, including vaccines and therapies."[58]

Military revolutions have a way of transforming existing military operations and of also creating new forms of military operations. For example, the naval revolution of the late 19th century saw battle fleet

[57] A strong case also can be made that over the past 15 years a precision warfare revolution has occurred and matured.

[58] David, Abel, "U.S. Knowledge of Bioweapons Largely 'Obsolete'," *Defense Week*, March 8, 1999, p. 7. Cited in Vickers and Martinage, *Revolution in War*, p. 140. The authors note that "The biotechnology revolution could potentially spawn a variety of extremely potent biological weapons, including genetically tailored agents capable of targeting specific ethnic groups and stealth pathogens that are very difficult to detect and counter." Ibid., p. 184.

operations oriented on sea control change dramatically, as metal-hulled, steam-propelled ships armed with long-range rifled guns supplanted the wooden sailing ships-of-the-line armed with short-range, smooth-bore cannons. The development of long-range submarines and extended-range torpedoes led to the advent of the strategic submarine blockade—an entirely new form of military operation.

Owing to the unusually high level of geopolitical and military-technical uncertainty, it is difficult to predict with precision the character of the military competition a decade or two into the future. American defense planners cannot know with precision when key military technology breakthroughs will occur what form they will take, who will effect these breakthroughs, or how they will be applied to military systems and doctrine. For example, in the early 1920s it was not possible to know how rapid advances in emerging technologies pertaining to mechanization, aviation and radio would play out two decades later. Nor was it yet clear which paths military organizations would take to exploit them (i.e., that Germany would pursue *Blitzkrieg,* the United States and Japan carrier aviation, Great Britain and the United States strategic aerial bombardment, etc.). Because of the relatively high uncertainty that characterizes this period, and the potential for dramatic change in the military competition, the Defense Department describes the challenges emerging from the military revolution as "disruptive."

However, defense planners are not operating entirely in the blind. The recent dramatic changes in the conflict environment outlined above have done much to clarify the immediate and mid-term challenges US defense planners confront. Moreover, it is possible to narrow the range of uncertainty regarding long-term challenges somewhat by examining major geopolitical, military-technical, economic, and demographic trends with an eye toward identifying key areas of future military competition. Such an exercise yields a competitive environment characterized by the challenges briefly described below.

Power Projection and the Anti-Access/ Area-Denial Challenge

With the Soviet Union's collapse the focal point of the military competition became more diffuse and uncertain. The US military

found itself deploying to a wide range of geographic locations, from the Caribbean to the Balkans, Central Africa, the Horn of Africa and ultimately, following 9/11, to Afghanistan and Iraq. These deployments sent US forces far afield from their two Cold War "hubs" in western Europe and northeast Asia. The three enduring security challenges confronting the United States today—Radical Islam, China, and nuclear proliferation—are concentrated along an Arc of Instability stretching from the Mediterranean Sea to the Sea of Japan.

While the events of the past few years have reduced considerably the uncertainty over where the United States' greatest security risks lie, it is improbable that we will witness a return to large, permanent, forward-deployed US forces on anything like the scale seen during the Cold War. There are three reasons for this. First, the Arc of Instability does not boast a strong concentration of US allies, as did Western Europe after World War II, or Japan and South Korea after the Korean War. Thus forward base access will be at a premium. Second, the durability and reliability of allies is not likely to be as high as it was during the Cold War, making forward basing—especially basing involving expensive base development—a risky proposition. Finally, the problem posed by missile attacks—both ballistic and cruise—against large, fixed forward bases will quite probably, over time, increase substantially the dangers of operating from such facilities. Hence traditional forces that are both expeditionary in character and capable of operating independent of forward base access will likely grow in importance in the US military's force structure relative to those forces that are optimized for forward deployment or rely on access to large, fixed forward bases as enablers.

Of greatest concern is the rapidly growing access of military organizations to space for reconnaissance and targeting purposes, combined with the proliferation of missile and WMD technology. This could allow even rogue state militaries to hold key forward ports, air bases and supply centers at risk using a combination of missiles, precision targeting and WMD. Simply the threat posed by such capabilities may deter the United States from acting to protect its vital interests abroad.

America's maritime forces will likely play an increasingly important role in supporting power-projection operations in the absence of forward bases. In so doing, the US Navy will find itself operating in the littoral, thus radically shrinking an adversary's search requirements, while also enabling an enemy to bring more of his

military power to bear and greatly reducing the fleet's attack warning time. America's maritime forces can expect to encounter an enemy's "green water" naval forces, to include coastal submarines and stealthy, small surface combatants, along with sophisticated anti-ship mines operating in conjunction with its land- and space-based sea-denial assets. This combination of capabilities focused on the littoral region could enable an adversary to conduct effective area-denial operations at the same time the Navy is reorienting the fleet to emphasize enabling and supporting military operations ashore with ships operating in the littoral. Traditional forms of over-the-beach amphibious assault will also become progressively more difficult, if not prohibitively costly, in such an environment.

Space

The First Gulf War witnessed the emergence of space-based systems as key supporting elements of ongoing military operations. Beginning with that war, the US military has increasingly relied on space-based systems for its effectiveness and this trend shows no sign of abating. However, with the growth of national satellite architectures and the commercialization of space, the near-monopoly in space enjoyed by the United States over its adversaries throughout the past decade is almost certain to come to an end. As this occurs, the United States will find itself in a competition to control space. This could be a formidable challenge, both because of the growing number of states and commercial firms with space-based assets and the potential difficulty of identifying whether access to satellite support capabilities (e.g., imagery, sensing, communications) have, in fact, been denied to an adversary. Toward the end of the planning horizon (i.e., 20 years into the future), the United States may be confronted with an adversary that has an antisatellite capability.[59]

Sea Control, Sea Denial and Threats to Maritime Commerce

The diffusion of the capability to monitor relatively large, soft, fixed targets at great distances and to hold them at risk will influence the

[59] Vice Admiral Thomas Wilson, "Global Threats and Challenges," *Statement Before the Senate Armed Services Committee*, March 19, 2002, p. 17. Cited in Vickers and Martinage, *Revolution in War*, p. 105.

military competition at sea as well as on land. This will be particularly true as militaries acquire the ability to track and engage, at extended ranges, relatively slow-moving maritime vessels (e.g., surface combatants and merchant vessels) operating in restricted waters (e.g., in straits; the approaches to major ports). Consequently, militaries will likely confront challenges to maritime commerce not only from submarines, advanced anti-ship mines and land-based aircraft, but from space-based reconnaissance and communications assets, unmanned aerial platforms and extended-range ballistic and anti-ship cruise missiles as well. Such raids would likely focus on "strategic" cargo ships (e.g., oil supertankers) as they approach key predetermined maritime bottlenecks.

When these capabilities are applied on a larger scale, blockades against major ports and airfields become possible. These blockades could be undertaken, for example, by China against Taiwan, Japan or Korea; by India against Pakistan; or by Iran with respect to maritime traffic attempting to exit or enter the Persian Gulf through the Strait of Hormuz.

Advanced Irregular Warfare

Operations against irregular forces are likely to change substantially as a consequence of demographic trends and technology diffusion. The preponderance of such operations are conducted in the Third World, which in many areas is experiencing rapid population growth. It seems likely, therefore, that future operations will increasingly find US forces seeking to exercise control over urban terrain, to include megacities and areas of urban sprawl. A precursor of this challenge can be seen in recent US/Coalition operations in Iraq, and Israeli operations in the West Bank and Gaza Strip.

Furthermore, irregular forces will improve their capabilities and effectiveness as they bottom- feed off advanced technology diffusion. For example, they may radically improve their ability to coordinate dispersed operations thanks to the diffusion of personal communications equipment such as cellular phones, email and faxes. Indeed, it appears radical Islamist groups have already exploited the potential of these technologies. They may possess chemical and biological weapons, which they may use to hold both US forces and the noncombatant population at risk. Advanced mines and man-portable, anti-aircraft missiles could

threaten US force mobility and survivability. Together, the effect of these trends will be to exploit enduring US military weaknesses by creating a competitive environment requiring manpower-intensive operations over a protracted period with the prospect of incurring substantial casualties. Ongoing insurgent operations in Iraq, which appear coordinated but which seem to have no clear traditional chain of command, are reflective of this shift, as are the means used to support their military operations (e.g., cell phones to remotely detonate improvised explosive devices) and their efforts to win popular support (e.g., camcorder tapings of specific attacks or atrocities for broadcast; use of the internet and international media such as *al-Jazeera*).

Urban Eviction

The trend in warfare seems increasingly to favor combat operations in urban environments. The Israeli experience in Lebanon and with the Intifada was highlighted by urban operations, as are current US and coalition operations in Iraq. In part, this stems from the trend toward increased urbanization around the globe. It also derives from the relative weakness of irregular Palestinian and Iraqi forces against conventional armed forces. Urban defense may also be a fallback strategy of enemy regular forces if the United States military develops the ability to defeat their anti-access/area-denial capabilities. As the Gulf War and Operation Allied Force demonstrated, enemy ground forces are no match for the US military when fighting concentrated and in the open. Consequently, they now have an enormous incentive to disperse and to position themselves in so-called complex terrain, such as mountains, jungles or urban environments. Urban control and eviction operations would dilute the American military's competitive advantage in technology, while exploiting the United States' alleged aversion to manpower-intensive operations and the risk of higher casualties. Thus, urban control and urban eviction-capable forces could be an increasingly desirable characteristic of US military allies. Both US/Coalition and Israeli forces have found themselves operating increasingly in urban environments in recent conflicts.

Among the forces most likely suited to address disruptive challenges are:

- Prompt and persistent stealthy long-range strike forces (e.g., long-range bombers);

- Long-range, long-endurance, stealthy ISR systems, manned or (more likely) unmanned;

- Sea-based power-projection forces;

- Littoral sea-control forces (e.g., distributed, networked surface/subsurface/air platforms);

- Sea-based Command, Control, Communications, Computer, Intelligence, Surveillance, and Reconnaissance (C4ISR), positioning and targeting assets;

- Advanced, sea-control unmanned underwater vehicles (UUVs);

- Rapid sealift with over the beach roll-on/roll-off capability;

- Airlift (including a significant stealth airlift capability);

- Aerial refueling aircraft (including a significant stealth refueling capability);

- SOF;

- Rapidly deployable, highly distributed and networked air and ground forces, especially those capable of conducting precision strikes at extended ranges, and those capable of executing urban eviction operations;

- Space control forces (e.g., ground-based anti-satellite (ASAT) systems, survivable/rapidly replaceable and/or reconfigurable space architectures);

- Information warfare forces, both for offensive and defensive operations at all levels of warfare (i.e., the tactical, operational, and strategic);

- Air and missile defense forces; and

- WMD consequence management forces.

It must be understood, however, that positioning to address disruptive challenges is primarily about the future. Efforts here must

account for the possibility (indeed, the likelihood) that discontinuous changes in the competitive environment will require major shifts in the Department's investment strategies.[60] These strategies will ideally be developed in advance of coming discontinuities (i.e., anticipatory transformation), rather than in their wake (i.e., reactive transformation). Currently the Defense Department is struggling to do both, even though senior Defense leaders clearly see the need to accord increased emphasis to security challenges which represent dramatic departures from the traditional military challenges that dominated thinking and resource allocation in the Cold War and immediate post-Cold War periods.

The Defense Department must adopt an investment strategy that takes future discontinuities into account from a somewhat disadvantageous position. The ongoing war against radical Islamist terrorist organizations and the related US military operations in Afghanistan and Iraq have heightened demands for defense investments that address immediate needs. The situation is further exacerbated by the military services' desire to emphasize an in-kind modernization effort to make up for the "procurement holiday" of the 1990s, and the greater-than-anticipated use rates for many types of existing military capital stock (e.g., Army helicopters).

A key part of any investment strategy during a period of discontinuity is an increased emphasis on hedging against heightened risk and uncertainty. To the maximum extent possible, a hedging strategy should avoid locking-in to either legacy or emerging capabilities. With respect to the latter, it is important to recognize the dangers of "false starts" and "dead ends," and the value of "wildcatting."[61] To the extent

[60] To support the fielding of these force/capability types, and to hedge against the possibility that future threats could require a significantly different capability mix, the Defense Department will need to craft an investment strategy for its science and technology (S&T) and research and development (R&D) that explicitly accounts for uncertainty. See Krepinevich, *Defense Investment Strategies During Periods of Military Discontinuity*.

[61] Wildcatting involves investors buying access to a wide range of new capabilities in operationally significant numbers that can serve as options to be exercised if and when it becomes appropriate. These capabilities represent a portfolio of sorts. A common characteristic among these capabilities is their potential to make a major contribution in either bringing about a discontinuity (i.e., exploiting a potential opportunity at the operational or strategic level of warfare), or enabling the military's ability to compete effectively in response to a discontinuity (i.e., meeting a very different challenge at the operational or strategic level of warfare) in the competitive environment. "False starts" are those capabilities that offer great promise in addressing potentially discontinuous

wildcatting enables field/fleet exercises at the operational level of war, it helps the Department buy options, or insurance, against an uncertain future, thereby reducing risk. Perhaps the ultimate expression of avoiding lock-in is to skip a generation of legacy systems as a means of avoiding in-kind replacement in a period of discontinuous change. Finally, it should be noted that the United States, with its enduring scale and technical advantages, can employ wildcatting to impose costs on its rivals by simply broadening its options portfolio, thereby complicating adversaries' planning by increasing their risk and uncertainty regarding which options the Department will ultimately exercise.

Emphasis must be placed on time-based competition, which also works to reduce risk and uncertainty while increasing the adversary's problems in this area. The more effectively the Department can compete based on time, the lower the risk it incurs and, hence, the less of a need there is to hedge. Again, experimentation, particularly through field/fleet exercises, also provides a means for reducing risk and uncertainty, thereby enabling more effective use of limited investment resources. Unfortunately, for a variety of reasons, the Defense Department is not well positioned to compete based on time. Given the importance of this aspect of investment strategy—especially during periods of anticipated discontinuity in the military competition—high priority should be accorded to improving dramatically the Department's capability in this area. This implies a commitment to reforming the acquisition system, something that has eluded the efforts of senior defense officials for over a generation.

If history is any guide, however, shifting resources to address the discontinuities in the military competition that have emerged in the past few years will prove difficult. Getting the Services to restructure

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shifts in the security competition, but which are not yet mature. Investing in these systems is premature. A case in point is the US Navy's affection for its first carrier designed from the keel up, the Ranger, which was commissioned in 1934. Although some Navy leaders had pressed for construction of five Ranger-class carriers, war game analysis and fleet problems soon indicated that, at roughly 14,000 tons, the Ranger was far too small to meet many of the demands of future fleet operations. As it turned out, the Essex-class carriers that formed the backbone of the Navy's fast carrier task forces in World War II each displaced nearly twice as much tonnage as the Ranger. The problem of "dead ends" is even worse. These are capabilities that appear promising in terms of their ability to address emerging discontinuities in warfare, but which fail to pan out. The challenge here is not to avoid premature investment; rather, it is avoiding large-scale investments entirely. An example of a "dead end" capability is the airships of the early 20th century.

their investment profiles to prepare for future discontinuities will be more difficult still. Indeed, in the final analysis, investment strategy techniques in periods of military discontinuity are only tools. If they are to be applied properly, the most senior leaders in the Defense Department, to include the Secretary of Defense himself, must have a clear sense of what types of challenges are most likely to stress the US military in its endeavors to preserve the nation's security. Beyond that, however, the leadership must devote substantial energy toward developing and overseeing a process by which decisions can be made as to what mix of investment strategies should be pursued. This means putting into place a process for making informed choices, both within and across traditional Service investment boundaries; i.e., increasing the "trade space" available to the Defense Secretary.

Finally, if the Defense Secretary is to convince the Services to abandon their natural instincts to resist the prospect of large-scale change, then he must be willing to make major investment decisions on far less than definitive information as to what constitutes the optimal force and investment mix for the US military. The Department's track record in this area is, to put it kindly, less than sterling. It is the principal reason why the US military is *reacting* to the transformation in certain areas of warfare that clearly emerged in the wake of 9/11, rather than having anticipated it. Unless this problem is redressed, the Department will find itself continuing to react to—rather than having anticipated—future discontinuities in the military competition. Avoiding such a future by *anticipating* new force/capability requirements requires a sense of urgency and a willingness to make decisions. At a minimum, this means rebalancing the Defense Department's investment portfolio to field forces/capabilities that match those outlined above to meet existing and emerging challenges to US security.

Figure 1: Meeting the Challenges

Allies and Partners

There would seem to be considerable benefit to "outsourcing" certain traditional force *responsibilities* to allies and friends that are, by virtue of their location along the arc of instability, already "deployed forward." These partners could provide forces that would be difficult for the United States to deploy rapidly in the event of a crisis or unexpected hostilities, or forces that may be at high risk if deployed (e.g., those that must operate from large, fixed-point facilities, like air bases). Among the forces that best fit this description are heavy ground forces, and short-range (i.e., tactical), land-based air forces. With respect to land-based air, the value of these forces will likely best be preserved if these partners invest in hardening their key air bases.

Among America's existing or prospective allies with the greatest potential to accept the "outsourcing" mission along the Arc of Instability are India, Israel, Japan, Turkey, Singapore, South Korea and Taiwan. To these states must be added Australia and Britain (owing to its base at Diego Garcia). Each of these countries is located (or has bases) at key points along the Arc of Instability, or its periphery, and possesses sufficient military potential to be a major "outsourcing partner." Of course, the United States will also need to hedge against concerns related to its partners' durability and reliability. It is important to note that, among the states listed here as prospective partners, only Australia, Britain, Japan, Turkey and South Korea are formal US allies.[62] These allies, both existing and prospective, could provide significant capabilities and support in many of the Color Plan contingencies that follow.

Complex Contingencies

Sadly, from a US defense planner's perspective, the contingencies that may emerge from these four types of challenges—traditional, irregular, catastrophic and disruptive—are not mutually exclusive. One can easily imagine the US military being confronted by threats emanating simultaneously from several challenge areas. For example, in the spring of 2003, US forces were engaged in waging a war against a traditional adversary (in Operation Iraqi Freedom) and irregular threat (in Afghanistan), while continuing operations in the Global War on Terrorism against an enemy seeking to execute a catastrophic attack on

[62] Of course, two of America's closest allies, Australia and Great Britain, have bases positioned along the periphery of the Arc of Instability.

the United States. All the while, the military could not lose sight of the need to develop new capabilities and train to new warfighting concepts in order to guard against a disruptive challenge to the national security.

Conclusion

Above we described the major types of force elements, or military capabilities, and the adjustments to the relative weight of effort given to fielding them. We now turn to the question of how these forces should be structured, how they should operate (i.e., their doctrine), and how one might determine the proper mix of their individual capabilities. One method for resolving these important issues is to examine how different force types and structures might effectively address a plausible range of contingencies, both in the near-term and over the longer planning horizon. This involves scrapping the strategic metrics favored by the Clinton and Bush Administrations described above, in favor of a more diverse set of planning metrics, which here take the form of "Color Plans."

III. Meeting the Challenge: The Color Plans

What Kinds of Wars?

Based on the conflicts that occurred over the decade-and-a-half prior to 2003—in Panama (Operation Just Cause), the Persian Gulf (Operation Desert Storm), the Balkans (Operation Allied Force), Afghanistan (Operation Enduring Freedom), and Iraq (Operation Iraqi Freedom)—the US military posture assumed both that any significant conflict would be brief (i.e., "operations" vice wars), and that early, rapid actions (e.g., "decisive halt") would likely be crucial to success.[63] Conflict in the post-9/11 world, however, has put these assumptions at risk. As it turned out, neither the Second Gulf War nor the Afghan War required rapid response forces to block a traditional form of aggression. Nor, as things have transpired, have these wars been brief, despite the short duration of so-called major combat operations.

In addition to temporal factors, other factors such as the size of the enemy, and the form of threat manifested, offer a rich mix of possibilities. The Color Plans that follow argue (as does history) that it is risky to try and predict with any great degree of precision the character of future conflicts. It is riskier still to focus on one particular contingency (e.g., "Desert Storm Equivalents") as a model for all plausible conflicts.[64] Of

[63] The concept of "decisive halt" was in vogue in the mid-1990s. It called for the military to have the ability to arrest an act of aggression along the lines of what occurred in the First Gulf War, and to do it quickly.

[64] The term "Desert Storm Equivalent" was coined by then-Congressman Les Aspin, in an effort to develop force posture metrics for the post-Cold War military. A "Desert Equivalent" represented a force roughly the size Aspin felt was sufficient to fight and win against a threat comparable to the one posed by Iraq in 1991. The "Desert Strom Equivalent" became the basis for the narrowly focused two-war posture adopted by the Defense Department after Aspin became defense secretary in 1993. See Christopher J. Bowie, Frederick L. Frostic, Kevin N. Lewis, John Lund, David A. Ochmanek, and Phil Propper,

course, the United States is at war today in Afghanistan and Iraq, as well as with the forces of radical Islam. This contingency (Plan Purple) is being addressed in current military operations. To properly serve the national interest, defense planners must craft a military posture that is capable of addressing—insofar as the means are available—the full range of plausible threats to US security, not only those that are most familiar, or most likely, or that play to the military's strong suits.

