

## Controlling Chaos: A Primer on War

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*“A direct attack against American citizens on American soil is likely