Refocusing Defense Planning

In an attempt to focus the military more on the challenges of a new era, in his 2001 QDR Secretary Rumsfeld called upon the military services to address a new set of problems, in the form of critical operational goals.[65] Just as in the 1990s, however, the military proved highly resistant to effecting large-scale, or transformational, change in its approach to sizing and structuring forces. Some force adaptation has been undertaken to enable US forces to become more expeditionary. Thus for example, the Air Force had, prior to the Bush Administration, developed Air Expeditionary Forces. The Army was also intent on becoming more expeditionary, as reflected in its concepts for its Interim and Objective forces (now called the Stryker Brigade and the Future Force, respectively). More recently, the Army has initiated a process called modularity, designed to enhance its capacity to sustain a sizable force in combat operations for an extended period of time. Similarly, the Navy is exploring novel options for maintaining forward presence while enhancing its ability to surge the fleet in periods of crisis or war. While adapting forces to establish a rotation base sufficient to support contingency (or forward presence) deployments over extended periods is a sign of the US military's ability to adjust to new requirements, transforming the doctrine, training and equipment of the force to reflect the new strategic environment, while preparing for even greater change to come, is a far more difficult proposition.

The New Calculus: Analyzing Airpower's Changing Role in Joint Theater Campaigns (Santa Monica, CA: Rand Corporation, MR-149-AF, 1993).

[65] Donald Rumsfeld, *Quadrennial Defense Review Report* (Washington, DC: September 30, 2001), p. 30. The critical operational goals outlined are: protecting critical bases of operations; assuring information systems; projecting US forces in A2/AD environments; denying enemies sanctuary; enhancing space capabilities; and leveraging information technology.

There are some encouraging signs of progress. For example, the war in Afghanistan following the attacks on New York and Washington displayed the US military's potential to execute new types of highly effective operations, especially in contingencies involving conventional warfare. While admittedly the Taliban regime and its radical Islamist allies were most unimposing enemies, Operation Enduring Freedom saw the US military demonstrate the potential of precision warfare, robotic forces (e.g., UAVs), nonlinear ground operations, and crude data networks to effect regime change with the support of friendly indigenous ground forces. The Second Gulf War against Iraq saw US forces make additional progress in these areas.[66]

Yet there is evidence that the military had to be prodded by senior defense officials into adopting more innovative operational concepts, such as reliance on SOF and precision warfare as force multipliers for indigenous Afghan anti-regime warlords.[67] Moreover, owing to the lack of formidable enemy opposition during major combat operations in either Afghanistan or Iraq, it is difficult to award many laurels to the US military leadership. A strong argument can be made, for example, that the American air power employed by US advisors in support of the South Vietnamese Army's successful defense against a full-scale invasion by North Vietnam and its Viet Cong allies in 1972, was more impressive than American air strikes in support of Afghan Northern Alliance forces against their Taliban enemies. Similarly, a case can be made that the Iraqi military threat in March 2003 was nothing more than a microcosm of the Soviet threat during the Cold War—an enemy with mechanized forces but, unlike the Soviets, without significant elements of badly needed air power or command and control.

What happens when the US military does not confront a weak adversary? Or a familiar threat? Some answers to these questions are being found today in the standoff with North Korea over its nuclear program and the ongoing insurgency in Iraq. There are a growing number of plausible cases where US forces will encounter substantially different types of enemies than they have contended with in the past. Hence the need to apply the Color Plan methodology as a means of refocusing the US military's effort toward reform.

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[66] Andrew F. Krepinevich, *Operations Iraqi Freedom: A First-Blush Assessment* (Washington, DC: Center for Strategic and Budgetary Assessments, 2003), pp. 13-24.

[67] Bob Woodward, *Bush at War* (New York, NY: Simon and Schuster, 2002), pp. 43-44, 62-63, 88-89.

The Color Plans

The original "Color" plans were developed between 1904 and 1938 by the Joint Army and Navy Board, comprising high-ranking Army and Navy officers. In 1919, after World War I, the board was given a joint planning staff, called the Joint Army and Navy Planning Committee. The color plans established were: Germany: Black; Great Britain: Red; Japan: Orange; Mexico: Green; China: Yellow; the United States: Blue; and US internal rebellion: White.[68] The US Navy, for example, prepared for contingencies involving a range of adversaries and their navies. The reason for this is that during much of this period it was unclear what kind of maritime threat the Navy might confront. During the interwar years Britain was still the world's dominant naval power, while Japan had emerged as a clear potential threat to US interests in the Pacific. Not surprisingly, the use of colors to differentiate between the various plans led to their becoming known simply as the Color Plans.

These plans helped the US military to hedge against an uncertain future by focusing its efforts on preparing to confront a range of plausible contingencies, as opposed to the most familiar or those believed to be the most likely. In the Navy's case, Fleet Problems, or exercises, were conducted to reduce the uncertainty associated with various concepts of operation, and to better determine the role that emerging technologies might play in warfare, thereby reducing uncertainty even further. Indeed, Plan Orange, which anticipated war with Japan, was studied so extensively that it was felt to be "noted and filed in the Navy's corporate memory" and "genetically encoded in Naval officers."[69]

In the late 1930s, as the threat to US security became clear, the Color Plans were succeeded by the Rainbow Plans, which were designed to deal with potential conflicts that would arise in multiple theaters, involving several enemies.[70] Another key element of the move to Rainbow Plans was the need to plan for coalition warfare. Events in

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[68] Steven T. Ross, ed., *US Warplans, 1938-1945* (Boulder, CO: Lynne Rienner Publishers, 2002), p. 2.

[69] Edward S. Miller, *War Plan Orange* (Annapolis, MD: Naval Institute Press, 1991), p 2.

[70] One plan, the Red-Orange (or British-Japanese) naval plan, developed in the early 1920s, envisioned fighting in multiple oceans against two adversaries, but was still fought unilaterally by the United States. The overwhelming majority of plans were single US-on-state conflicts.

Europe and Asia convinced many that warfare against multiple enemies would not be fought by the US alone.[71]

Even more than during the Color Plan era, the current circumstances in which the US military finds itself are characterized by the need to adapt to new challenges to the nation's security, and to prepare for additional new challenges that will likely emerge over the next decade or so. Rather than relying primarily on first-order strategic metrics like the "two-MTW posture" and the "1-4-2-1" posture, a more comprehensive approach is needed. Just as the 1-4-2-1 metric expanded (albeit marginally) upon the two-MTW metric, a Color Plan approach to sizing, shaping and positioning US forces can enhance defense planning efforts. Owing to the considerable level of uncertainty with regard to how "coalitions of the willing" may play out, and the prospect for conflict with multiple adversaries simultaneously, it is probably premature to adopt a Rainbow Plan approach, although it should be possible for some near-term contingencies.[72]

Which Color Plans?

The question now becomes, what set of Color Plans should be selected? The choice should be made carefully, not only with respect to the particular geopolitical situation (e.g., whether or not surprise is achieved; the disposition of key allies and other important state/nonstate entities, etc), but also in terms of what types of military capabilities will be available to the enemy, and in what quantities.[73] Obviously, the critical planning assumptions discussed earlier will exert strong influence on how planners view the various Color Plan contingencies. Indeed, since these assumptions could prove crucial in determining the US military's relative effectiveness, planners should vary them to assess their potential impact, and to facilitate efforts to

[71] It was for this reason that the board abandoned the single-color nomenclature of Red, Blue, and so forth, and called the plans Rainbow 1, 2, 3, 4, and 5.

[72] The first Rainbow Plan was approved in October 1939, *after* Germany had gone to war against France and Great Britain, and *after* the axis alliance was formed between Germany, Italy, and Japan. In short, the plan was approved only after the geopolitical situation had been clarified.

[73] For a discussion of the myriad factors involved in undertaking a comprehensive assessment of a particular military contingency, see Eliot A. Cohen, "Toward Better Net Assessment," International Security, Vol. 13, Summer 1988, pp. 176-215.

develop hedges or alternative courses of action should key assumptions prove false. In short, Color Plan contingencies should be carefully crafted, preferably with the support of, *but not by*, those institutional entities (i.e., the military Services) that have a vested interest in which contingencies are selected. The Color Plans might best be selected by the Secretary of Defense and the Chairman, Joint Chiefs of Staff after both have *personally* devoted a considerable amount of time and energy to considering and evaluating alternatives.

Given the time and effort required to support such a process, the best that can be attempted here is a first cut at a set of Color Plans, and their implications for the US military. While the range of plausible futures in which US security interests might be challenged is infinite, the number of Color Plans must be restricted to a handful. The reason is that there is a limit to how many plans can be reasonably evaluated, planned against, exercised for, and so on. Thus the goal is to identify a *representative* set of contingencies—one that encompasses the principal challenges the military may plausibly encounter over the planning horizon, which is set at 15-20 years.[74] If this can be accomplished, then even if the Color Plans do not depict the precise contingencies that will be encountered, they will be "close enough" so that the disruptive effects are minimized.

It is important to note that while certain Color Plans presume conflict with specific states, the intent is *not* to declare them future adversaries of the United States, any more than the 1920s era Plan Red sought to cast Great Britain as America's enemy. Indeed, the long-stated objective of US national security strategy is to discourage military competition and conflict, not promote it. The Defense Department has been charged with supporting efforts to dissuade a resumption of military competition. However, it must also hedge against the failure of such efforts, and to do so efficiently and effectively. Just as Britain (the opponent in Plan Red) stood as an enduring ally of America throughout the 20th century, so too may certain Color Plan "rivals" emerge as

[74] There are several other compelling reasons for limiting the number of planning contingencies, or scenarios, to a handful. One is that even very bright people can only assimilate a limited number. A second reason is that the greater the number of contingencies, the fewer resources that can be made available to assess them thoroughly. Thus the importance of selecting the best possible set of contingencies. See, for example, Pierre Wack, "Scenarios: Uncharted Waters Ahead," *Harvard Business Review*, September-October 1985; and Pierre Wack, "Scenarios: Shooting the Rapids," *Harvard Business Review*, November-December 1985.

allies. One, Pakistan, already has. But that is not the point. Rather, the objective is to gain an appreciation of what future contingency requirements might demand of the military, so that it can prepare for them. This is also the basis for the Defense Department's so-called capabilities-based planning, which, as the term indicates, seeks to identify capabilities that would be most useful in the contingencies that would most threaten US security.

For the purposes of this assessment, the following Color Plans are adopted:

- China-Taiwan (Plan Yellow)
- North Korea (Plan Red)
- Pakistan (Plan Green)
- Radical Islam (Plan Purple)
- Global Energy Network (Plan Black)
- Global Commons Defense (Plan Orange)
- Nuclear/Biological Homeland Attack (Plan Blue)

The following section provides *brief summaries* of each Color Plan. The intent is *not* to present fully developed scenarios, but rather to provide the reader with a basic understanding of how this aspect of the planning effort might unfold. Each plan includes baseline contingencies, security considerations, and possible US force missions. Again, each of the plans would require considerably more development than is possible here prior to being used to assess US force requirements, concepts of operation, basing needs, and desirable allies.

Plan Yellow: China

Background: The simmering conflict between China and Taiwan has long been considered a potential East Asian flash point. The United States is committed to the peaceful resolution of the dispute between the two countries. However, China has threatened to seize Taiwan by force, under certain circumstances. Plan Yellow (Alpha) and Plan

Yellow (Bravo) examine this issue. However, there is also the matter of how China may apply military power over the longer term. This issue is addressed in Plan Blue (Charlie), Plan Black (Charlie) and Plan Orange (Charlie). The latter set of plans posits a much wider conflict with China involving conflict in the global commons (i.e., at sea, in space, in the infosphere), in each other's homelands, and with a wide range of military capabilities.

Plan Yellow (Alpha Contingency): China could attempt to seize Taiwan through "traditional" means, by launching a rapid, cross-straits invasion employing amphibious forces supported by air and naval units and missile strikes. China's objective would be to seize Taiwan rapidly, before the United States could deploy forces to defeat the invasion.

Plan Yellow (Bravo Contingency): Alternatively, China might adopt a more asymmetrical approach in dealing with Taiwan. Beijing could, for example, declare the waters around Taiwan an exclusion zone, arguing that these waters are part of China, just as Taiwan is. Any ship in these waters would be subject to search, seizure, or destruction. In addition to employing the traditional military trappings of blockade operations—surface ships, submarines, maritime patrol aircraft, mines and combat aircraft—the Chinese might employ some relatively novel capabilities as well, such as ballistic and cruise missiles with precision guidance, and satellites for reconnaissance. These capabilities may be supported by information warfare operations. In this scenario, one could imagine China threatening Taiwan's economic jugular by employing missile forces to strike oil supertankers or liquid natural gas (LNG) tankers that attempt to dock at one of the few Taiwanese ports able to offload this critical cargo.

Security Considerations: Should the United States fail to deter or, if need be, successfully defend against this threat, not only would Taiwan fall victim to aggression, but states such as Japan and South Korea would be liable to a similar kind of coercion. They might be tempted to adjust their military and diplomatic positions accordingly. Should that occur, the US position in East Asia could become unhinged.

US Forces' Mission: The US military has long prepared for the Plan Yellow-Alpha contingency cited here. Over the near- to mid-term future, the military balance in this contingency is likely to favor the United States, as it has for over half a century. It is also the reason why China would likely choose the Plan Yellow-Bravo option. In this contingency,

US forces might be called upon to run the blockade by escorting oil tankers, providing them with missile and air defense cover, and destroying Chinese maritime forces attempting to enforce the blockade. American forces might also be tasked with conducting strikes against bases, facilities and missile sites within China itself. These operations may have to be both sustained and conducted at great strategic depth.[75] For example, it is conceivable that China could field a ground-based ASAT system over the next 20 years. Should this prove out, Beijing might attempt to disable US satellites. This might require US strike operations to destroy China's ASAT forces. To accomplish this, the US military would likely employ forces capable of operating for a sustained period to China's full strategic depth. Depending upon the disposition of US allies in the region, American forces may have to conduct such operations absent forward base access, save for those in Taiwan itself and on US territory in the region (i.e., Guam). Furthermore, Chinese missile forces may preclude the use of Taiwanese bases owing to their vulnerability to such attacks. The possibility of China's escalating the conflict must also be accounted for. For example, Chinese submarine forces could engage in sea-denial operations, emphasizing the interdiction of oil and LNG cargoes. Finally, the conflict could escalate to the use of nuclear weapons. Clearly, as was the case with Soviet Russia, careful planning must be undertaken to dissuade or deter this outcome.

Plan Red: North Korea

Background: The Democratic People's Republic of Korea (DPRK) has represented a threat to the Republic of Korea's (ROK) security since its invasion in June 1950. More recently, with its development of ballistic missiles and nuclear weapons, North Korea has acquired the ability to inflict major damage on Japan and, over time, can be expected to extend the distance over which it can strike to cover other US allies in Asia and, eventually, to the continental United States itself.

The United States has relied on deterrence in the past to deal with regional rogue states like the DPRK although, as the invasion of Iraq demonstrates, US forces may be called upon to conduct a preventive war if the long-term risks to US security of inaction are perceived as

[75] For example, breaking a missile blockade may require a period of sustained air strikes against China's conventionally armed, long-range missile forces based deep in that country's interior.

high. Furthermore, confidence in deterrence is also undermined by the United States' lack of understanding as to how the North Korean leadership calculates risks, costs and benefits. For example, Pyongyang has demonstrated an ability to defy the international community, and a willingness to traffic in advanced military technologies. The United States may not be able to deter North Korea from transferring or selling nuclear technology, to include fissile materials, to hostile states or even nonstate entities like al Qaeda. Should this occur, preventive war or pre-emptive attacks may be needed.

Plan Red (Alpha Contingency): The most familiar contingency for US planners involves a North Korean invasion of the south. In recent years, concerns have grown over the North's increasing arsenal of ballistic missiles, at least some of which would be armed with chemical (and soon, perhaps, nuclear) warheads. North Korean special forces, perhaps armed with biological agents, could infiltrate the south and strike key command centers. In this contingency, both Seoul and major US debarkation points (e.g., ports, air fields) and in-country bases would be at risk from missile attack. Seoul can also be targeted by North Korean artillery, much of which is concealed in tunnels and caves in the mountains just north of the demilitarized zone.[76]

Plan Red (Bravo Contingency): If the United States concludes that the risks associated with North Korea's continued development of nuclear weapons outweigh the risks of undertaking a preventive war, then US forces may be called upon to destroy Pyongyang's nuclear facilities and weapons, and perhaps to conduct regime change operations. This could occur if Pyongyang attempts to traffic in nuclear materials, as it has with other advanced military technologies (e.g. ballistic missiles in its possession).

Security Considerations: Should the United States fail to defeat North Korean aggression or, more likely, should it prevail only after South Korea suffers great human and material loss, it might be seen to have "failed" to defend a major, long-term ally, with all its attendant consequences. If Pyongyang's military success is viewed as stemming in some significant way from its possession, or use, of WMD, it could stimulate other countries to pursue WMD programs. China could be a major winner in a Second Korean War that led to the estrangement of

[76] A variant of this contingency would find the United States and/or other states successfully intercepting North Korean shipments of nuclear materials abroad, precipitating a conflict.

the United States from its regional allies. In the case where preventive war is chosen by the United States, the world would see the results—good and bad—of that war. As has been demonstrated in Iraq, the world is also free to speculate on the dangers and benefits that might have occurred if the path to war had not been chosen.

US Forces' Mission: The US military has developed plans to defend South Korea against a DPRK invasion for over half a century. What is relatively new to the mix is the North's missile forces and WMD, which give it a nascent anti-access capability. One of the US military's principal challenges will be to generate overwhelming force under Plan Red (Alpha), when its in-theater ports and bases may be at high risk of destruction. Moreover, now that Pyongyang has the ability to strike Japan, there is no guarantee that country will be a sanctuary for US forces, as it was in the last Korean War, or that Japan will permit US forces to use its bases. The US military must also be prepared to deal with a massive humanitarian crisis in the event that Seoul suffers serious attack. Under Plan Red (Bravo), US forces must attempt to square the circle of generating overwhelming combat power to strike North Korea's military massively without warning, while simultaneously maintaining the surprise needed to avoid a North Korean preemptive attack that would likely result in massive damage to South Korea, and perhaps Japan and other countries as well.

Plan Green: Pakistan Implosion

Background: Since 1998, two Third-World countries, North Korea and Pakistan, have acquired nuclear weapons. Absent some major change in current trends, Iran will likely "go nuclear"over the next 5–10 years, and perhaps sooner. As Plan Red shows, the United States is concerned over the possible use of nuclear weapons by so-called nuclear rogue states. Another disturbing possibility is the lapse of an unstable nuclear-armed state into disorder or chaos. For example, Pakistan's leader, General Pervez Musharraf narrowly escaped two assassination attempts in the past year. North Korea suffers from extreme poverty to the point of mass starvation, which could lead to internal disorder. Nor is Russia beyond the possibility of internal collapse.

Plan Green (Alpha Contingency): This contingency first achieved prominence immediately following 9/11, when it was unclear whether the so-called Arab Street would rise up, and whether unstable regimes

such as the one in Pakistan would survive under such circumstances. In the event of a political collapse, a state of disorder or anarchy might prevail. Under these circumstances, the security of the Pakistani nuclear arsenal might be jeopardized.[77] Maintaining the arsenal's security (or resecuring the arsenal) might require prompt action on a major scale. The United States is the only country whose military has the potential capability to cap this crisis.

Plan Green (Bravo Contingency): This contingency is a variant on Plan Green (Alpha), and involves an ongoing civil war in that country. In this contingency, there is a significant risk of nuclear weapons use by one or more of the factions involved in the civil war. External forces would be confronted with the challenge of restoring stability to a country of over 160 million, perhaps in the midst (or the wake) of nuclear weapons use.

Security Considerations: Should the failure of a nuclear-armed state find a few, or even one or these weapons falling into the hands of Islamist radicals, the consequences could be devastating. It may prove difficult, if not impossible, to deter such groups from using such a weapon. Alternatively, if a nuclear weapon (or weapons) were used by participants in a Pakistani civil war, it could seriously compromise the tradition of non-use of nuclear weapons that has held for the last 60 years.

US Forces' Mission: The United States must plan to seize, secure and/or destroy rapidly a failing or failed state's nuclear weapons. This will require US forces that can project substantial military power rapidly, on short notice, and over great distances. This contingency presents a far more demanding problem than comparable recent operations, such as Operation Desert Fox in December 1998, which involved a military buildup followed by only three days of limited air and cruise missile strikes on Iraq. In addition to the great demands this kind of nuclear surety operation will place on US intelligence, it is unlikely that Pakistan's nuclear arsenal (or the arsenals of states such as Iran or North Korea) will be easy prey for a preemptive strike to

[77] In this respect, Pakistan can be viewed as a surrogate for a general contingency involving nuclear state failure. As noted earlier, Pakistan is a principal US ally in the war against radical Islam. This presents the United States with a unique opportunity, relative to hostile states like Iran and North Korea, to collaborate with Islamabad on preventive measures designed to reduce the possibility of state failure.

disable or destroy it. Even if strikes were executed, US forces would need quick confirmation that the weapons were, in fact, destroyed, lest any surviving weapons be moved and dispersed. If US forces are introduced into Pakistan, they must be prepared to encounter sizeable enemy forces, which may themselves be engaged in a civil war. They must also be prepared to operate in a chaotic, lawless environment characterized by a widespread humanitarian crisis, and to anticipate the possible use of WMD, either against them, some internal faction, or an external enemy. Stability operations under Plan Green would make post-conflict operations in Iraq seem mild by comparison.

Plan Purple: Islamist Insurgency

Background: Plan Purple is focused on the ongoing war between a US-led coalition and radical Islamist movements. The so-called Global War on Terrorism is, in fact, a misnomer. The United States is confronted with a transnational, theologically based insurgent movement headed by radical Islamists. Their objective is to overthrow existing "illegitimate" Islamic regimes as a means toward the eventual recreation of the Islamic caliphate, and the expulsion of foreign (and especially US) influence from their part of the world. It may be that even this objective is only a precursor to a more ambitious goal of spreading a radical version of Islam beyond its current borders. The insurgency is peculiar not only for its transnational and religious (as opposed to ideological) roots, but also in its technical sophistication. Radical Islamists use modern communications to coordinate their efforts over wide geographic areas, giving them "global reach." They also seek access to weapons of mass destruction and disruption, such as nuclear and biological weapons, and the means to disrupt highly integrated, but structurally fragile, advanced economies. Their hope is not to win an outright military victory, but rather to impose intolerable material and psychological costs upon their enemies, leading to their withdrawal from the conflict (as, for example, in the case of Spain, which withdrew its forces from Iraq following radical Islamist bombings in Madrid), or their destabilization (as in the case of "illegitimate" Muslim regimes).

Plan Purple (Alpha Contingency): This contingency focuses on the twin counterinsurgencies being waged by US and allied forces in

Afghanistan and Iraq.[78] Radical Islamists and other disaffected groups (e.g., Sunni Ba'athists in Iraq) currently lack the military capability to compete effectively in conventional warfare. Consequently, they have defaulted to waging an insurgency, whereby they attempt to mobilize mass support behind a popular cause (i.e., anti-Westernism, which includes opposition to existing Islamic secular and dynastic regimes—such as those in Egypt, Jordan, Kuwait, Morocco and Saudi Arabia—friendly to the United States) to destabilize and overthrow existing governments and establish radical Islamic regimes. At present, the main fronts in this transnational insurgent conflict are in Afghanistan and Iraq, where relatively low-level insurgent movements seek to smother efforts to develop democratic governments while they are in their infancy.[79] They do this by appealing to nationalism in the form of opposition to foreign military presence, as well as by proselytizing others to their radical religious views. In so doing, they hope to drive a wedge between coalition forces and the local population, and to weaken the will of the United States and its allies to persist in their efforts.

Plan Purple (Bravo Contingency): The United States may find itself pursuing a more offensive strategy at times in the war with radical Islam. In countries where radical Islamist governments have come to power, as in Afghanistan and Iran, they have proved themselves high unpopular over time. Under certain circumstances, the United States may find itself supporting popular armed resistance groups, as occurred in the 1980s in Afghanistan and Nicaragua, and in Afghanistan again following radical Islamist attacks on New York and Washington in September 2001. Iran and Syria are actively supporting the insurgent movements in Iraq. Defeating the insurgency may require the United States to help organize and support anti-regime opposition forces in these two countries.

Security Considerations: Should either Afghanistan or Iraq succumb to the forces of radical Islam, the United States will have suffered a major setback in the GWOT. Other Islamic regimes confronting stability problems—such as Saudi Arabia, the Gulf States, Pakistan and

[78] The war against radical Islamism is truly global in its scope. It transcends the relatively narrow confines of Plan Purple. Elements of the war can also be found in Plan Green, Plan Black, Plan Orange, and Plan Blue.

[79] To be sure, the Iraq insurgency is dominated by elements of the former Ba'athist regime of Saddam Hussein, not radical Islamists. Nevertheless, they are participating in the insurgency. It appears their goal is to create a sufficient level of chaos to facilitate a coup, much as Lenin's small group of Bolsheviks seized power in a Russia on the verge of collapse.

Jordan—would almost certainly come under even greater pressure (See Plan Black). It could also spur the radicalization of Pakistan, accelerate Iranian development of nuclear weapons and lead to the progressive isolation of Israel. Under these circumstances, the potential for a much wider and far more devastating conflict could materialize.

Alternatively, there may come a time when, as with al Qaeda and the Taliban, the United States can no longer tolerate the ambiguous aggression waged by Iran and Syria. This could lead to an escalation of the war.

US Forces' Mission: The United States and its allies must be prepared to wage a protracted counterinsurgency in Afghanistan and Iraq, and perhaps in other states as well. The US military's performance will be critical to the success of a much wider effort, in which the economic, political and social dimensions of strategy will play a major, and in some cases dominant, role. The US military must be capable of supporting key states threatened by radical Islamist forces in internal security operations. Given current and anticipated limitations on US force structure and the need to preempt the insurgents' ability to play the "nationalism" card, the US military's ability to support the efforts of indigenous forces to defeat the insurgency will be critical. In particular, the US military's skill at training indigenous troops loyal to the new regimes in Afghanistan and Iraq to acceptable levels of proficiency, and to do so expeditiously, will likely prove critical to success. The US Government's ability to win broad international support for defeating the insurgents—in particular, support from other Islamic states—may also prove crucial. The overall US military effort should be oriented on buying the maximum amount of time possible for the new regimes to bring about the necessary political, economic and social reforms that will form the foundation for long-term stability.

Plan Black: Global Energy Network Defense

Background: As part of their ongoing war against Islamic regimes and many other states, principally among them the United States, radical Islamists have attempted to disrupt the global energy network through attacks on oil tankers and against foreign oil workers living in Saudi Arabia, thus far without success. They have also failed thus far

in their attempts to undermine the regimes of oil-producing states like Saudi Arabia and other gulf states. However, just as the failed attack on the World Trade Center tower in February 1993 did not preclude a later, successful attempt, it must be expected that radical Islamists will continue their efforts to disrupt the global energy trade. Given the importance of oil and natural gas to the US and global economies, and the absence of any sizeable reserve production capacity outside of Saudi Arabia, planning for contingencies involving the security of key global energy facilities cannot be ignored.

Plan Black (Alpha Contingency): Predictions of the demise of Arab oil monarchies have been around since at least the late 1970s, when the Shah of Iran was deposed by radical Islamists unremittingly hostile to the United States and intent on establishing an Islamic Republic. While these prognostications have proven false for a quarter century, their advocates argue the odds have never been better for the House of Saud's demise. Should that occur, or should a Saudi regime under great stress call upon the United States and other friendly powers for assistance in response to internal threats to its survival, the US military would be confronted with the task of securing the heartbeat of the global economy. The security problem could extend to protecting oil and natural gas pipelines and facilities, not only in the Persian Gulf, but in other parts of the world as well.

Plan Black (Bravo Contingency): As the attempted sinking of the French oil tanker Limberg in 2002 demonstrates, ships carrying oil and LNG along established sea lanes often transit key predetermined choke points (e.g., Strait of Hormuz; Strait of Malacca; Suez Canal; Strait of Gibraltar) and, of course, begin and end their journeys at well-defined locations (i.e., oil/LNG transshipment facilities). Aside from the possible use of "swarm" tactics to attack these ships at chokepoints, concerns also exist over the potential use by radical Islamists of suicide speedboats and, eventually, sophisticated mines or high-speed antiship cruise missiles to disable or destroy tankers.[80]

Plan Black (Charlie Contingency): This contingency may also be viewed as Plan Yellow (Charlie). It is a variant of Plan Yellow, and posits a wider conflict between China and the United States in which a US counterblockade of China follows Beijing's aggression against Taiwan

[80] Swarm tactics refers to the use of large numbers of relatively simple weapons. Thus radical Islamists might employ a dozen or so small, high-speed suicide craft in an attempt to have just one succeed in reaching its target.

as outlined in Plan Yellow (Bravo). This would horizontally escalate the conflict. The US blockade might be countered by Chinese efforts to disrupt the energy trade through a variety of means, to include submarine commerce raiding, the use of anti-ship cruise missiles, mines, and perhaps even extended-range ballistic missiles (to strike directly at oil/gas fields or pipelines).

Security Considerations: While the global supply and demand for oil and natural gas varies over time, supply is unusually tight at present and the situation is not forecast to improve dramatically any time soon as long as the global economy remains reasonably healthy. As recent oil price trends show, simply the threat of military action against supplies can cause prices to spike upward. Attacks on oil tankers can also increase insurance rates, the costs of which are passed along to consumers in the form of higher energy prices. Of course, the expense of protecting these assets could also be quiet dear and, unfortunately, perhaps unavoidable. Failure to protect the global energy network could produce severe economic dislocations, creating further instability and enhancing the radical Islamists' chances of overthrowing friendly and/or moderate Islamic regimes.

These also exists the possibility of an increasingly vigorous competition by the major military powers to secure access to foreign-based energy supplies, and to deny potential adversaries this access in time of war. During the Cold War the Soviet Union had sufficient oil and natural gas reserves to cover its own needs. This is not true in the case of China, whose appetite for oil and natural gas is growing voraciously. Of course, there is a long history of warring powers attempting to deny their enemies key resources, and to secure them for their own use.

US Forces' Mission: The challenges posed in Plan Black contingencies are formidable. The defense of oil and natural gas production facilities could be highly manpower intensive, both on land and at sea. As the global energy supply and distribution network is diverse in nature and global in scale, the ability to employ distributed, networked forces and unmanned surveillance systems (e.g., UAVs, UUVs, unattended ground and sea sensors) could be important to minimizing the overall cost of such operations. In the case of maritime forces, for example, the spatial distribution of combat power may take on a higher priority than the ability to concentrate combat power, especially in Plans Black (Alpha) and Black (Bravo). For those missions where manpower is critical, the United States should seek allies that can provide this kind of capability,

owing to the high cost of fielding such forces of its own.[81] Given the costs associated with trying to field a highly effective defense against such forms of attack, the mission to defend the global energy network will likely require a strong offensive component able to preempt attacks before they can develop.

In the case of Plan Black (Charlie), the United States will be confronted not only with an asymmetrical conventional challenge to the global energy trade, but also with the prospect of a global conflict potentially involving a Chinese-led coalition against one led by the United States. Such a war could easily transcend the relatively narrow confines of Plan Black (Charlie) to involve strikes on the homeland of the belligerents, efforts to disable space-based systems, and information warfare at the strategic and operational levels of war. This contingency clearly points to the need for the development of a Rainbow Plan that incorporates several color plans. Such an effort is, alas, beyond the scope of this assessment.

Plan Orange: Global Commons Defense

Background: For many countries, the globalization of trade has enabled increased economic efficiency and national wealth. This has come at a price. The United States has become increasingly dependent upon international trade to support its economy. As the 2002 west coast dockworkers' strike shows, the damage from any significant reduction in the volume and velocity of trade can be substantial.[82] This latter term, velocity of trade, has become increasingly important with the shift to "just-in-time" supply chains, as developed in Japan and practiced by a growing number of American firms, including automobile manufacturers like General Motors and retail giants like Wal-Mart. The need to maintain trade volume and velocity is true not only for the United States, but for its principal trading partners as well. Moreover, severe economic disruptions may threaten weak or unstable regimes

[81] See Krepinevich, "The Thin Green Line."

[82] Most estimates of the 10 day Dockworkers' strike in 2002 place the economic impact at about $1 billion dollars per day. See Mark Sappenfield and Ron Scherer, "Labor's Muscle on Pacific Docks," *Christian Science Monitor*, October 1, 2002, available at http://www.csmonitor.com/2002/1001/p01s03-usec.html; and George W. Bush, "President's Remarks on West Coast Ports," October 8, 2002, available at http://www.whitehouse.gov/news/releases/2002/10/20021008-4.html.

whose support is important to the US global posture. It is possible, and perhaps even likely, that this global supply chain can be disrupted, and with relatively little effort on the part of America's enemies. The United States military must be prepared to support efforts to maintain the volume and velocity of trade, not only at US points of entry, but also to assist in preserving the key links of the global trade network.

Plan Orange (Alpha Contingency): Since the advent of nuclear weapons over half a century ago, there have been concerns that one might be delivered to its target via non-military means, the primary example being a cargo ship entering the harbor of a major port. So long as the number of states possessing these weapons was few, and with all but the Soviet Union and China being allies of the United States, it was felt that the attacker employing this novel form of weapons delivery would be identified, and that consequently deterrence would hold. Now, however, the number of states possessing weapons of mass destruction is growing significantly. Moreover, the possibility that nonstate groups hostile to the United States may acquire nuclear, chemical or biological weapons cannot be discounted. Should this happen, the efforts of nonstate groups—especially radical Islamist groups—to disrupt global trade flows, either broadly or selectively, may prove difficult, if not impossible, to deter. Moreover, with more states acquiring these weapons, such nontraditional forms of attack may be progressively more difficult to trace back to their source.

Plan Orange (Bravo Contingency): The global fiber optic network, upon which rests the principal financial and communications networks needed to sustain the global economy, has been constructed almost exclusively with commercial considerations in mind. Relatively little thought has been given to the system's vulnerability (e.g., to the absence of defenses or lack of redundancies in the system), or its strategic value in times of crisis or war.[83] The undersea cable network, through which much of the world's information flows, has a number of key single-point

[83] As Robert Work has noted:

The global undersea cable infrastructure is a balkanized conglomeration of point-to-point connections and self-healing loop networks operated by large telecommunications consortia and a smaller number of financially-distressed private carriers. There is no single entity responsible for continuity of global cable service; international carriers enter into cooperative service agreements with other carriers to provide backup for their own network services. Any

failure nodes.[84] Advances in technology (e.g., in the form of autonomous undersea vessels), are making it possible for states and nonstate elements to acquire the means to disrupt the undersea cable network, especially in the littoral regions.[85]

Plan Orange (Charlie Contingency): This plan can be seen as a Plan Yellow variant. The global space-based information architecture, while comparatively small in terms of capacity relative to the undersea structure, suffers from vulnerabilities as well. For example, the absence of hardening against electromagnetic pulse (EMP) attacks renders much of the global satellite network susceptible to degradation or destruction. The potential exists for a great military power, such as China, to strike a telling, but bloodless, blow against US military capability in the Far East. Given our 15-20 year planning horizon, this could take the form of ground-based ASAT strikes against US satellites in low-earth orbit (LEO), as well as a high altitude nuclear detonation that would generate an EMP over a wide area. Such attacks could occur in isolation, as part of another contingency (e.g., Plan Yellow (Alpha), Plan Black (Charlie)), or in the context of a general war (e.g., a Rainbow Plan along the lines suggested in Plan Black (Charlie)).

Security Considerations: If the key functions performed in the global commons of sea, space and the infosphere are disrupted, the cost to the United States in terms of its security and economic well-being could be substantial, and perhaps devastating. The same is true for many other states that are tightly linked to the global economy.

US Forces' Mission: The US military must be prepared to play a key role in defense of the global commons. This effort must be highly integrated with efforts of the executive branch of the US government, and with state and local authorities with an eye toward insuring that land, air and sea commerce entry points into the nation are secure. The

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use of the terms *global network* or *global system* to describe the world-wide submarine cable infrastructure is thus misleading.

Robert Work, "The Undersea Telecommunications Infrastructure: A Global Net Assessment," unpublished paper, p. i.

[84] As the global satellite communications network's bandwidth capacity is insufficient to offset a widespread disruption to the global undersea fiber optic cable grid, the undersea fiber optic communications cable network is critical to the functioning of national economies, and the global economy. However, "the global undersea cable grid is becoming less robust and more vulnerable to targeted and sustained attack." Ibid., p. ii.

[85] Ibid., pp. 55-60.

US Government must develop plans that enable cargo bound for the United States to transit in a way that insures its integrity. While such "convoy" operations may bear only passing resemblance to the maritime convoy operations of the two world wars, some principles—such as combined operations with other militaries, and the establishment of zones of responsibility—may endure. For example, the US military (to include the Coast Guard) may be responsible for the security of undersea fiber optic cables in the US littoral, and on the high seas, while other states secure their local areas. With respect to cargo, seaborne "convoys" may be represented by establishing safe ports of embarkation where containers are reliably certified. Other cargo might be screened on the high seas as it approaches US ports. With respect to space, the US Government may have to subsidize the hardening of key satellites or radically rethink its satellite architecture (e.g., by moving toward networks of small satellites vice a relatively few large satellites). As the efforts associated with defending the global commons represents a "cost-imposing" strategy for the nation's enemies, a premium must be placed on developing counter-strategies that mitigate this effect. Indeed, given the difficulty encountered in blocking the introduction of illegal drugs into the United States, it may be that Plan Orange operations will be offensive in nature, and center on preventive and preemptive attacks against those plotting to disrupt key elements of the global commons.

Plan Blue: Homeland Defense

Background: The threat to the US homeland has changed dramatically since the Cold War. During the long competition with the Soviet Union, the principal threat stemmed from Soviet air, and later, ballistic missile attacks employing nuclear weapons. The possibility of such attacks remains, and may again grow over time, particularly if US relations with China were to sour. For the time being, however, concerns center primarily on nuclear-armed rogue states, to include their willingness to transfer nuclear weapons to nonstate enemies of the United States, and the possible loss of control of these weapons (e.g., through state failure, civil war).

On a more positive note, the nuclear arsenals of states like North Korea and Pakistan are quite small, at least for the time being, relative to the massive arsenal the Soviet Union possessed. Thus active defenses against ballistic and cruise missile attacks, and attacks involving

combat aircraft, may become more attractive from a cost-effectiveness standpoint, even if only for a limited time.

While the scale of the major Cold War era threat has diminished, the threat posed by novel forms of attack, particularly those mounted by nonstate enemies (e.g., radical Islamists) who may be difficult or even impossible to deter, is significant and growing. Nonstate entities are unlikely to possess ballistic missile delivery capabilities over this study's planning horizon; however, they could acquire a cruise missile delivery capability. Still, the most likely means of delivery, and the one that arguably would cause the greatest problems in terms of mounting an effective defense, involves infiltrating nuclear weapons or virulent biological agents into the United States.

An attack on the homeland would directly endanger the preeminent national interest—preserving the physical safety, political integrity, and economic well-being of the United States. Such an attack would place the American people directly in the conflict. They would not be just bystanders to a war between other countries, or to a US attack against a distant adversary unable to respond in kind.

A nuclear (or catastrophic biological) attack would disrupt the security of the country's strategic rear area and could seriously impair the United States' ability to conduct effective military operations overseas. In World War II, the Korean War, and the Vietnam War, the US homeland was effectively invulnerable to enemy attack. In the Cold War, confronted with a large Soviet intercontinental-range nuclear force, the United States relied on its nuclear forces to deter a Soviet attack. In the two wars with Saddam Hussein's Iraq, the threat of terrorist attacks against homeland targets was a matter of concern, but did not affect the conduct of operations Desert Storm or Iraqi Freedom. However, as the attacks on New York and Washington in 2001 demonstrated, the United States is not being given sanctuary status by radical Islamists. In the ongoing Global War on Terrorism a nuclear or catastrophic biological attack on the US homeland (or merely the threat of such an attack) could fundamentally alter both the course and outcome of the conflict, and America's freedom of action around the globe.

Finally, one cannot discount the possibility that, over time, the United States may be confronted with a "Soviet-like" threat—a rival possessing a sizable nuclear arsenal (i.e., numbering in the thousands). Nor can Pentagon planners ignore the possibility that, in an era where

unstable states possess nuclear arms, the probability that we will witness the first use of these weapons since 1945 is almost certainly increasing.

Plan Blue (Alpha Contingency): In the event of a catastrophic attack on the United States, the military would be called upon to participate in consequence management operations. Casualties could range into the tens or perhaps even hundreds of thousands. Local health and law enforcement elements, as well as relief agencies, would almost certainly be overwhelmed, and the armed forces would be called upon for support, as they have been in the past when natural disasters (e.g., hurricanes) struck.

Plan Blue (Bravo Contingency): Should the United States become the victim of a series of costly nonstate WMD attacks on the homeland spread out over months or even years, a fundamental shift in the US defense posture would be needed. Prevention and preemptive operations against the attacker would almost certainly increase, as would the emphasis on active and passive defenses, and prompt consequence management. These measures would not be temporary, but enduring.

Plan Blue (Charlie Contingency): The United States must account for the possibility that over the 20-year planning horizon a rival state may emerge possessing a substantial nuclear arsenal, numbering perhaps in the several thousands of weapons. The most likely candidate at this time appears to be China. It is possible (indeed, likely) that such an arsenal will differ in significant ways from that of the former Soviet Union. For example, a Chinese nuclear force could include substantial numbers of very low yield "precision" nuclear warheads. Some of these might be specifically designed to attack deeply buried targets. Other weapons might be optimized for their EMP effects. Chinese delivery means could also be relatively novel (e.g., stealthy cruise missiles, covert delivery).

Security Implications: The United States homeland has long endured a privileged status as a sanctuary from a major enemy attack, save for the threat posed by the Soviet Union during much of the Cold War. The events of 9/11 demonstrated that this era is probably drawing to a close. If the country is not able to limit the damage from nuclear and catastrophic biological attacks to a manageable level, and do so in a way that does not impose onerous costs, both its relative status in the world and its freedom of action to defend its global interests may be severely compromised.

Finally, if or when a major nuclear-armed rival emerges, the very survival of the United States as a coherent entity would be at risk in a way not experienced since the late Cold War era.[86] This could have a major influence on US defense posture.

US Forces' Mission: In both Blue (Alpha) and Blue (Bravo) scenarios, the US military would likely be called upon to lead or support operations to deny land, sea or airborne access to the United States. Forces would also need to provide airlift to move critical relief elements to those areas subjected to attack, as well as to supplement consequence management operations by providing security, medical support, and other forms of logistics support (e.g., food, water, power). Major force elements may need to be diverted, either temporarily or permanently, from power-projection or forward presence missions to support interdiction efforts on land, sea and in the air. Sensor networks would need to be established to detect attempts to introduce covertly nuclear or biological agents. Search-and-seizure operations may need to be mounted if such weapons are detected. Depending upon the nature of the attack, operations, such as those associated with Plan Red, Plan Green, Plan Purple, and Plan Orange would likely be undertaken to defeat the source of the attacks.

The Blue (Charlie) contingency requires a major rethinking of US military requirements. Considerable effort would have to be made toward understanding how a major new nuclear rival (or rivals) view nuclear weapons, so as to identify the best military posture to deter their use, maintain an effective umbrella over America's allies, or deal with the consequences of deterrence's failure. Ideally, steps could be taken in the near term, either to *dissuade* a rival from developing a large arsenal, or shaping it in such a way as to mitigate its danger.

Plan Blue (Alpha and Bravo) contingencies could heavily tax the armed forces. To minimize the strain on these forces, the Department of Homeland Security should take aggressive steps to organize, train and equip domestic security forces at all levels of government to address this contingency.

[86] While Russia still possesses a large nuclear arsenal, it is not currently viewed as hostile to the United States.

The Risks of Taking a Narrow View

Absent a Color Plan approach, there is a danger that the US military will view the future as little more than a linear extrapolation of today's world. Yet as the world saw on 9/11, discontinuities in the competitive environment can yield dramatic changes in military requirements. Indeed, military competitions are inherently nonlinear. After the 1999 Balkan War (Operation Allied Force), questions were raised in the Defense Department concerning the Army's "strategic relevance," while the Air Force, which had dominated operations in that conflict, found itself lionized by many. Yet only five years later, in 2004, we find the Army dominating operations in Afghanistan and Iraq, to the point where the Air Force is reducing its manpower as the Army looks to increase its size by 30,000 or more soldiers. By thinking through the consequences of a range of plausible contingencies, the military can minimize the risk of future dramatic swings in requirements and the associated problems they imply for military effectiveness.

The contingencies presented above offer no more than a "best guess" of what threats the US military should be prepared to address, in addition to those it currently confronts in Afghanistan, Iraq and other sites in the war against radical Islamists. Consequently, over time the Color Plans will almost certainly require some adjustment. We should expect that some plans will be dropped, while others are added. Still others might undergo significant modification. Finally the Color Plans, like their century-old ancestors, may at some point need to become Rainbow Plans. Ultimately, the goal here is not to predict the future; rather, it is to position the US military to respond effectively to a wide range of plausible contingencies that represent significant threats to the nation's security. In this way, uncertainty regarding the future is taken into account, as opposed to being assumed away.

IV. The "Forgotten" Pillars of Defense Strategy: Beyond War Fighting

Beyond War Fighting

The Color Plans focus on military operations against enemies threatening US security. As shown in figure 2, each of the Color Plans presented in the preceding chapter is associated with the three enduring challenges confronting the United States, and the form these challenges might assume—traditional, irregular, catastrophic, or disruptive.

But military forces have missions other than waging wars. Indeed, the US military's greatest success comes when, through its efforts, America's interests are preserved without having to resort to war. If defense planners are to avoid the horrors, costs and uncertainties of war, they must also keep the other elements, or pillars, of defense strategy in mind. They are: deterrence of adversaries, reassurance of allies, and dissuasion of hostile and friendly competitors. These pillars have been addressed, formally or informally, consciously or coincidentally, by every administration since the early days of the Cold War. They have, and should, exert an important influence on the sizing and shaping of US forces, and on their disposition.

For example, if the US force posture is to serve as an effective deterrent, planners must take into account how a prospective enemy views US military power, and how that power might best be used to prevent an adversary from employing military force or the threat of force (i.e., coercion) to achieve ends that are inimical to US interests. Because deterrence strategies seek to influence the calculations of others, the optimum American "deterrent force" might be significantly different in some ways from the forces US military leaders believe are best able to defeat aggression in the event deterrence fails.

Figure 2: Competitors, Challenges and the Color Plans

Competitors	Challenges	Color Plans
Radical Islamists	Catastrophic	Blue (Alpha/Bravo)
	Irregular	Black (Alpha/Bravo) Green (Alpha) Orange (Alpha/Bravo) Purple (Bravo)
China	Catastrophic	Blue (Bravo/Charlie)
	Disruptive	Black (Charlie) Orange (Charlie) Yellow (Bravo)
	Traditional	Yellow (Alpha)
Rogue and Unstable Nuclear States	Catastrophic	Red (Alpha) Green (Alpha/Bravo) Blue (Charlie)
	Traditional	Red (Bravo)

Similarly, reassurance, like deterrence, lies in the eye of the beholder. A US force posture whose principal purpose is to reassure allies might find American forces deployed to fixed forward bases as a trip-wire force. This force's military effectiveness in war may be quite limited in terms of its war-fighting capabilities. However, its presence guarantees US blood will be shed in the event of conflict, providing a strong sense of reassurance to the country hosting these forces that Americans are sharing their risks.

The United States should field some forces that do not represent the best investment in terms of war-fighting capability, but which do for purposes of deterrence or reassurance. It might also do so if such forces served a dissuasion function—convincing competitors, both friendly and hostile—that they ought not pursue the development of certain capabilities the United States views as particularly undesirable in the hands of others. For example, the United States might maintain a substantial blue-water fleet over and above its Color Plan requirements if it believes such a dominant force will discourage other states from attempting to build a capability to contest US control over the seas. Take another example: if the United States could field forces that could deploy, fight and sustain themselves in a highly distributed manner, it might dissuade enemies from developing anti-access/area-denial forces (e.g., ballistic and cruise missile forces).[87]

[87] Anti-access/area-denial capabilities are especially effective against large, fixed (or slow-moving) targets, such as major ports or air bases, or large surface

Finally, the need to take preventive action may become necessary. History shows that this step is a difficult one to take, especially for a democracy. However, with the dawn of the nuclear age, and now with the risk that nonstate entities unremittingly hostile to the United States may come into the possession of such weapons, a series of administrations, both Republican and Democrat, have found themselves seriously contemplating this military option.[88]

Should efforts at dissuasion fail, the United States may need to undertake preventive action against an enemy. This would be true in those instances where it is believed the target of dissuasion will not respond to deterrence, and when the potential threat is viewed as a grave danger to America's vital interests. For example, the United States' fallback position if it fails to dissuade Iran from developing nuclear weapons might be to deter the Iranians from either using them or transferring them. However, if a deterrence strategy poses an unacceptable risk of failure, then the fallback position in this case could be preventive war.

Military planners must account for the possibility that American forces might be called upon to initiate combat against an enemy that is preparing an attack of his own (thus triggering a US preemptive attack), or against an enemy that cannot be dissuaded from taking a course of action that, if realized, would pose unacceptable risks to American security. The Bush Administration, for example, argued that preventive wars against the Taliban regime in Afghanistan and Saddam Hussein's Ba'athist regime in Iraq were necessary to preclude the former from continuing to support al Qaeda, which had declared war on the United States, and the latter from developing (and perhaps transferring) weapons of mass destruction.

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warships transiting chokepoints. The ability to deploy, operate and sustain a highly dispersed force would greatly devalue A2/AD forces, making investment in them relatively unattractive.

[88] There were discussions in both the Truman and Eisenhower Administrations on the possibility of a preventive attack on the Soviet Union's nuclear arsenal. Plans to conduct a similar attack on China were held during the Johnson Administration.

Allies: What Kind of US Presence?

Allies and friends feel reassured when they perceive that US presence enhances their security. This can be accomplished in several ways. One way, for example, is to present US military capabilities as being dominant, yet relatively benign (i.e., non-threatening to traditional allies and to those states with whom the United States desires to cultivate friendly relations). This would make other states inclined to ally, or "bandwagon," with the United States rather than make their own way in the world or attempt to balance US power. Another way of effecting closer ties with key allies is for the United States to enhance their perception of Washington's willingness and ability to respond effectively to aggression. Thus, even as the United States restructures its global basing posture to be less reliant on allies whose long-term durability and reliability may be in doubt, and to counter anti-access/area-denial threats, it will still be necessary to reassure allies. Consequently, a significant number of US forces may need to be based forward to serve as a "trip wire," so that aggression will necessarily engage US forces.[89]

But what if, as seems likely, deterrence is less effective as a means to deal with threats to common security than was the case during the Cold War and, to a great extent, the 1990s? Aside from enhancing the US military's ability to defeat aggression against enemies who cannot be deterred (or whom the United States does not understand how to deter), should defense planners also place priority on the United States' effort to increase its capabilities for preventive war, or preemptive attack? These forces may prove highly attractive if the United States feels that an enemy is difficult or impossible to deter or dissuade, and the price the United States will pay if deterrence fails far exceeds the prospective cost of US preventive action. However, absent some major discontinuity in the international system (e.g., a series of catastrophic radical Islamist attacks; a use of nuclear weapons) that radically alters both current perceptions concerning the threat to US and allied common vital interests, and the relative efficacy of deterrence for securing them, many US allies and friends may feel *less* reassured if US forces in their region are used to initiate military operations, as opposed to deterring (and responding to) aggression.

Thus, to the extent the United States relies on allies—in the form of capabilities or base access—to support a first-use of military force,

[89] Some American forces must also be deployed forward to mount operations in the ongoing war against radical Islam.

the effectiveness of such operations may be significantly, if not fatally, compromised. For example, as the Second Gulf War demonstrated, some "allies" may desperately want to avoid war, no matter what the potential cost of inaction, as perceived by Washington, might be. If so, these allies might refuse the United States access to their bases. Moreover, in the case of preemptive attack, the United States may need its forward-stationed forces to act immediately. But this may not be possible for US forces stationed on foreign soil under conditions where the United States must get the host nation's approval to employ them in combat. Many US allies are democracies. Historically it has been difficult for democracies to initiate military operations in the absence of aggression or clear provocation. Indeed, as the Second Gulf War and the 2001 Afghan War demonstrate, even autocratic regimes typically shy away from supporting preventive wars. Thus, getting both the United States *and* its allies to agree on the first-use of military force may prove exceedingly difficult. The problem may not be as great in the case of preventive war, where the approaching danger may be measured in months, or even years. In the event preemptive action is required, however, by definition the danger is imminent and time is of the essence.

In summary, if the United States feels that preventive war and, especially, preemptive attack may play a greater role in protecting the national interest, its military must be capable of executing such operations independent of allied participation, while simultaneously maintaining a force posture that also reassures its allies. This may be difficult to accomplish.

Allies: Roles and Missions

The United States boasts many allies and partners in the Global War on Terrorism. Several long-standing European allies, to include France and Germany, have deployed troops to Afghanistan. Similarly, Japan and South Korea have deployed forces to Iraq to aid indigenous and coalition efforts to defeat the insurgency. Still, the combined efforts of all the allies pale in comparison to the US effort. As noted earlier, the United States is likely to need allied support far more over the next 20 years than it did over the last 15. But when the call comes, who will respond? And with what?

Given concerns over ally durability and reliability, and doubts about their willingness to sanction preemptive/preventive US military operations, it might be tempting for the United States to emphasize a "go-it-alone" approach. This could easily be reinforced given the increased friction between Washington and many traditional US allies, to include long-standing partners like France, Germany, and South Korea. It might be argued that America's North Atlantic Treaty Organization (NATO) allies are on a path toward "rich-but-weak" status, becoming wealthier while their defense budgets and capabilities are in absolute or relative decline. While the NATO allies have expressed a strong desire to "transform" their forces in a manner at least somewhat comparable to the changes anticipated by their US ally, their words have yet to be backed by their level of effort. If anything, the divergence in capabilities between the US and NATO ally militaries seems destined to widen.

Admittedly, America's major European allies are quite capable of reversing this trend, but at present this seems unlikely. Their relatively small capability to project and sustain military power outside of their immediate area may actually decline further as unfavorable demographic trends persist, inward focus on matters like the European Union continues, and allied ties weaken over time as memories of the Grand Alliance against communism and fascism fade. This would be most unfortunate, given the growing challenges to international security.

How should the United States re-evaluate its alliance portfolio? In the near term, apart from the singular exception of Great Britain, the United States' East European NATO allies may prove the most durable and reliable. These states still live in the shadow of Russia. They know they owe their new-found liberty principally to US strength and resolve. Their memories of the Cold War are likely to fade more slowly than those of the West Europeans. Countries such as Poland, Romania and Bulgaria may offer the United States an improved basing position, somewhat better oriented on the Arc of Instability. Yet despite their willingness, their military capability is comparatively small, even by West European standards, and is not likely to grow substantially absent some major shift in the international situation.

If there is a silver lining in all of this, it may be that this greatest concentration of weak or declining US allies is not in the area of greatest risk, which stretches some 5,500 miles, from the eastern Mediterranean shores of Israel to the waters off the coast of North Korea. Indeed, in

the major wars waged by the United States since World War II—in Korea, Vietnam, Kuwait and Iraq—the NATO allies (again, with the conspicuous exception of Great Britain) have provided very little in the way of military capability, even when their forces were, relatively speaking, far more capable than they are today. It is worth noting that all of these wars were within the Arc of Instability. It may thus be prudent for the United States to look for allies where the principal danger lies, as it did when it formed NATO after World War II.

When compared to Europe, however, US allies along Asia's Arc of Instability are comparatively few and far between. Not surprisingly, the sparseness of allies is matched by a relatively low density of US bases and infrastructure. There is but a thin line of allies and close friends stretched along the vast arc running from Diego Garcia, to Singapore and Guam, up to Japan and South Korea. Meanwhile, Australia, a long-standing ally of America, sits along the periphery. When compared to the relatively dense US base structure in Northeast Asia, American bases in South and Southeast Asia are lonely outposts. Recent trends are mixed. With respect to South Korea, for example, the long-term US basing posture there must be considered problematic. The loss in 1992 of major US bases at Subic Bay and Clark airfield in the Philippines is being offset, but only partially, by efforts to develop Guam as a major hub of US air and sea power. On a more positive note, Australia may host future US bases. Following the attacks of 9/11, the United States established some bases on the Asian mainland, specifically in Afghanistan and some of the former Soviet Central Asian republics. To date, the US has established 19 bases in Afghanistan, Pakistan, Uzbekistan, Tajikistan, and Kyrgyzstan in support of Operation Enduring Freedom. However, unlike America's European and East Asian Allies, these states are neither democratic nor politically stable.

As in the case of NATO, the few US regional allies along the Arc of Instability have, at present, very little in the way of military capability to deploy overseas, although several clearly have the means to do more. The three "islands" off China's eastern coast—Japan, the Republic of Korea and Taiwan—have the greatest potential to assist the United States in balancing the rising power of China.[90] However, there are clear barriers to realizing this kind of effort. Japan is limited by the

[90] South Korea is referred to here as an "island" because its land link to the Asian continent runs entirely through North Korea, and then almost exclusively though China. Thus with respect to any confrontation with China or North Korea, South Korea is effectively an "island": it cannot be reinforced by land.

restrictions placed on its military by Article 9 of its constitution. Taiwan seems hesitant to undertake a major build up of its defense capabilities. As for South Korea, it has been over half a century since an armistice stopped the fighting on the Korean peninsula, in which over 33,000 Americans lost their lives preserving the South's independence. Yet with the passing of time, increasing numbers of young Koreans view the United States more as an unwanted guest than a guarantor of their security.[91] Recent US moves to reduce its force presence in South Korea, combined with Chinese efforts to expand its diplomatic and economic influence, could over time, lead Seoul to seek its security more through its relationship with Beijing than Washington.

Although China's influence is growing, the orientation of these three key states will also be determined by the actions of one another and by those of the United States. The US military posture must be structured in such a way as to offer Japan, South Korea and Taiwan a choice other than accommodating themselves to a rising China, or seeking unwelcome courses of action for providing their own security (e.g., developing nuclear weapons). In a purely military sense, this means the US military must have the capability to deter or defeat plausible acts of aggression that threaten these states' security, such as those presented in the Color Plans.

Allies: Reviewing the Portfolio

Given the discussion above, it becomes clear that, in the process of assessing how the United States would respond to the challenges posed in the Color Plans, Washington's alliance portfolio must be restructured. Aside from fortifying key existing alliances where possible, several states look particularly attractive. One is India, a rising regional power that bisects Islamic Southeast Asia from Islamic Southwest Asia. India also serves as a nuclear counterweight to China. With its growing naval capability, New Delhi also represents a potentially significant source of support in several key Color Plan contingencies requiring maritime forces. Moreover, India also maintains substantial ground forces, which could be of great importance in several other Color Plan contingencies.

Another key potential ally is Singapore, whose location along a critical maritime trade route, and small but modern and skilled military,

[91] "Awkward Allies," *The Economist*, April 19, 2003.

represent important assets in several Color Plan contingencies. In the war against radical Islamists, and perhaps in dealing with rogue nuclear regimes, Turkey, a secular, democratic Muslim state, may prove an increasingly important ally. Turkey acts as a land bridge from Europe to Southwest Asia, and maintains the largest army in NATO. These attributes could prove highly valuable across a number of Color Plans.

These three states—India, Singapore and Turkey—all have relatively stable, democratic governments, and sizeable Muslim populations. As noted, each could provide key (albeit likely temporary) basing rights to the United States in the event of a contingency affecting their mutual security, as reflected in the Color Plans. The prospective attractiveness of India, Singapore and Turkey as key allies comes not only from their geostrategic location, but also from the military capabilities they might offer. It might be expected that, unlike many of the United States' traditional NATO allies, these countries might be inclined to accord a greater level of effort to defense, as they reside in what has become the world's toughest neighborhood.

Given that the US military is the world's most capital and technology intensive, that many of its traditional allies emphasize capital over manpower, and that the threat from radical Islamist movements requires a relatively manpower intensive response, allies that can provide forces associated with stability operations (e.g., infantry; civil affairs; Special Operations; littoral patrol; etc.) in significant quantities may be particularly valuable. India and Turkey could provide these types of forces, and Singapore, while more like traditional US allies in its preference for "capital-heavy" forces, could provide an important maritime capability in the Malacca Straits, a key global trade chokepoint.

It is far from clear, however, that these states will make the effort required to field these kinds of forces, and to commit them in the event of a Color Plan contingency. It would seem that India, for example, might play an important role in Plan Green or Plan Orange,[92] and that Turkey could be an essential ally in Plan Purple, Plan Green and Plan

[92] To be sure, Indian troops attempting to stabilize a chaotic Pakistan, as called for in Plan Green, may create more problems than it resolves. Recall, however, that Plan Green also functions within the context of a "capabilities-based planning." Thus Plan Green can be adapted to address other possible failed state contingencies, including North Korea, or even Russia. Given a 15–20-year planning horizon, still other states may need to be considered Plan Green candidates.

Black contingencies. Singapore might be a crucial element in a Plan Orange contingency. Realizing this potential, however, will require inspired US diplomacy to convince these states of the dangers posed to common interests, and the value of collective action in addressing them. It also requires a clear sense on the US military's part as to how it intends to conduct operations to prevail in these contingencies, and the role allies might play in a combined campaign to achieve common security objectives.

Strange Bedfellows

In the background loom Russia, and China. Might erstwhile adversaries make good allies? Moscow faces its own internal radical Islamist enemies which have links to al Qaeda and other groups hostile to the United States. Given a common enemy, one might even make the argument that the United States and Russia are *de facto* allies. Yet Russia's tenuous democracy and repressive measures against Chechen elements have made the relationship an uneasy one. Still, one cannot rule out the possibility of a marriage of convenience. It has happened before. The reader will recall the United States linking arms with Soviet Russia to defeat Nazi Germany. If the danger to their common security is high, the alliance between these two strange bedfellows might be revived. If so, Russia could provide advantageous basing or staging locations all along the Arc of Instability. In the near term, Moscow could also prove helpful merely by restricting the transfer of destabilizing military capabilities and technologies. Thus far, however, it has proven reluctant to do so.

Finally, there is China, which while representing an enduring potential challenge to US security in itself, has not at this point emerged as an enemy, and hopefully will not. If China comes to view radical Islamism and nuclear rogue states as the most serious threats to its security, then an alliance of convenience may be struck between Beijing and Washington, just as one developed in the latter stages of the Cold War against the Soviet Union following its invasion of Afghanistan. Given China's considerable military potential, the United States should be prepared to exploit opportunities for security cooperation with Beijing, should they present themselves.

The Global Basing Infrastructure and Positional Advantage

As an insular power with global interests, infrastructure investments in the form of overseas basing are critical to the US military's overall effectiveness. These investments are quite substantial. Moreover, the changes in the geopolitical and military-technical realms outlined above require a rethinking of strategic infrastructure and investment patterns. Recognizing this, the Bush Administration initiated plans for a major restructuring of the US military's global basing posture in recognition of the changing threat environment.

The uncertainty associated with base access (owing to concerns about ally reliability, increased emphasis on preventive attack/war, and shift in geographic focus) argues for a hedging strategy involving multiple options. At the same time, the United States must take into account the need to reassure allies and friends of its reliability.

As in business, a significant element of military effectiveness can be attributed to "location, location, location." The British once dominated the globe by gaining possession of the "keys" that controlled the European great powers' access to the world's oceans.[93] As the United States assumed its current role as an active global power following World War II, it too discovered the value of forward bases. Today US military access to overseas bases continues to be viewed as an unambiguous good. Sixteen years after the fall of the Berlin Wall, the United States maintains by far the world's most extensive network of overseas bases.

For America's allies, the value of their bases in supporting forward-deployed US troops has offset, to a considerable extent, their relatively modest military contributions to the common defense. This condition will likely change dramatically, however, and should exert a major influence on any US strategic review of its alliance relationships, and its overall defense posture.

There are three reasons why US overseas bases are likely to change in value over the next decade or so. First, US access to forward bases will become more problematic as security interests become more regional. Even during the Cold War, allies reserved the right to withhold base access and overflight rights. Consider, for example, France's

[93] These keys were the English Channel, Straits of Gibraltar, Suez Canal, and the North Sea.

refusal to allow US aircraft to overfly its territory during Operation El Dorado Canyon, the 1986 American strikes against Libya. Access has become even more tenuous since the long shadow of the Soviet Union is no longer present to exert its bonding effect on America and its allies. *Ad hoc* coalitions have become the rule and base access can be granted or withheld on a moment's notice. Such was the case with Turkey, for example, which on the eve of the Second Gulf War seemed likely to grant US aircraft access to its bases for the coming war with Iraq, only to deny access at the last moment.

Second, the relative value of forward bases will change due to geographic factors. Given political and economic trends, the focus of great power competition has shifted from Europe to Asia. Maintaining a stable military balance in that part of the world is unlikely to depend very much upon the US basing structure in central Europe, as it did during the Cold War. Rather, bases in Asia will likely grow in relative value to bases in most other locations including Europe. Allies offering base access must be revalued in light of this geographic shift in the security competition.

Finally, the value of certain forward bases is likely to diminish as a consequence of the diffusion of anti-access/area-denial capabilities that will enable even second-class militaries to hold fixed bases at risk of destruction. The US military's traditional method of deploying air and ground forces at or through ports and airfields is almost certain to be endangered by the growing proliferation of satellite services and missile technology. Even now, commercial and third-party satellite constellation imagery services allow regional rogue states to monitor US deployments and (unless one makes heroic assumptions regarding the effectiveness of missile defenses, which we have not) hold them at risk by fielding large numbers of ballistic and cruise missiles.

A regional power's development of this kind of anti-access/area-denial capability by the 2020 timeframe is certainly plausible. Some of the pieces are already being put into place. Iran, for example, seems far more interested in fielding anti-access/area-denial systems, such as ballistic and cruise missiles, anti-ship cruise missiles, submarines, and advanced anti-ship mines, as opposed to the military systems (such as tanks and combat aircraft) that proved largely ineffective for the Iraqis during the Second Gulf War. Consider that North Korea today has a formidable missile arsenal, and may be able to arm them with chemical, nuclear and biological weapons. Of greatest concern, however, is the

Chinese military's efforts to develop A2/AD capabilities, which fall under the rhetoric of "Assassin's Mace."

Over the longer term, US adversaries will almost certainly benefit from increased access to space-based systems capable of providing imagery for reconnaissance purposes, communications, position location, targeting information, and battle damage assessments. States seeking to boost their A2/AD forces will tap into the growing number of countries and multinational consortia anxious to exploit space and willing to sell their services to those who can pay for them. Consequently, if it is to maintain its current relative superiority beyond the near- to mid-term future, the US military will quite likely have to develop the capability to project decisive military power in the absence of major forward bases.

This has profound implications, not only for the US military, but for America's allies as well. The value of ally forward bases will change depending upon how the United States meets the anti-access/area-denial challenge. Of course, as with all basing modes, the quality and quantity of enemy A2/AD capabilities will exert considerable influence on the viability of the various basing options. In addition to ensuring the ability of US forces to prevail in the Color Plan contingencies, basing options should be viewed with an eye toward how they enable America to accomplish the following:

- *Shape the security environment through reassurance.* Even if it were possible for the United States to divest itself of all its forward bases and maintain a favorable military balance in key regions around the world, it would still need to preserve a visible presence to reassure allies and friends. Such a physical commitment of forces has, in the past, served as a deterrent to would-be adversaries while providing a measure of assurance to allies within the region.[94] Of course, this does not imply that the United States must maintain its current approach to forward basing. To the extent that large, fixed forward bases become increasingly vulnerable to destruction by extended-range strikes, their value, both as a deterrent and as a means for reassurance, is reduced. The challenge is to transform the US forward basing structure to reflect changing rival capabilities, while retaining the ability to dissuade, deter and, if necessary, defeat an adversary while continuing to reassure allies.

[94] See Barry M. Blechman and Stephen S. Kaplan, *Force Without War* (Washington, DC: The Brookings Institute, 1978), pp. 529-30.

- *Influence the dynamics of military competitions in periods of crisis*. As many of America's existing forward bases find themselves at greater risk of destruction from extended-range strikes, crisis instability may increase. This is because an adversary will have an incentive to strike before the United States can disperse its forces from their bases. Correspondingly, US commanders will see force dispersal as critical in the early phases of a crisis, and the governments of allied states will face a dilemma: supporting the dispersal of US forces from their bases could bring on the enemy aggression they seek to avoid. Hence the development of a survivable forward basing mode will likely be an important factor in preserving crisis stability. This may prove difficult. As noted above, "hardening" bases against attack is an expensive proposition. In cases where ally durability and reliability is questionable, it may prove a risky proposition as well.

- *Allow the United States to hedge against perturbations in its alliance structure*. In an era of great geopolitical change, *ad hoc* coalitions are increasingly in vogue. As noted above, ally reliability and durability will be increasingly problematic as the Cold War era fades from memory. Alliance structures are unlikely to exhibit the kind of rigidity they did during the bipolar international regime that characterized the long-term US-Soviet competition. In such an international order, the United States' ability to adapt rapidly its basing structure in response to shifts in alliance relationships could prove critical to preserving favorable military balances in key regions. One way of addressing this problem may be found in the proliferation of relatively austere forward operating locations, or "lily pad" bases.

A thorough assessment of US basing options is needed, and one has been completed by the Defense Department. In addition to the considerations raised above, any new basing posture should be assessed in terms of how well it enables the US military to address the Color Plan contingencies. To stimulate thinking on this issue, a base taxonomy is offered in Appendix A.

V. Minding the Plans—Resources Gap

Introduction

Fielding the military capabilities needed to address the full range of Color Plans outlined in this assessment, along with those the Defense Department may develop on its own, will almost certainly require a substantial increase in defense spending, especially if no cuts are made to existing forces or the current defense program. The current defense program cannot be sustained, even with the increases in spending projected by the Bush Administration over the next few years.[95] Plainly put, a significant gap exists between what resources may be requested by the Defense Department, and what will actually be available.

Given that the challenges confronting the United States are substantially greater now than during the 1990s, it is not surprising that the defense budget has increased by roughly 25 percent in real terms in recent years. Yet even this figure has not proven sufficient to cover the cost involved in waging the ongoing wars in Afghanistan and Iraq, the broader war against radical Islam, and transforming the military to deal with the Color Plan contingencies. There are six primary options for dealing with this plans-resources gap. Each will be examined briefly, followed by some recommendations.

Increase Defense Budgets

One obvious way to deal with the plans-resources gap is simply to increase the defense budget. There is certainly precedent for this. For example, the United States sustained a defense burden at a significantly higher level of Gross Domestic Product (GDP) during the Cold War than

[95] See Steven M. Kosiak, *Analysis of the FY 2006 Defense Budget Request* (Washington, DC: Center for Strategic and Budgetary Assessments, 2005).

it does today. From 1950-1990 the defense budget averaged 7.6 percent of the nation's GDP, while today, even including ongoing military operations, the defense budget amounts to only about 4 percent.

There are, however, some barriers to further substantial increases in defense spending. One is the federal budget deficit. Over the next decade, the Congressional Budget Office (CBO) projects that the federal budget will run a deficit that, under favorable circumstances, will total over $2 trillion.[96] Other studies argue that a more realistic number is likely to approach $5 trillion.[97] The government's fiscal problems are likely to be stressed further as the "Baby Boomer" generation hits retirement age later in this decade, driving up Social Security outlays and Medicare costs. Of course, this is not to say that defense budgets cannot increase, only that there may be substantial pressures on the federal budget that may preclude the kind of increases desired by the Defense Department.

Defense Efficiencies

A second option for addressing the gap between the defense program and projected resources is to increase the efficiency with which the Defense Department uses its resources. The assumption here is that by introducing a range of "better business practices," the cost of certain goods and services can be reduced, even dramatically.

The problem with laudable efforts such as these is that their history clearly shows that such efficiencies are difficult to realize. When they are realized, their savings are typically far less then those projected. Moreover, these initiatives can actually induce negative effects if the projected (and typically unrealistic) savings are "banked" prematurely by the Defense Department, leading it to defer tough choices that only become more difficult, and more costly, to execute down the road.

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[96] CBO, *An Analysis of the President's Budget Proposals for Fiscal Year 2006* (Washington, DC: CBO, March 2005), p. 4.

[97] See, for example, Joint Statement issued by the Center for Budget and Policy Priorities (CBPP), the Committee for Economic Development, and the Concord Coalition, "Mid-Term and Long-Term Deficit Projections," September 29, 2003; and Ed McKelvey, "The Federal Deficit: A $5.5 Trillion Red elephant," Goldman Sachs, September 9, 2003.

Reduce Commitments

At some point the United States might decide that owing to the very different circumstances that have emerged over the last fifteen years, it makes sense to divest itself of certain commitments. For example, the United States might decide to withdraw entirely its military presence from Western Europe and the Mediterranean Sea, since the threat that animated US involvement there no longer exists. The United States might also turn over the ground defense of South Korea to that country's military. In this case, it is not so much that the threat has declined. Rather, the reduced commitment would recognize that the threat has changed significantly in form (see Plan Red), and that South Korea—with twice the manpower of the North, and incomparably greater economic wealth—can well afford to provide for its own ground defense.

Rebalancing Risk

The objective of any defense posture is to minimize the overall risk to the national security, both existing and anticipated. Given that resources for defense are finite, security can be enhanced if the defense portfolio is rebalanced to reduce *overall* risk by taking on risk in certain areas where the current level of military effort is relatively high, in order to better address areas of growing risk. Thus, the United States might choose to accept increased risk in certain areas to reduce the overall risk to its security.

The threat profile today, both in location and form, is far different from that which existed during the Cold War. Yet a significant, and perhaps excessive part of the US defense posture, in the form of forces and infrastructure (i.e., bases), remains optimized to deal with past threats rather than new challenges. Reducing "excess capacity" in terms of certain force structure elements, force deployments and basing would liberate resources to meet more pressing commitments. The Defense Department, as a consequence of its global basing review, is planning to take some steps in this direction—for example, by placing greater responsibility on South Korea to provide ground forces for its own defense, and by reducing the US military presence in Western Europe and the Mediterranean, both relatively low threat areas compared to the Arc of Instability. It appears that the Pentagon is planning to do exactly this.

The Defense Department has taken some steps to reduce force structure in areas where excess capacity exists. The Air Force and Navy are reducing their active force strength by some few thousand, and the Army is standing down a substantial number of its field artillery and air defense artillery units. Significant reductions can also be made in the tactical air forces, large surface combatants and heavy ground forces—and those resources shifted toward force elements that are more relevant for addressing Color Plan contingencies.

Overall, the US military can minimize risk by reducing its emphasis on military capabilities optimized for traditional warfare challenges, while increasing those capabilities best suited to deal with irregular, catastrophic, or disruptive challenges. This conclusion flows logically from a preliminary assessment of the Color Plans.

Outsourcing to Allies

Allies have traditionally represented a way for the United States to expand the military capacity available to secure common interests. This approach worked best when there was a high degree of agreement as to the identity and danger of the common threat, and a relatively proportionate commitment by America's allies to field military capabilities to address it. This is no longer the case. Nevertheless, as elaborated upon earlier in this study, there are opportunities to reinforce key existing alliances, such as with Turkey, and to develop close relationships with potentially attractive allies like India and Singapore. Moreover, as the United States is discovering in Afghanistan and Iraq, an ability to train indigenous forces of friendly governments threatened by insurgency and subversion is critical to reducing the strain on US ground forces.

As for China, the United States finds itself walking a fine line between assuming an overly threatening military posture, and thus helping to stimulate a hostile rivalry with China, and pursuing an overly benign military posture, which could encourage Beijing to pursue strategies of coercion, or even aggression. Prudence would seem to dictate that, at a minimum, the United States should seek to enhance or reinvigorate its relationships with Japan, South Korea, Taiwan and Singapore (and perhaps the Philippines) to cover its Pacific flank. Similarly, maintaining and, where possible, improving relations and military contacts with India and the Central Asian states could

yield important dividends. Of course, maintaining close ties with America's Australian and British "cousins" remains a top priority. Each of these states can make important contributions in one or more of the Color Plans involving China, and to US strategies for deterrence and dissuasion.

Transformation

The US defense posture might be substantially improved if the Defense Department's investment portfolio were altered significantly, so as to yield a far more effective force for the same level of resources expended. There are two situations where this can occur. One is when a major discontinuity in the strategic environment is about to occur, or has occurred. When such a discontinuity happens, the military can greatly enhance its effectiveness by reorienting its force posture to address the new range of contingencies spawned by the discontinuity. This report argues that such a discontinuity is occurring, and offers as evidence the sharp distinction between the "Desert Storm Redux" defense posture of the 1990s and the Color Plans briefly outlined above.

The second opportunity for transformation occurs when substantially different kinds of capabilities become available that offer the potential to effect a dramatic leap in military effectiveness, such as when aviation, radio and radar enabled fast carrier task forces to obsolesce the battleship. This report contends that such a military revolution is under way.

In short, the opportunity to transform as a means for resolving a mismatch between the defense posture and the resources projected for sustaining it, does not come along often. It is critical that when such an opportunity presents itself, it be exploited to the fullest, not only for fiscal reasons, but for the national security, since investing in contemporary "battleships" vice "aircraft carriers" will likely find US military effectiveness depreciating at an accelerated rate, rather then receiving a much-needed boost.

Summary

The Defense Department will likely have to exploit the potential of all six options to redress the imbalance that exists between what will be needed for the defense posture versus those resources currently programmed to support it. The "rich man's" approach of simply increasing the Pentagon budget's top line to address the challenge is neither likely, nor desirable, although some increases may be warranted. It is not desirable because it discourages efforts to pursue a "thinking man's" approach that reorients the defense posture on the new security challenges of today and those that may emerge over the next 15–20 years. Greater efficiencies in defense management should be pursued, and vigorously. The force posture must be adapted to minimize risk. The US alliance portfolio and associated commitments should be revised: too much of the effort in this area is based on tradition, rather than on hard-headed strategic assessment. Finally, transformation should be pursued aggressively—out of opportunity as well as need. It offers perhaps the best chance to get more value for the nation's defense dollars.

VI. What Kind of Military?

Reshaping the Defense Program

What defense posture should the United States assume? What kind of military should it field?

This study provides some suggestions as to how these questions might be answered. However, the main effort here has been to diagnose the major threats and challenges that now confront the nation, and which will likely endure over the next several decades, so as to provide the context within which to approach the 2005 QDR, and to evaluate its recommendations.

As noted in the introduction, a detailed prescription of US military capabilities, force types and force mixes lies outside the scope of this report. Nevertheless, the preceding discussion provides a framework for setting force posture and defense program priorities, and for making decisions on the allocation of scarce resources. To achieve this end, each of the Color Plans must be evaluated to determine the necessary adjustments to the defense posture/program. This requires developing Joint Operating Concepts (JOCs) to demonstrate the military's proficiency in each contingency.[98] This process, along with an examination of deterrence, reassurance and dissuasion requirements, can provide the basis for making choices among force types, mixes, and programs.

However, the effort would not end here. Warfare is too uncertain a proposition to enable the complete validation of any JOC. A series of well-

[98] Secretary of Defense Donald Rumsfeld directed the Joint Chiefs of Staff and Joint Forces Command to develop Joint Operating Concepts and Joint Integrating Concepts (JICs) in August 2002. To date, the results have been rather disappointing. Two clear indicators of a lack of progress are the absence of a lively professional debate over the JOCs/JICs, and the absence of any major impact on their part on military doctrines, force structures, or programs.

crafted and executed war games, simulations and field exercises must be conducted to reduce the uncertainty surrounding the military's ability to cope with the challenges presented in the Color Plans.[99] To achieve even this relatively modest aim, the planning process must account for the possibility that some fundamental planning assumptions regarding the character of conflict (e.g., that precision/counter-precision competition will continue to favor the offense; that missile attack/missile defense competition will continue to favor the offense; etc.) may prove wrong, especially in those instances where mistaken assumptions work to the United States' disadvantage.

Defense planners would also be well served by introducing two or three "wild card" contingencies into the Color Plans, either as independent plans or as variations on those presented here. These contingencies are those whose probability of occurrence over the planning horizon is quite low (though not infinitesimal), but whose consequences would be profound. It may turn out that, in developing the force posture and defense program for the Color Plans, the wild-card possibilities are adequately (if serendipitously) addressed. On the other hand, dealing effectively with the wild card challenges may require significant shifts in the defense program beyond those identified by the Color Plans. For example, one wild card contingency may posit a pandemic.[100] Another wild-card contingency might address the consequences of a nuclear EMP event that disables a large percentage of the satellites operating in LEO and causes substantial damage to terrestrial electronic systems as well.[101]

Finally, attention must be given to the other pillars of the US defense strategy: deterrence, reassurance and dissuasion.[102] For example, it is not clear that the US military's perception as to what would

[99] For a discussion of the important role that field exercises play in this process, see Andrew F. Krepinevich, *Lighting the Path Ahead: Field Exercises and Transformation* (Washington, DC: Center for Strategic and Budgetary Assessments, 2002).

[100] For example, there is concern that HIV/AIDS rates in southern Africa or Russia could produce widespread instability. See National Intelligence Council, "The Next Wave of HIV/AIDS: Nigeria, Ethiopia, Russia, India, and China," September 2002, available at http://www.cia.gov/nic/special_nextwaveHIV.html.

[101] A variation on this contingency might be the use of a land-based anti-satellite laser that selectively disables satellites. This might be included among the Plan Yellow contingencies.

[102] For the sake of completeness, a "preemption" pillar would have to be included to account for the Bush Administration's increased emphasis on this aspect of national security strategy.

suffice to defeat an adversary in one of the Color Plan contingencies would be sufficient to deter that adversary from initiating military operations. This is because an enemy will initiate conflict based on his perception of the likely outcome and not the perceptions of US decision-makers. The same holds true for reassurance and dissuasion, where the perceptions of others must be discerned. Thus a major effort must be made to understand how key existing and prospective adversaries (and allies) calculate the value of US military capabilities and the associated force posture (e.g., the positioning of US forces), and how likely they are to run risks to achieve their objectives.

Preemption, or preventive war, will also require a highly developed understanding of how prospective adversaries and allies calculate advantage and cost. Would creating a US preemptive attack capability increase the prospects of war by convincing adversaries that they must use their military capability or risk losing it?[103] Will US allies be more or less likely to offer their support—both in the form of military forces and base access—if the United States initiates military operations through preemption or preventive war, rather than responding to an act of aggression initiated by an enemy? Recent experience suggests that the United States runs a greater risk of diminished ally participation when it initiates military operations (as happened, for example, in the Second Gulf War). This must be accounted for in defense planning (e.g., in anticipating greatly reduced access to forward bases from which to launch a preventive war or pre-emptive attack). The goal of such planning should be to maintain US freedom of action and an ability to apply military force effectively in the absence of ally support, if need be. A corresponding goal would be to provide a level of reassurance to allies sufficient to preserve their willingness to support their American ally.

Finally, there are the demands stemming from the ongoing war against Afghan and Iraqi insurgents and radical Islamists. This war is likely to endure for a decade or more. Given that the US military devoted little attention to insurgency warfare in the decades after the Vietnam War, a major readjustment in the US force posture—in particular, US ground forces—will likely prove necessary.

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[103] Ironically, it may be that an enemy with a small nuclear arsenal (all other factors being equal) would be *more* likely to use nuclear weapons out of fear of pre-emption than an enemy with a larger (and presumably, more robust) nuclear force. On the other hand, an enemy's use of nuclear weapons could remove many, if not all, constraints on the United States' use of force against it.

Ultimately, in a world with limited resources and imperfect analytic tools, defense planners are confronted with the problem of establishing priorities and dealing with risk. In so doing, they must confront questions such as: Which of the Color Plans should receive the greatest priority? Which should receive the least? How much risk can the US afford to run in addressing individual Color Plans? What is the minimum acceptable risk? How should planners address the problem that a "Rainbow Plan"—the occurrence of several Color Plan contingencies in overlapping time frames—might occur? What support might the United States expect from its allies? Over what time frame? What support might be required of other arms of the US Government (e.g., the State Department, Central Intelligence Agency (CIA), DHS, Coast Guard, Federal Bureau of Investigation (FBI), Centers for Disease Control (CDC), local port authorities)?

Alas, there is no set of war games or simulations, nor any algorithms or models that will enable precise decisions to be made with respect to the US defense posture in addressing these and other relevant questions regarding risk and uncertainty. The effort inevitably will come down to the most senior decision makers—the defense secretary and his most trusted advisors—applying their informed judgment to the problem, in accordance with their own priorities and risk profiles.

A thorough elaboration on the issues raised above is not possible in this report. Nevertheless, a cursory review of the Color Plans, which in some cases are very different from the planning metrics that shaped much of the defense program since the Cold War's end, reveals some first-order decisions that can be advanced with little fear of being overturned by more detailed analysis.[104]

The following sections set forth some of these first-order decisions or adjustments to some main elements of the defense posture, while acknowledging that they may require modification once a comprehensive defense review is completed and its findings known. These recommendations reflect the author's sense of where the greatest

[104] The reader will recall that the planning process from 1993-2005 has been dominated by the requirements of the First Gulf War, under the rubric of MRCs, MTWs and major combat operations (MCOs). While these contingencies differed in some ways from the First Gulf War, the fact that they produced so little perturbation in the force posture or defense program gives voice to the contention that, for over a decade, the US military continued to prepare primarily for the last major war in which it had fought.

risks to US security lie, and what priorities ought to be established to address them.

To provide a funding baseline, the illustrative defense posture and program below assumes the Bush Administration's projections with respect to the defense estimates, or future budgets. It does so even though these estimates may well prove overly optimistic regarding the top line. The author also assumes no real-growth in defense spending beyond that called for in the future years defense plan (FYDP). It is further assumed that operations, maintenance (O&M) and personnel costs will continue to increase at historic rates, which are significantly greater than those assumed by the administration. Similarly, historic cost growth in defense investment also is assumed. The net result of accepting historical data as opposed to what are likely to be overly optimistic estimates regarding cost is the need to trim the existing program by some $50 billion per year to conform to likely resource constraints. Thus cuts in the force posture and defense program will be required to rebalance the overall defense posture and bring it into line with these fiscal projections.[105] As this assessment argues, however, the US military needs to do more than trim its traditional warfare capabilities. It must also increase its capacity to address the growing irregular, catastrophic and disruptive challenges to US security. Thus, at the end of the day, even with the reductions suggested below, a significant increase in defense spending will likely be needed.

[105] This effort may already be under way, as evidenced by the Defense Department's PBD 753. It is also assumed here that ongoing military operations will continue to be supported through supplemental appropriations of funds. This has been the practice during recent military operations. However, during the days of large deficits in the early 1990s, operations were typically funded through recissions and reprogramming of DoD funds. It was only in the late 1990s, when the fiscal picture grew much rosier, that supplemental funding returned. To be sure, the scale of current operations, which may require as much as $100 billion a year to sustain, cannot realistically be dealt with through recissions and reprogramming. However, in this increasingly tight fiscal environment, continued supplemental funding may be matched by a tougher attitude toward the Defense Department's "top line," making it more difficult to sustain the administration's defense estimates. Finally, it may also be that supplemental funding does not cover all aspects of ongoing operations. For example, such funds may cover the operations themselves, but not address the accelerated depreciation of defense capital stock due to increased wear and tear on equipment. This could have an indirect adverse affect on the Department's budget. The Army's recent decision to cancel the Comanche helicopter appears to have been motivated, at least in part, by the need to recapitalize a helicopter fleet that had been worn down at an accelerated rate owing to the number and scale of recent military operations.

The Army

Today's Army is comprised entirely of volunteers, and is organized and structured primarily for relatively brief operations against conventionally armed adversaries. In the decade following the Soviet Union's collapse, long-term operations at the lower end of the conflict spectrum were conducted by the Army with minor difficulties. But the scale of these operations was low—requiring a few brigades, such as in the Balkans, for example. These small-scale operations enabled the Army to sustain an adequate rotation base. This is not the case today in Afghanistan and Iraq, where the Army has roughly 19 brigades forward deployed in combat operations.

The volunteer Army is based on the presumption of career service for a substantial percentage of its soldiers. The United States instituted an all-volunteer force in 1973, at the end of its direct involvement in the Vietnam War. The volunteer force differs from the conscription era force, which drafted young men into the Army for several years, after which most returned to civilian life. Thus during the large-scale and protracted Army deployment during the Vietnam War, many of its troops were draftees that were given training, rotated into the combat theater, and then returned home and departed from the Service, to be succeeded by another wave of draftees.[106] The Army's challenge with the draft-era military was to train large numbers of new troops to fight effectively against a veteran enemy force (i.e., the Viet Cong and North Vietnamese Army).

A professional force, on the other hand, faces a very different problem. In many respects, today's professional Army is superior to the draft era force. For example, in protracted conflicts such as the ones now confronting the Army in Afghanistan and Iraq, draftees might serve once in the combat theater before departing the military. Long-term volunteers, however, might serve a number of tours. It seems reasonable to assume that a soldier serving his or her second or third tour would be more effective than a soldier deploying for the first time.

The Army's challenge with a volunteer force is to establish a sustainable rotation base. If the Army rotates its troops too frequently

[106] The point here is merely to point out that, under a conscription system, the Defense Department can increase the size of its monthly draft calls to match anticipated force requirements, as occurred, for example, during the Korean and Vietnam wars.

into combat, it risks having soldiers decide that a military career is too arduous or too risky an occupation for them to pursue. This leads to the question: How often can a soldier be deployed into a combat zone and still desire to remain in the Army? The answer, of course, is different for every soldier, but the deployment ratio seems to be somewhere between 3:1 and 5:1. That is, for every brigade that is forward deployed in combat operations or in a "hardship" tour, there must exist between three and five brigades to sustain the rotation. Thus a 3:1 rotation base would find soldiers deployed on such missions one-third of the time; a 5:1 rotation would see them deployed one-fifth of their service time. For the purposes of this assessment, a 4:1 deployment ratio is assumed.[107] Thus a soldier under these circumstances could expect to be on deployment six months out of every two years. The Army currently has 37 active brigades. Using a 4:1 ratio, this means it could sustain forward roughly nine brigades at any one time. This is far below the current deployment of 12 active brigades.

In order to avoid overstressing its active units the Army has increasingly relied on the National Guard and Reserves to help maintain a total of some 19 brigades deployed forward in Iraq, Afghanistan, Korea and the Balkans. The National Guard currently has 36 brigades.[108] The rotation base ratio for Guard units is probably closer to 8:1. This means the National Guard could sustain roughly four brigades forward on deployment. Currently seven such brigades are deployed.[109]

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[107] See http://www.globalsecurity.org/military/ops/global-deployments.htm. The 4:1 ratio rotation base used here is based on the author's discussions with senior Army leaders. It also conforms to the rotation base ratio used by the Marine Corps. John Hendren, "Rumsfeld Asks Army to Consider Shorter Rotations," *Los Angeles Times*, June 25, 2004, p. 10. A study by the Congressional Budget Office concluded that "rotation ratios of between 3.2:1 and 4:1 span the range expected to be feasible over the long term for active-component units." Douglas Holtz-Eakin, CBO Office, "The Ability of the U.S. Military to Sustain an Occupation in Iraq," Testimony, Committee on Armed Services, US House of Representatives, November 5, 2003, p. 11.

[108] CBO, *Options for Restructuring the Army* (Washington, DC: CBO, May 2005), p. 9.

[109] Bradley Graham and Josh White, "Army to Use Fewer National Guard Troops in Iraq," *Washington Post*, July 1, 2005, p. A17. Regarding retention and recruitment, other factors in addition to the rotation base come into play as well. For example, if soldiers perceive that they are being poorly led, or engaged in executing a failed strategy, their willingness to persevere may decline, perhaps dramatically. During the Vietnam War, once it became clear the United States was looking for a way out of the conflict rather than attempting to win it, there was a heightened degree of cynicism among soldiers, and a corresponding

Options for addressing the problem—such as violating rotation base ratios, imposing stop loss and stop movement requirements, tapping into the Individual Ready Reserve, and deploying marines into Iraq, have already been exercised. But they are short term fixes at best.

The stress of overseas deployments, now in their third year, is beginning to show. Army and National Guard recruiting is down, as are the Guard's re-enlistment rates. The bottom line is that the Army will almost certainly have to reduce dramatically its overseas deployments soon, or increase its force structure to meet the demand for more deployed forces. The critical question, of course, is "How soon?" The Army hopes to reduce deployments in 2006. However, this will depend upon how quickly indigenous Afghan and Iraqi security forces are able to assume the principal responsibility for their countries' internal defense. Given that allied states are unlikely to provide additional troops in large numbers, and that training indigenous Iraqi security forces will take years to accomplish, it seems prudent to assume the Army may need to increase its end strength significantly, if only temporarily, to fight the war.[110]

Moreover, the Color Plans clearly favor an Army that is more oriented on irregular warfare (and perhaps homeland security) than is the current force. More emphasis needs to be placed on fielding forces that are able to sustain themselves in what may be protracted campaigns in the contingencies described in Plan Green (follow-on stability operations), Black, Purple (the ongoing war), and Blue, while maintaining a significant heavy force as a hedge against the requirement to conduct major combat operations against a more traditional enemy.

To meet the demands of an era that may be dominated by protracted irregular warfare, the Army is restructuring itself to field more brigades under its modularity initiative. Under it, the Active Component will increase the number of brigades to between 43 and 48, while the National Guard will see its brigades set at 34. The National Guard will

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decline in their willingness to sacrifice in order to accomplish the mission. The phrase "Why die for a tie?" is emblematic of this attitude.

[110] See Krepinevich, "The Thin Green Line," pp. 8-12, for a discussion of force alternatives. The stress on the Army and National Guard is reflected in their growing recruitment and/or retention problems. See Jay Bookman, "Ominously, Army Recruiting Tumbles," *Atlanta Journal-Constitution*, May 9, 2005; and Dave Moniz, "Army Recruiting Up for June but Still Down for Year," *USA Today*, June 29, 2005.

be structured with eight divisions, each with four combat brigades, and another separate Stryker brigade and separate scout group.

The Army's modularity plan may offer less than meets the eye. For example, while each division will have four brigades, vice three under the current structure, each brigade will have only two battalions, vice three under the current structure. Thus the actual number of combat, or maneuver, battalions in each division will actually decline, from nine to eight. Telescoping down to a common combat unit, the company, one finds the Army now has roughly 624 maneuver companies. The Congressional Budget Office estimates a 43 brigade modular Army will have around 618 maneuver companies, and a 48 brigade modular Army about 658 maneuver companies. Thus the number of combat "boots on the ground" may not change significantly.[111]

Simply put, the Army is in a race against time, in which its ability to adapt competes with the demands to reduce forward deployments or risk "breaking" the force in the form of a catastrophic decline in recruitment and retention. Nevertheless, a combination of reforms, involving a modest increase in the Army's size, if aggressively executed, might create a force sufficient to sustain current force deployments indefinitely, while maintaining a modest strategic reserve.

The Army's modularity plan is an important step in this direction, especially if its reconnaissance units are highly capable in irregular warfare operations. However, the Army must increase its overall effectiveness in irregular warfare operations. To this end, the Service is moving to reduce the number of field artillery and short-range air

[111] CBO, *Options for Restructuring the Army*, p. 69. The Army notes that its growing emphasis on exploiting information has led to its creation of battalion-size reconnaissance formations to better identify the enemy's location and disposition. This fits the Service's vision of shifting away from close combat as the decisive part of the engagement, and toward an Army that will "see first, understand first, act first, and finish decisively." Each brigade, light or heavy, will have one of these battalion-sized units. The question then becomes whether or not they are combat maneuver formations, or combat support elements. The Army argues they are part of the combat maneuver element. If so, this would increase by three the number of combat companies per brigade. However, given that the Army's doctrinal literature focuses so heavily on traditional warfare, the value of these units in irregular warfare contingencies must be substantiated prior to accepting the Army's claim.

defense artillery units (SHORAD) in its formations, and converting some of these slots to positions more relevant for stability operations.[112]

But restructuring can only accomplish so much. At some point, size does matter. The Army should consider increasing its force structure by as many as four divisions. The first phase of this effort involves shifting a significant portion of its field artillery and SHORAD into the reserves. This would enable the Army to create two active divisions (or eight brigades, under the modularity initiative) by eliminating all SHORAD units and some corps-level field artillery units from the force structure.[113] The Army might also convert two of its six heavy divisions to a light division configuration more suited for most of the contingencies set forth in the Color Plans.

If, by the time this process is complete, the Army still has not established a sufficient rotation base to address Color Plan contingencies at an acceptable level of risk, the Service's end-strength could be increased by some 60,000 soldiers, enabling the formation of two additional active divisions. The result would give the Army between 51-64 brigade-equivalents, or enough to maintain roughly 13-16 brigades forward deployed at all times, given a 4:1 rotation ratio. Again, the active Army currently has 12 brigades deployed forward. This reinforces the point that the Army must become better able to train indigenous and, when possible, allied forces to achieve the required level of scale needed for contingencies such as those set forth in Plans Black, Green and Purple.

The Army should take steps to reduce the stress on the National Guard and Reserve to alleviate what may be an emerging recruitment and retention crisis. By increasing the number of active brigades in the force, as is recommended here, there will be a corresponding reduction in the requirement for reserve brigade elements. Similarly, putting more of the field artillery and SHORAD into the Reserve Component will enable the Active Component to better orient itself on stability operations, reducing its demand for reserve units such as military police and civil affairs units.

The Reserve Component should focus more heavily on homeland security and on providing heavy conventional forces as a hedge against

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[112] See International Herald Tribune, "New Battle Plan for U.S. Reserves," and Burlas, "Army Restructure Effort Needs Additional Troops Through 2007."
[113] CBO, *Options for Restructuring the Army,* p. xviii.

a major conflict. These roles are more in keeping with its traditional role as a militia and, during the Cold War, a force that could be readily mobilized in the event of a national emergency. The Reserve Component would still provide support elements for active brigades, and National Guard brigades would be deployed to support stability (and related) operations, but the Active Component would take on a substantially greater burden for this mission requirement.

The Army must also look to the longer term. Yet even there the Color Plans do not suggest a need for large, conventional forces. Plan Red would require some, but as the ROK Army assumes responsibility for the ground defense of South Korea, the requirement would be greatly reduced. The reader will recall that the Second Gulf War was waged with one heavy Army division. Several heavy divisions (the Active Army now fields six) should more than suffice for Plan Red purposes.[114]

While the Army was the centerpiece of the US military commitment to deter a conventional Soviet invasion of Western Europe during the Cold War, it is difficult to envision the Service enjoying such primacy in any of the Plan Yellow contingencies presented in this assessment. Simply put, Plan Yellow does not envision a major land war with China, and the Army should neither plan nor structure itself for such a war.

This brings us to the Army's plans for its Future Force, which is centered on the Future Combat Systems and its central role in a highly networked land force. To date, the Army's vision of this force centers overwhelmingly on combating a conventionally armed enemy fighting an open battle against US forces.[115] This kind of enemy is unlikely to appear any time soon, thanks to the overwhelming victories won by US forces against conventionally armed adversaries. The Army vision of the Future Force says little about how the force would function in urban terrain, and almost nothing about how the force would function in the kind of environment (to include one in which WMD are employed) posited in several key Color Plans (e.g., Blue, Purple, Green, and Black).[116] This is not to say the FCS and Future Force would not be effective in such contingencies. However, given the differences between

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[114] Again, the National Guard, whose eight divisions will benefit from the shift of field artillery and SHORAD from the Active to the Reserve Component, could provide heavy forces should they be needed in greater numbers.

[115] Krepinevich, *Transforming the Legions*, pp. 35, 52-53, 60-65, 108-09.

[116] Krepinevich, *Transforming the Legions*, pp. 35-44, and, especially, pp. 60-65.

conventional war and irregular warfare, it seems unlikely that a force optimized for the former will also be highly capable in the latter.

The FCS is also technologically ambitious and, not surprisingly, confronts a number of development and procurement challenges.[117] Given these challenges, the FCS's orientation on traditional warfare, and the Army's fiscal problems, serious consideration should be given to "mothballing" the program until its operational relevance is assured (e.g., in projecting power in an A2/AD environment; in irregular operations) and technical barriers become less formidable.

Additionally, the Army should suspend, perhaps permanently, its efforts to convert six brigades to Stryker brigade configuration. Two Stryker brigades have already been fielded. The brigades are receiving mixed reviews in terms of their performance in Iraq.[118] It would be wise to wait until a more definitive evaluation of their effectiveness is available.

Finally, it is important to acknowledge that the Army cannot easily scale itself up beyond a certain level. For example, Iran has roughly three times the population of Iraq, and Pakistan more than double the population of Iran. Were the United States confronted with having to conduct stability operations in Iran on the scale it has in Iraq, it is unlikely to be able to sustain roughly 40 brigades for a protracted period to stabilize the country. Given these limits, the Army will need to enhance its capacity to organize, train and equip indigenous and allied forces capable of conducting protracted operations at the low end of the conflict spectrum. This means increased training and education on the cultures of those states that lie along the Arc of Instability. To this end, the Army should increase substantially the training of Foreign Area Officers (FAOs) on Asian and Islamic languages and cultures. The Army's Military Intelligence branch should be similarly oriented, with emphasis on counter-terror and counterinsurgency operations. It also means developing what, during the Vietnam War, were called Military Assistance Advisory Groups, or MAAGs. These organizations, as their name implies, were designed to support the organization, training and equipping of militaries whose governments were threatened by internal

[117] Krepinevich, *Transforming the Legions*, pp. 52-60, 88-89.

[118] See, for example, Sgt 1st Class Tammy M. Jarrett, "Stryker Performance Scores High with Army Leaders," *Army News Service*, December 14, 2004; and R. Jeffery Smith, "Study Faults Army Vehicle: Use of Transport in Iraq Puts Troops at Risk, Internal Report Says," *Washington Post*, March 31, 2005, p. A01.

or external aggression. The Army should strongly consider increasing significantly its Special Operations Forces, which are in high demand for counter-terror and counterinsurgency operations. The SOF are also capable of training indigenous forces in irregular warfare. Simply put, the Army will have to augment its very limited capability for irregular warfare by leveraging the potential of forces from other nations, especially indigenous forces threatened by radical Islamists and other insurgent movements.

Special Operations Forces

Special operations forces have achieved a prominence recently that they have not enjoyed since the Vietnam War. Deployed almost as an afterthought in the First Gulf War, SOF played an important role in the recent Afghan War, the Second Gulf War, and in the counterinsurgency operations that followed. Given the shift away from traditional warfare and the increased emphasis on irregular warfare anticipated in the Color Plans, the value of SOF seems destined to increase.

There are a wide range of missions that will require SOF, either in a leading or supporting role. Among them are the following:

- Training and advising the indigenous armed forces of a friendly state engaged in the war with radical Islam;

- Training, advising and supporting indigenous insurgent forces opposing radical Islamist regimes or elements (e.g., al Qaeda) in the war with radical Islam;

- Maintaining a US military "presence" in weakly governed or ungoverned areas by providing liaison and serving as a source of reassurance to state and nonstate allies (e.g., with tribal groups);

- Providing intelligence, particularly HUMINT through their ability to operate in remote areas, including those controlled by hostile elements; and

- Conducting strike operations, particularly in cases where force must be applied quickly, discretely, and against high-

value targets (e.g., terrorist and insurgent leaders, unsecured weapons of mass destruction).

As during the Cold War, SOF are capable of supporting the full range of military operations. However, both current and anticipated operational requirements are almost certain to place a much higher demand on SOF units than was the case in the quarter century prior to 9/11. Consequently, the Defense Department should augment its special forces significantly. It should also encourage and support the efforts of key allies (e.g., Australia, Great Britain) to do the same.

Maritime Forces: The Navy and Marine Corps

The recommendations for maritime forces offered here are drawn from a study by Robert Work. While our methodologies take somewhat different forms, the diagnosis of the future security environment presented in Work's assessment is highly congruent to that found in this report, and in the Color Plans. Those interested in the details of Work's assessment are referred to his full report.[119] For our purposes, it will suffice to summarize briefly the underlying rationale for his recommendations, and to present the highlights.

Work's goal is to design a force posture and modernization plan for the maritime forces that can, over the planning horizon, address the full range of traditional, irregular, disruptive and catastrophic challenges to US security. These challenges are represented in the Color Plans. The fleet emerging from this review can be built and maintained on a steady-state total shipbuilding budget of $11 billion a year (in Fiscal Year (FY) 05 dollars), a reasonable sum given current budget projections.[120]

As with the Army and Air Force, the US military's maritime forces dominate in all traditional warfare areas (e.g., surface warfare, air warfare, antisubmarine warfare, strike operations, etc.). In fact, the

[119] Robert O. Work, *Winning the Race: A Naval Fleet Platform Architecture for Enduring Maritime Supremacy* (Washington, DC: Center for Strategic and Budgetary Assessments, forthcoming).

[120] Work's assessment does not recalibrate the operations, maintenance and personnel costs associated with his redesigned fleet, but rather assumes that projected funding for these budget accounts will prove sufficient.

US fleet's capabilities make it the world's greatest maritime power by such a wide margin that it is exceedingly difficult to imagine a direct (i.e., symmetric) challenge to its supremacy over the planning horizon.

However, as the Color Plans demonstrate, existing and prospective enemies can still exploit the sea for their purposes. For example, small navies or irregular forces employing boats and small vessels are capable of mounting surprise attacks on commercial vessels or against unwary combatants, especially in coastal areas. Radical Islamists have demonstrated the ability to attack offshore energy targets, including tankers in transit and offshore energy platforms. Their defense may emerge as a major mission for maritime forces. These attacks might best be launched through commercial craft, mines, or even UUVs as opposed to warships (see, for example, Plan Orange and Plan Blue). Moreover, the enemy maintains a "threat-in-being" capability to use the oceans as an avenue of approach to mount unconventional or catastrophic WMD attacks against the US homeland. Thus, like the Army and Air Force, the Navy and Marine Corps must be rebalanced to accord greater emphasis to addressing the irregular, catastrophic and disruptive challenges that dominate the Color Plans, while hedging against more traditional maritime challenges.[121]

In recognition of these challenges and others related to the Color Plans, Work recommends four conceptual fleet types, each oriented on a different mission:

[121] Take the case of China (Plan Yellow), which is developing military and economic relationships along the sea lanes from the Middle East to the South China Sea. This effort coincides with China's rapidly growing energy demands, and the desire to secure its sea lines of communication. But it may also be a sign of a more ambitious geopolitical agenda. Chinese naval procurements are emphasizing long-range maritime strike aircraft, long-range anti-ship cruise missiles, and submarines. Although Chinese naval combat systems currently lag significantly behind those of the United States, they have a world-class ship-building infrastructure and are experimenting with a wide variety of hull forms and propulsion systems. There are concerns that Beijing may be developing a "string of pearls" series of naval bases in Pakistan; Bangladesh; Burma; Cambodia, and the South China Sea. Beijing's continued military cooperation with Russia, combined with a relaxation of the European arms embargo, might allow the Chinese to expand their maritime forces at a much more rapid rate than has heretofore been the case. See Bill Gertz, "China Builds Up Strategic Sea Lanes," *Washington Times*, January 17, 2005, available at http://www.washtimes.com/national/20050117-115550-1929r.htm.

- *A Strategic Deterrent/Dissuasion Fleet* that would dissuade would-be adversaries from mounting an open-ocean or disruptive naval challenge to the United States, and deter state-sponsored WMD attacks against the US homeland, and against allies and US forces overseas;

- *A Global Patrol/GWOT/Homeland Defense Fleet*, focused on confronting irregular and catastrophic challenges primarily in unimpeded and guarded access scenarios;

- *A Sea-based Power Projection/Regional Deterrence Fleet*, focused on traditional challenges in defended littorals, and disruptive/catastrophic challenges posed by a nuclear-armed regional adversary; and

- *A Contested Access Fleet* oriented on overcoming disruptive access challenges such as high-end A2/AD networks that may appear over the long term.

Work does *not* suggest the United States build four different fleets. Rather, he argues that the fleet must be able to organize itself to address proficiently a range of challenges defined by the Color Plans. This involves reshaping the fleet. The Strategic Deterrent/Dissuasion Fleet would comprise a powerful fleet-in-being of SSBNs and SSGNs. This fleet would also include the dissuasive power inherent in a robust naval R&D effort supported by a vibrant shipbuilding industry.

By way of contrast, the Global Patrol/GWOT/Homeland Defense Fleet would comprise large numbers of relatively inexpensive, lightly manned combatants optimized for global patrol missions. This fleet would thus be dominated by the Navy's littoral combat ships, but would also include persistent strike, SOF, and light maneuver support platforms, as necessary to enable prompt action (albeit on a small scale) against low-end threats such as terrorist organizations. Since its mission would also include homeland defense, this fleet should be designed to complement and be compatible with the Coast Guard Deepwater Fleet.

Work's Sea-Based Power Projection/Regional Deterrence Fleet comprises high-volume strike platforms that also possess capable multi-dimensional (e.g., counter-air, antisubmarine, cruise and ballistic missile) defense capabilities. This fleet would also include heavy maneuver support and joint logistics platforms, all of which are capable

of operating within joint battle networks under high-intensity combat conditions against enemy defended littorals, to include contingencies involving limited nuclear use.

Finally, there is the Contested Access Fleet. Work believes that scenarios in which US access is highly stressed will be relatively rare over the next two decades, with China being the only nation possessing the economic wherewithal and technical sophistication to create such a threat.[122] To determine the kind of fleet needed, Work recommends a healthy experimentation program, focused on examining stealthy platforms, unmanned systems (including UUVs), standoff weapons, and exploring extended range operational concepts as the means for evaluating this emerging challenge to maritime forces.

The following changes seem prudent to adapt the Navy Department's maritime program and force structure to the new era:

- Move immediately to a 12-boat fleet SSBN force, retaining dual crews for higher availability and to maintain a robust nuclear submarine community, while converting two additional SSBNs to SSGN configuration, yielding a total of six SSGNs.[123]

- Continue to build Virginia-class nuclear-powered submarines (SSNs) at a rate of one per year.

- Procure 84 LCSs[124] at a rate of 6 per year, with the force divided into a Fleet Support Flotilla, which would have a primary mission

[122] The author parts company with Work here, although only on the matter of timing. Plan Red and Plan Yellow could, arguably pose significant anti-access/area-denial problems for maritime forces, as could a Plan Green contingency involving Iran, rather than Pakistan. In the latter case, maritime forces would likely have to operate in the Persian Gulf. As the military's last major joint field exercise, Millennium Challenge 2002, showed, even a minor power could have the potential to inflict serious damage on a fleet operating in narrow waters. In short, the author would accelerate the testing and experimentation of new capabilities and operational concepts for dealing with the anti-access/area-denial challenge.

[123] The US Navy is modifying surplus Ohio class Trident submarines to SSGN configuration. This is achieved by the installation of vertical launch systems (VLS). If the maximum of 154 Tomahawk missiles were loaded, one Ohio-class SSGN would carry an entire Battle Group's equivalent of cruise missiles. http://www.answers.com/SSGN?gwp=11.

[124] The concept behind the Littoral Combat Ship, as described by Secretary of the Navy Gordon England, is to "create a small, fast, maneuverable and

of supporting deploying task groups and a secondary mission of homeland defense, and Regional Flotillas, which would maintain LCS divisions constantly forward in low-intensity hot spots (such as those associated with the Global War on Terrorism).

- Fund one DD(X)[125] R&D technology demonstrator and one or two competing stealth surface combatant technology demonstrators (e.g., the Striker semi-submersible missile barge concept), and run periodic Fleet Battle Experiments to compare their respective capabilities in contested access environments. This process would be designed to yield two new surface combatant-classes in 2015.

- When the carrier *G.H.W Bush* is commissioned toward the end of this decade, decommission the last two conventional carriers (the *Kitty Hawk* and the *Kennedy*), and redesignate the nuclear-powered *Enterprise* as a Joint Afloat Forward Staging Base, or J-AFSB.[126] This will result in a 10 big-deck carrier force comprised entirely of Nimitz-class carriers; redesignated as J-CVNs: Joint, nuclear-powered aviation power-projection platforms. The supporting ship building plan would start to replace the 10 Nimitz carriers with CVN-21s on a one-for-one basis starting with CVN-21 in FY08. These large carriers would be augmented by four smaller Joint Escort Carriers, or J-CVEs, based on the LHA(R) scheduled to enter production in FY 2007.

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relatively inexpensive member of the DD(X) family of ships, which will begin construction in FY 2005." The goal is to develop a ship that can be easily reconfigured to be used in multiple roles, including anti-submarine warfare, counter-mine operations, anti-surface warfare, intelligence, surveillance and reconnaissance, homeland defense, maritime intercept, and support of Special Operations or logistics, in addition to operating with Carrier Strike Groups or Surface Action Groups. http://www.answers.com/Littoral%20Combat%20Ship?gwp=11.

[125] The DD(X) is the future class of United States Navy destroyer. One of several US warships in development, the DD(X) is to be preceded by the Littoral Combat Ship and followed by the CG(X) cruiser. Originally known as the DD-21, the DD(X) program was renamed in 2004 when its acquisition program was reworked. The DD(X) features a low radar profile and an integrated power system, which can send electricity to the electric drive motors or weapons systems, which may someday include rail guns. The DD(X) is being designed to require a smaller crew and be cheaper to operate than comparable warships. http://www.answers.com/DD(X)?gwp=11.

[126] The carrier *John F. Kennedy* is now slated to be decommissioned and mothballed. Mark D. Faram, "CNO: JFK Should be Mothballed," *Navy Times*, August 19, 2005, available at http://www.navytimes.com/story.php?f=1-292925-1045900.php.

- Complete the LHD-8, for a force of 8 "big-deck" amphibious assault ships, increase the build-rate of Landing Platform Dock-17s (LPD-17s) to two a year in FY07, and a total class run of 24.[127] This program would form the initial base for the "Sea Basing" concept under consideration by the Defense Department. Joint exercises and experiments would inform changes to the concept as it matures.

The Air Force

Today's Air Force finds itself, like its sister Services, adapting to the demands of a very different security environment than existed even four years ago. As with the Army, Navy and Marine Corps, during the 1990s the Air Force oriented its force structure primarily on traditional warfare challenges along the lines of those posed by the Iraqi military in the two Gulf Wars. Yet another such campaign is among the least likely contingencies envisioned in this assessment.

To date the Air Force has taken some modest steps to adapt. For example, its creation of Air Expeditionary Forces enabled the Service to establish a rotation base for sustaining forces forward (e.g., for Operations Northern Watch and Southern Watch over Iraq during the

[127] The LHD-8 will be a multi-purpose amphibious assault ship designed to transport and land a Marine Expeditionary Unit (MEU), a force of almost 2,000 Marines, ashore by helicopter, landing craft and amphibious assault vehicle. The LHD-8 will also have secondary missions of sea control and power projection by helicopter and fixed-wing vertical short take-off and landing (VSTOL) aircraft; command and control, and mission support, including a hospital with six operating rooms. Although the LHD-8 is the eighth ship of the Wasp class, it will feature noteworthy technological advances, to include gas turbine main propulsion engines, all electric auxiliaries, an advanced machinery control system, water mist fire protection systems, and the Navy's most advanced command and control and combat systems equipment. The gas turbine propulsion plant, with all electric auxiliaries, is a program first for large deck amphibious assault ships and the Navy hopes it will provide significant savings in manpower and maintenance costs associated with traditional steam-powered amphibious ships. The Landing Platform Dock-17, San Antonio Class, is the latest class of amphibious force ship being built for the United States Navy. The LPD-17's mission is to transport the US Marine Corps "mobility triad", that is, Advanced Amphibious Assault Vehicles (AAAVs) (renamed the Expeditionary Fighting Vehicle, or EFV), air-cushioned landing craft (LCAC), and the MV-22 Osprey tiltrotor aircraft. http://www.globalsecurity.org/military/agency/navy/lhd-8.htm, and http://www.navsource.org/archives/10/0917. htm.

period between the Gulf Wars). However, the Air Force structure and investment profile will require significant, and likely major, adjustments to address the Color Plans and Defense Secretary Rumsfeld's concerns over growing irregular, catastrophic and disruptive challenges to US security. These adjustments center primarily on tactical aviation; long-range strike; aerial refueling; precision attack; intelligence, surveillance and reconnaissance; and strategic lift.

With respect to tactical aviation, the maturation of the US military's precision-strike capabilities threatens to make tactical strike aircraft a victim of their own success. The First Gulf War "showed that for many types of targets, a ton of PGMs [precision-guided weapons] typically replaces 12–20 tons of unguided munitions on a tonnage per target kill basis."[128] However, at the time of the first Gulf War in 1991 only a small percentage of the US military's strike aircraft were fully equipped to employ PGMs. In the intervening years, the US military's continued fielding of PGMs—to include improving their capabilities—and the modification of most strike aircraft to employ them, greatly enhanced the Air Force's strike effectiveness. Thus, while Operation Desert Storm employed some 1,600 American tactical strike aircraft, Operation Iraqi Freedom required less than half that number.[129] Simply put, precision-guided munitions mean that more effective bombing can be accomplished with fewer aircraft.

The Air Force should also reduce its emphasis on tactical strike aircraft because of the growing difficulty the United States has experienced in obtaining access to forward air bases. For example, as many as 100 tactical strike aircraft were relegated to the sidelines when Turkey refused to permit operations out of Incirlik during the Second Gulf War.[130] Difficulties in obtaining prompt forward base access in the 1999 Balkan War (Operation Allied Force) and the 2001 Afghan War (Operation Enduring Freedom) indicate that base access is a recurring problem. Access to forward air bases will become more problematic as adversary anti-access capabilities mature. Thus to rely heavily on short-range, land-based combat aircraft may place a significant portion of US air power at risk of destruction.[131]

[128] Alexander H. Flax and John S. Foster, Jr., "Report of the Defense Science Board Task Force on Tactical Air Warfare" (Washington, DC: Office of the Under Secretary of Defense for Acquisition and Technology, November 1993), p. 17.
[129] Moseley, "Operation Iraqi Freedom—By the Numbers," p. 6.
[130] David A. Fulghum, "Fast Forward," *Aviation Week & Space Technology*, April 28, 2003.
[131] Bowie, *The Anti-Access Threat and Theater Air Bases*, p. vii.

Finally, in the Second Gulf War Iraq's weak air defenses meant there was little need for aircraft to conduct air superiority operations. Indeed, both bombers and tactical aircraft functioned largely as "bomb trucks" during the Second Gulf War. As enemy air defenses improve, however, the need for stealthy strike aircraft will likely increase.[132] Yet the Air Force's bomber fleet is dominated by nonstealthy B-52 and B-1 aircraft.

In partial recognition of these trends, the Air Force is adapting its new F-22 air-superiority fighter, which was originally designed to fight from secure forward bases in a European environment, into a ground-attack aircraft, the F/A-22. This is likely to prove an expensive proposition of questionable merit. The Service is also exploring a major overhaul to the F/A-22 to extend its relatively modest range.[133] Both plans will take a substantial bite out of the Service's budget, at the expense of more important priorities. An even greater drain on the US defense budget will occur when the F-35 Joint Strike Fighter enters production, now scheduled for the latter part of this decade. More than 2,000 of these aircraft are scheduled to be procured, with the overwhelming majority going to the Air Force. These aircraft will require forward-base access. Yet, again, such access has become increasingly difficult to acquire in recent operations.[134]

Of course, the Gulf Wars represent traditional military operations. Would there be a major role for tactical air forces in irregular or catastrophic contingencies, the kind represented in Color Plans Blue, Black, Orange, and Purple? Probably not. What about disruptive challenges of the type presented in Plans Red and Yellow? Here again one confronts the anti-access problem and, in the case of China, the need

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[132] Interestingly, tactical strike aircraft have been primarily employed in the ground attack role. Prior to the advent of precision strike, these aircraft, whose speed enabled them to fly lower and use visual targeting, had clear advantages over bombers. With precision strike now possible, however, the bombers' advantage in range, loiter time, bomb load capacity and flexibility has greatly increased their value. However, stealth bombers are so few in number that the loss of even a couple could seriously degrade US precision-strike forces in an anti-access environment. Moreover, lack of numbers limits the Air Force's ability to support widely dispersed forces.

[133] For a discussion of potential drawbacks relating to the F/A-22; see Watts, *Long-Range Strike: Imperatives, Urgency and Options*, pp. 18-19, 22, 57-58, 76.

[134] For a detailed discussion of the problems associated with employing the F/A-22 and land-based version of the F-35 in an anti-access environment, see Bowie, *The Anti-Access Threat and Theater Air Bases*; and Krepinevich, Watts and Work, *Meeting the Anti-Access and Area-Denial Challenge*, pp. 11–28.

to address the problem of its great strategic depth. Both contingencies argue strongly for rebalancing the mix of combat aircraft to place substantially greater emphasis on long-range strike aircraft—bombers or extended-range unmanned aerial vehicles—with the stealth needed to deal with potentially robust enemy air defenses.[135]

Bombers have performed impressively in all major recent US military operations, and the Second Gulf War proved no exception. Operation Allied Force in the Balkans in 1999 marked the B-2 bomber's debut. During the 78-day conflict, the B-2s comprised 1 percent of the attack sorties but dropped 11 percent of the bombs. In military operations against Afghanistan, the bomber force flew 20 percent of attack sorties but dropped roughly 70 percent of munitions.[136] Operation Iraqi Freedom saw bombers account for less than 3 percent of the strike sorties but drop approximately 28 percent of all munitions.[137] The bombers' long range (enabling extended on-station time) and large payload were important factors in the US military's ability to conduct sustained, mass, precision attacks against Republican Guard divisions.

Because of the benign air-defense environment, the Air Force was able to orbit nonstealthy B-1 and B-52 bombers in Afghanistan and Iraq to provide on-call precision firepower. In Afghanistan this capability was used initially to support special operations forces and, later (in Operation Anaconda), Army units when they encountered a force ten times larger than expected. In the Second Gulf War, orbiting bombers provided on-call, precision close air support, which was a crucial factor in enabling the Army's 3rd Infantry Division to advance as rapidly as it did. Of course, operating this way assumes an environment in which enemy air defenses have been neutralized. While this proved to be the case in Afghanistan and Iraq, it may not hold true over the longer term. Again, as the anti-access threat grows over time, the need for extended-range, stealthy strike platforms—be they bombers or unmanned combat

[135] For a full discussion of the growing need for extended-range strike aircraft, see Watts, *Long-Range Strike: Imperatives, Urgency and Options*, pp. 19, 23-60. The Air Force has considered the possibility of a major modification of the F/A-22 that would convert the aircraft into a medium-range bomber, the FB-22, with a combat radius of about 1,600 nm. This is a little better than half the distance of what Watts defines as "long-range" (i.e., 3,000 nm).

[136] William Arkin, "Weapons Total for Afghanistan Includes Large Amount of Cannon Fire," *Defense Daily*, March 5, 2002, p. 12.

[137] Moseley, "Operation Iraqi Freedom—By the Numbers," p. 7; and author's discussion with senior US Air Force official, July 24, 2003.

aerial vehicles (UCAVs)—seems certain to increase, not only to deny an enemy the sanctuary afforded by strategic depth, but also to enable strike aircraft to loiter in search of mobile, time-sensitive targets (e.g., enemy leadership, missile TELs, terrorists transporting radiological or biological weapons, etc.).[138]

Remarkably, despite the bomber force's performance, the problems associated with an aging bomber fleet, and growing concerns over forward base access, the Air Force has no plans for fielding a new bomber until the 2030s. The small force of stealthy bombers (there are 21 B-2 aircraft) clearly seems inadequate to support the Air Force's goal of conducting sustained global strike operations of the magnitude required for large-scale power-projection operations of the type described in Plans Red and Yellow, for example, and perhaps Plan Green as well. Indeed, as Barry Watts notes, from FY 1999 through FY 2006:

> The DoD-wide investment total for the short-range systems is over $89 billion; the comparable total for long-range strike, including the Air Force's next-generation-bomber line, is just over $5 billion. If RDT&E [research, development, test and evaluation] on unmanned strike systems, including Predator, are added, the short-range investment total climbs to nearly $92 billion. The ratios of short- to long-range investment are, respectively, 17.6-to-1 and 18.1-to-1.[139]

Given these considerations, the Air Force might profitably adjust its tactical fighter modernization program. With respect to the F/A-22, this would mean eliminating the strike option from the aircraft and reducing the buy to the numbers set forth in the Department's recent

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[138] The issue of addressing mobile, time-sensitive targets through high-speed dash or enduring dwell times is covered in Watts, *Long-Range Strike: Imperatives, Urgency and Options*, pp. 51-60.

[139] Department of Defense documents at http://www.defenselink.mil/comptroller. The main documents are the National Defense Budget Estimates, RDT&E Programs (R-1), and Procurement Programs (P-1). Cited in Watts, *Long-Range Strike: Imperatives, Urgency and Options*, pp. 4, 20. Watts defines short-range systems as those having a maximum unrefueled combat radius of 1,000 nm, and long-range systems as having an unrefueled combat radius of 3,000 nm or greater.

PBD 753 (i.e., at around 150-180).[140] The Air Force could also reduce its buy of the F-35 Joint Strike Fighter to perhaps half the number currently programmed. Finally, Air Expeditionary Forces could reduce their fighter aircraft force structure by 30 percent, in recognition of the increased capability provided them by precision-guided weapons, and the relatively low near-term threat posed by the air defenses of current potential adversaries.

The resources liberated by these initiatives could enable the Air Force to proceed much more aggressively in developing its long-range strike capabilities. Attractive options are presented in an assessment of long-range strike capabilities by Barry Watts.[141] Watts favors modernizing the existing bomber fleet, especially the B-2 bomber; accelerating development of the Common Aero Vehicle (CAV); converting some intercontinental ballistic missiles (ICBMs) to carry nonnuclear payloads; developing small diameter precision weapons to increase the strike capacity of long-range systems, improving battle damage assessment capabilities to reduce the need to strike targets repeatedly, and moving forward with manned and *unmanned* bomber options.[142]

The Air Force's pursuit of a short-range strike dominant portfolio places even greater burdens on an increasingly stressed aerial refueling fleet. Reliance on tankers has increased substantially since the First Gulf War. In Operation Allied Force in 1999 and Operation Enduring Freedom in 2001, the tanker-to-total-sortie ratio was double and two-and-a-half times that experienced in Desert Storm, respectively. In 2003, the tanker-to-total-sortie ratio in the Second Gulf War was

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[140] Department of Defense, "Program Budget Decision 753," December 23, 2004, p. 9.

[141] Watts, *Long-Range Strike: Imperatives, Urgency and Options*, especially pp. 61-78.

[142] The Common Aero Vehicle is a maneuvering reentry vehicle capable of carrying a payload (primarily munitions) down from a suborbital or orbital atmospheric reentry and either striking a target directly or dispensing munitions to strike at a chosen dispense location and condition. The Defense Advanced Project Agency's (DARPA's) FALCON (Force Application and Launch from the Continental United States (CONUS)) program is working on a CAV capable of providing a reasonable penetrator capability from an expendable launch vehicle or retired ICBM in the 2008 timeframe. At present, FALCON has no funding for any on-orbit CAV effort. Terry Phillips and Bob O'Leary, "Common Aero Vehicle (CAV) on Orbit," unpublished paper, Schafer Corporation, September 6, 2003.

double that of Operation Desert Storm.[143] The Air Force's tanker fleet, however, is showing its age. At any given time a substantial number of these aircraft are unfit for service. It is clear that the tanker fleet must be modernized. However, tanker modernization has yet to achieve the priority in the Service's budget that it merits, especially if the Service continues to pursue an unbalanced modernization program favoring short-range strike aircraft.[144] The Air Force should scrap its leasing plan for the tanker force and procure in the traditional manner the additional tanker aircraft.[145]

With respect to the Air Force's strategic lift capacity, the Color Plans do not indicate a significantly increased need for rapidly deployable forces. Even if there were such a need, the amount of additional airlift needed to make a significant difference would almost certainly be prohibitively expensive. Thus while a strong case can be made for augmenting the airlift fleet and keeping the C-17 cargo aircraft line open, a major increase in the program's priority seems unwarranted. Given a choice on how to stretch tight resources, funding priority should go to modernizing and augmenting the Air Force's tanker fleet, and its long-range ISR and strike capabilities.[146]

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[143] The data are derived from Gulf War Air Power Survey, Volume V: *A Statistical Compendium and Chronology* (Washington, DC: US Government Printing Office, 1993); US Air Force, "Air War Over Serbia Fact Sheet," January 31, 2000; The White House, "Operation *Enduring Freedom*: One Year of Accomplishments," available online at http://www.whitehouse.gov/infocus/defense/enduringfreedom.html. Cited in Christopher J. Bowie, Robert P. Haffa, Jr., and Robert E. Mullins, *Future War* (Washington, DC: Northrop Grumman Analysis Center, 2003), p. 42. See also Moseley, "Operation Iraqi Freedom—By the Numbers," pp. 7–8.

[144] To address the tanker problem, the Air Force has proposed a novel—and highly controversial—leasing arrangement with the Boeing Corporation that would provide the Service with 100 aircraft built on the 767 airframe. See Steven Kosiak, "Air Force Plan to Lease Tankers Likely to Cost More Than Buying, Set Harmful Precedent," *Center for Strategic and Budgetary Assessments Backgrounder*, June 12, 2003.

[145] The Boeing 767 tanker transport aircraft, designated KC-767 by the US Air Force, is a version of the 767-200ER jetliner. In May 2003, the US Air Force announced that it would lease 100 tankers to replace the oldest of its KC-135 tankers, subject to congressional approval. A Defense Science Board review of the USAF's proposed lease concluded that further studies were required before a decision could be taken. In November 2004, it was announced that a study to clarify service needs and an analysis of alternative strategies is required, to be followed by request for competitive bids. See http://www.airforce-technology.com/projects/kc767/.

[146] The Air Force might also strongly consider developing a small, stealthy transport fleet to support covert SOF deep insertion operations. These

The Air Force also has primary responsibility for the nation's military space forces. Over the past fifteen years the US military has come to rely heavily on space-based assets for communications, targeting, positioning, reconnaissance and surveillance. To date, space has remained a sanctuary from military conflict. History tells us that this is unlikely to last indefinitely. The Air Force needs to place a high priority on developing an atmospheric ISR backup for the capabilities provided by current space-based systems. Long-dwell, stealthy UAVs should play a major role in this endeavor. The Service might also usefully explore the development of small, short-life satellites that can be launched on little notice and operate in networked clusters over conflict regions.

The Air Force can play a significant role in counter-terror, counterinsurgency and homeland defense contingencies. Nonstealthy, persistent, wide-area ISR assets are important for all three missions, as is the capability for prompt precision strikes. Counter-terror operations can also benefit from rapid airborne insertion and extraction of small forces, such as SOF. Signals intelligence and aspects of information warfare may also prove important.

Finally, the United States must place greater priority on its ability to control space. This means not only having a capacity to address threats to US space-based systems, but to deny adversaries the ability to exploit space for military advantage. This does not necessarily imply a need to weaponize space. It does mean focusing attention and resources on how this increasingly important mission might be accomplished.[147]

Correspondingly, programs that represent a technological "bridge too far" should be trimmed or mothballed. The Space Based Infrared System (SBIRS, high and low) requirements need to be scaled back so

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operations may prove important, if not essential, in many of the Color Plans. One can easily imagine their value in raids against terrorist targets and in A2/AD contingencies.

[147] Space control might emerge out of a Plan Yellow (or similar contingency). Beijing, for example, is heavily involved in the European Union's Galileo satellite navigation system, a network of 30 satellites and ground stations designed to compete with the United States' GPS. China's participation could allow it to close a gap in the precise targeting of missiles and guided munitions—a gap that now heavily favors the United States. In a conflict, denying the Chinese military access to this space-based capability could be crucial. See David Lague, "Guiding China's Missiles," *International Herald Tribune*, April 19, 2005.

that an adequate early warning system can be put in place in sufficient time to avoid any gaps in coverage. The Space-Based Radar (SBR) is, like the Army's Future Combat System, at present too ambitious technically to be pursued aggressively. The program might benefit from an extended period of measured research and development.[148]

Conclusion

As noted in the introduction, a detailed recommendation of US military capabilities, force types and force mix lies outside the scope of this paper. The above discussion of major defense programs is neither meant to be comprehensive nor definitive. Answers will emerge only after a thorough analysis of the Color Plans, to include developing joint war-fighting concepts that address the types and mix of forces best suited to deal with them. Modifications to the force posture that emerges will need to be made to accommodate the demands of deterrence, reassurance, dissuasion and preemption/preventive attack set forth in the nation's national security and military strategies.

It must be understood that, even for the Defense Department, a definitive analysis—one that provides a set of clear, unambiguous answers defining the defense posture—is simply not possible. There are too many uncertainties that cannot be resolved. The best that one can hope for is that careful planning will reduce the degree of uncertainty confronted by senior defense decision-makers, and provide them with options for hedging against an unpredictable future. Simply put, once the DoD analysis has been completed, the secretary of defense and his senior military advisors will have to apply their judgment. Waiting for the definitive analysis to make decisions is to wait in vain.

While the recommendations here merely represent a first-cut at the problem, in the absence of a serious and thorough analytic effort by the Defense Department, the author believes they offer a superior approach to posturing the US military for the future than does the current defense program. For example, it is clear that, relatively

[148] For a detailed budget analysis of several Air Force program options, to include one that focuses on "transformational" or "disruptive" challenges, see Steven M. Kosiak, *Matching Resources With Requirements: Options for Modernizing the US Air Force*, (Washington, DC: Center for Strategic and Budgetary Assessments, August 2004).

speaking, the US military must become more capable of addressing irregular challenges to its security, as well as asymmetric catastrophic challenges. It also needs to increase its emphasis on potential discontinuities (i.e., disruptive challenges) over the planning horizon. This means that forces optimized for traditional challenges should, for the most part, experience a relative decline in emphasis.

While a through evaluation of the Color Plans (to include Rainbow Plan excursions) can help defense planners develop a feel for the kinds of forces needed to conduct military operations, a different challenge presents itself when it comes to reassuring allies, deterring adversaries, and dissuading them both. Here it will be important to determine what it is that must be reassured, deterred, or dissuaded; the target country or nonstate entity of such efforts; and an understanding of how the object of US efforts will respond. Again, accomplishing this will require a keen understanding of how the target of these efforts calculates risks and benefits.

In the final analysis, the 2005 QDR has the potential to be the most fundamental review of the US military posture in over half a century, since the dawn of the Cold War. The reason for this is the emergence of three significant and enduring challenges to US security, combined with the potential of rapidly advancing (and diffusing) military-related technologies to change the face of military competitions, and the demands of today's ongoing wars in Afghanistan, Iraq, and against radical Islamists. It is thus critically important that the first-order factors that define this environment are properly identified. Failure to accomplish this runs the risk that defense planners will craft a defense posture for the "wrong" future. In outlining some of these first-order factors, it is hoped that this report will help those seeking to avoid that trap.

Appendix A: Potential Base Types

Sanctuaries

The United States could choose to maintain its current basing arrangements in the hope that these bases will be sanctuaries in the event of a future conflict, for one of three reasons. First, with the spread of weapons of mass destruction, wars may become highly limited due to mutual concerns over the consequences of escalation. Instead of total war, future conflicts may more resemble the Korean War, in which the homelands of the great powers (China, Japan, the Soviet Union and the United States) involved were accorded sanctuary status. Second, missile defenses might become far more effective than our experience with them to date would suggest. Third, it may be that US forces are deployed from forward bases to conduct operations at the lower end of the conflict spectrum, such as in the current operations in Afghanistan and Iraq.

Under these circumstances, there may be relatively little risk to US forward bases. However, a forward basing posture that relied heavily on large main operating bases would be highly risky for America. They could be highly vulnerable to an enemy's missile forces. In a major conflict, these bases would be tempting targets for a Pearl Harbor-like surprise attack. There also is always the risk that access could be denied for political reasons.

Peripheral Bases

In the future, an enemy's robust anti-access capability may force the United States to build up strength first along the periphery of an enemy's military reach. During World War II, for example, United States forces found themselves establishing bases along the periphery of the Axis empires in Europe and East Asia. From these bases, in places like Australia, England and North Africa, US and allied forces engaged

German and Japanese forces, gradually pushing them back and seizing bases further forward (and closer to the enemy's homeland).

Anticipating this, the United States might establish a network of peripheral bases, beyond an adversary's projected anti-access range, from which to employ extended-range US military systems and to serve as staging areas for forces and supplies moving from the United States to the threatened theater. Under this approach, allies located along the periphery of potential conflict areas might increase substantially in value. Australia, for example, with its large size and location on the periphery of the Arc of Instability, might provide an ideal site for peripheral bases, as might Russia.

Distributed Bases

The United States might develop a substantially larger network of relatively austere forward bases than it maintains today. In the Pentagon's parlance, these bases are known as forward operating locations, or simply "lily pads." A basing scheme centered on multiple austere bases is somewhat similar to the multiple aim point basing arrangement envisioned for the deployment of the MX Peacekeeper ICBM.[149] This approach assumes that greatly increasing the number of potential bases available can, by complicating the enemy's targeting problem, substantially mitigate the risks associated with forward basing in an anti-access environment. Further, it assumes that, at any given time, only a relatively small fraction of these bases would be in use, and then only for brief periods.

Like peripheral basing, this basing structure implies significant changes in US military systems, force structures, base operating procedures, and doctrine. The potential benefit is that, to attack US

[149] In weighing options for deployment of the MX Peacekeeper ICBM in the 1970s and 80s, senior US officials confronted the growing vulnerability of fixed-point targets to a first-strike Soviet attack. One solution considered was to establish a series of widely spaced shelters, over 20 for each missile. In theory, the Soviets would have had to destroy all of the shelters to ensure the one missile shuttling between them would also be destroyed, exacting far too great a cost on the Soviet missile forces for such an attack to be profitable. Hence, the MX would be survivable. For a variety of reasons, this basing mode was never implemented. For a discussion of the MX basing scheme referred to here, see Bernard T. Feld and Kosta Tsipis, "Land-based Intercontinental Ballistic Missiles," *Scientific American*, November 1979, pp. 57-59.

forces located on distributed bases with a high degree of effectiveness, an enemy might have to strike most, if not all the bases, since he may not be certain which bases were currently being used by US forces. This would be particularly true if US forces were operating out of these bases along extremely compressed timelines. One key challenge for such a basing scheme is to make the ground base support functions highly mobile as well lest they become the basing system's weak link. Moreover, a distributed basing scheme could facilitate the employment of preferential defenses against the ballistic and cruise missile threat. If so, US missile defense effectiveness might increase dramatically.[150]

This basing structure might favor cultivating allies with relatively large land masses. Australia again comes to mind as an ally whose value might increase substantially under this type of basing scheme. Russia also begins to look much more attractive as an ally if this basing scheme is viewed as having promise, as might Turkey.[151] However, other factors aside from sheer size, such as terrain, must be considered as well. For example, large portions of Russian Siberia and the Australian Outback may not be suitable for bases. Moreover, if they are to sustain a large contingent of forces, the logistics strain involved in supporting dispersed or remote bases may prove prohibitive.

[150] The concept of preferential defense is fairly straightforward. Since US and allied missile and air defense forces would know those forward bases that were being used by friendly militaries, they could be instructed to intercept only those missiles targeted on bases currently in use. As with any defense, there are some potential problem areas. First, one must assume that the enemy's intelligence is limited, and also that he does not possess the capability to conduct saturation attacks against all bases. Second, one must also assume that creating substantial numbers of bases is feasible. For example, it would likely be difficult to establish such a basing scheme in a country like Israel or Japan. Third, defenses designed to operate early in an enemy's attack phase (e.g., ballistic missile boost-phase intercept systems) cannot, at present, differentiate between those missiles targeted on bases in use, and empty bases. In short, they cannot practice preferential defense. Fourth, there is likely to be a residual support structure required even at austere bases. Unless this support structure can be made mobile, erosion of base infrastructure support may occur under the weight of enemy attacks.

[151] The specific attributes of a distributed basing scheme would depend on a number of factors. Obviously, the character of the threat must be considered as well as the suitability of the terrain identified for distributed bases. The threat will help inform such matters as the number of distributed bases required (so as to avoid the risk of saturation attacks on all bases) and the spacing between bases (to limit, for example the effectiveness of extended-range munitions whose trajectory—and thus targets—can be altered in flight). Countries that are strategically positioned and possess a relatively large land mass may be the best candidate for a distributed basing network.

Mobile Basing

An obvious way to reduce the vulnerability of US forward-deployed force elements is to make their bases mobile and thus more difficult to target. Today the United States possesses mobile bases of a kind in the form of its Navy carrier battle groups (CVBGs) and Marine amphibious ready groups (ARGs). These platforms, however, are highly limited both in their capacity and in their ability to project power ashore, especially at extended ranges. Another option, the Mobile Offshore Base (or MOB) merits serious consideration. As envisioned by the US military, a MOB would be a multi-module floating structure based on offshore platform technology. It would extend roughly one mile long, provide some 115 acres of storage space and be able to accommodate 150 helicopters or VSTOL aircraft. It would be able to land large transport aircraft like the US Air Force's C-17s and C-130s. To the extent they can be deployed in open waters, MOBs, which can move at a speed of 5-10 knots, can further complicate an adversary's targeting requirements.[152] Other less ambitious schemes are also under consideration (e.g., the Navy's sea-basing concept). If practicable, these bases offer the advantage of contouring the US footprint, or presence, on allied territory to fit the host nation's political and cultural needs. They also can be moved (albeit slowly) both in the event of crisis in another sector or if a shift in alliance relationships occurs.

Export Bases

A portion of the military capabilities resident at forward bases might be relocated to bases in the United States itself. This implies an increased reliance on military systems and forces with extended, even intercontinental range, such as long-range bomber forces or death-of-distance electronic strike elements.[153] Other capabilities involving

[152] Bryan Bender, "USA Must Keep Base Plan Afloat," *Jane's Defence Week*, May 12, 1999, p. 3; and Lisa Troshinsky, "Marine Corps and Industry Heat Up Plans For An Offshore Refueling 'Base'," *Navy News & Undersea Technology*, March 1, 1999, p. 1.

[153] The death of distance is a term used by the telecommunications industry to connote the lowering of barriers to global communication, both in terms of improved service and reduced cost (hence the industry's other slogan: "faster, better, cheaper"). Employed here the term refers to the growing potential for states, groups or individuals to undertake information (or electronic) warfare campaigns against critical military and economic information infrastructure targets from almost anywhere on the globe.

C4ISR, and perhaps strike, might be exported to space. With respect to US space-based assets, allies that enable the positioning of survivable, redundant ground stations and support facilities might increase in value, as might allies that could facilitate the rapid relaunch of satellites to replace those rendered ineffective due to enemy military operations conducted in space. For example, allies that enable equatorial launches could enhance a rapid satellite replacement capability as well as provide launch-site diversification.[154]

The exporting of US military capabilities from their forward bases will likely pose increased costs as extended-range systems typically cost more than their shorter-range counterparts. It also implies a reduction of US forward-stationed forces which could reduce the credibility of America's security guarantees to its allies.

Rapid Base Development

Given the high level of geopolitical uncertainty and the growing military risk to forward basing forces, the United States might adopt a defense posture in which it waits until the appearance of a crisis or conflict before it identifies base locations and deploys substantial forces into a threatened region. This, arguably, was the approach followed by the United States at least through World War I, and perhaps through World War II as well. The potential advantages of assuming a "wait-and-see" posture are several. If alliances are fluid, or shifting, the United States would want to avoid investing heavily in developing bases to which it may not maintain long-term access or, worse still, have fall into the hands of its competitors. This approach would also increase a potential adversary's planning uncertainty with respect to US crisis or wartime power-projection plans.

However, there are likely downsides to this scheme as well. The reduction in US forward presence may erode the credibility of American security guarantees. The US military would have to acquire the ability to develop forward bases, in whatever form (e.g., peripheral,

[154] By launching where the Earth's rotational pull is strongest, rockets can carry significantly more weight into space than they can from other latitudes. "Rocket Launched from Ocean Platform in Orbit," *Seattle Insider*, March 28, 1999.

distributed) very quickly.[155] This approach to basing would almost certainly increase the need for extended-range military systems whose capabilities could be brought to bear almost immediately, while rapid forward base development is occurring.

[155] The United States has demonstrated something like this kind of capability in the past. For example, during World War II the rapid base development capabilities of America's Naval Construction Battalions (or SeaBees) supported its island-hopping campaigns in the Pacific Theater. The development of artificial harbors, called Mulberries, were important in sustaining the allied offensive in France after D-Day. During the Vietnam War the US military developed basing facilities in South Vietnam with remarkable speed and effectiveness.

Figure 3: Global Base Posture: Overview of Options

Basing Option	Prospective Advantages	Prospective Disadvantages
Major Forward ("Forward Operating Base")	• Effective against low-end threats (e.g., radical Islamists) • Very efficient in benign A2/AD environments	• Highly vulnerable to A2/AD capabilities • Highly vulnerable to nuclear strikes • Heavy dependence on ally durability/reliability
Peripheral	• Reduced vulnerability to shorter-range A2/AD capabilites	• Major changes in US capabilities required (e.g., extended range) • Potential substantial base development costs • Possible dependence on ally durability/reliability
Distributed ("Forward Operating Location")	• Reduced vulnerability to shorter-range A2/AD capabilites • Greater leverage of missile defense assets • Enhanced support to distributed GWOT forces	• Major changes in US capabilities required (e.g., lean logistics) • Potential significant base development costs • Possible dependence on ally durability/reliability
Mobile	• Reduced vulnerability to A2/AD capabilites optimized for fixed targets • Greater leverage of missile defense assets • Relative immunity to alliance perturbations—optimal for preemptive/preventive strikes	• Major changes in US capabilities required (e.g., sea-basing) • Potential high development and sustainment cost
Exported (e.g., to space)	• Reduced vulnerability to all but the most extended-range A2/AD capabilities • Relative immunity to alliance perturbations—optimal for preemptive/preventive strikes	• Major changes in US capabilities required (e.g., space systems; long-range C4ISR and strike) • Possible reduced credibility of US security guarantees/deterrence/dissuasion • Potential significant base development expense
Rapid Development	• Reduced vulnerability to all but the most extended-range A2/AD capabilities • During war, relatively immune to alliance perturbations • May be well-suited to counter-terror operations	• Major changes in US capabilities required (e.g., rapid construction and base conversion capabilities) • May require prompt ally/partner approval • Not useful in cases where preemptive action is required

Appendix B: Glossary

A2/AD	Anti-Access/Area-Denial
AAAV	Advanced Amphibious Assault Vehicles
APOD	Air Ports of Debarkation
ARG	Amphibious Ready Group
ASAT	Anti-Satellite
C4ISR	Command, Control, Communications, Computer, Intelligence, Surveillance and Reconnaissance
CAP	Combat Air Patrol
CAV	Common Aero Vehicle
CBO	Congressional Budget Office
CBPP	Center for Budget and Policy Priorities
CDC	Centers for Disease Control
CIA	Central Intelligence Agency
CONUS	Continental United States
CTOL	Coventional Take-off and Landing
CVBG	Carrier Battle Group
CVN	Nuclear-Powered Aircraft Carrier
DARPA	Defense Advanced Research Projects Agency
DHS	Department of Homeland Security
DoD	Department of Defense
DPRK	Democratic People's Republic of Korea (North Korea)
EBO	Effects-Based Operations
EFV	Expeditionary Fighting Vehicle
EMP	Electromagnetic Pulse
FAO	Foreign Area Officer
FBI	Federal Bureau of Investigation
FCS	Future Combat Systems
FY	Fiscal Year
FYDP	Future Years Defense Plan

GBL	Ground-Based Laser
GDP	Gross Domestic Product
GPS	Global Positioning System
GWOT	Global War on Terrorism
HUMINT	Human Intelligence
ICBM	Intercontinental Ballistic Missile
ISR	Intelligence, Surveillance, and Reconnaissance
IW	Information Warfare
J-AFSB	Joint Afloat Forward Staging Base
J-CVE	Joint Escort Carrier
J-CVN	Joint Nuclear-Powered Aircraft Carrier
JIC	Joint Integrating Concept
JOC	Joint Operating Concept
LCAC	Air-Cushioned Landing Craft
LCS	Littoral Combat Ship
LEO	Low-Earth Orbit
LNG	Liquid Natural Gas
LPD	Landing Platform Dock
LRS	Long-Range Strike
MAAG	Military Assistance Advisory Group
MCO	Major Combat Operations
MEU	Marine Expeditionary Unit
MOB	Mobile Offshore Base
MRC	Major Regional Conflict
MTW	Major Theater War
NATO	North Atlantic Treaty Organization
nm	Nautical Miles
O&M	Operations and Maintenance
PBD	Program Budget Decision
PGM	Precision-Guided Munitions
QDR	Quadrennial Defense Review
R&D	Research and Development
RDT&E	Research, Development, Testing and Evaluation
ROK	Republic of Korea (South Korea)
S&T	Science and Technology
SBIR	Space-Based Infrared System
SBR	Space-Based Radar
SHORAD	Short-Range Air Defense
SOF	Special Operations Forces

SPOD	Sea Ports of Debarkation
SSBN	Nuclear-Powered Ballistic Missile Submarine
SSC	Small-Scale Contingencies
SSGN	Nuclear-Powered Guided Missile Submarine
SSN	Nuclear-Powered Submarine
STOVL	Short Take-off Vertical Landing
TEL	Transporter-Erector-Launcher
TST	Time-Sensitive Targets
UA	Unit of Action
UAV	Unmanned Aerial Vehicle
UCAV	Unmanned Combat Aerial Vehicle
UE	Unit of Employment
UUV	Unmanned Underwater Vehicle
VLS	Vertical Launch System
VSTOL	Vertical Short Take-off and Landing
WMD	Weapons of Mass Destruction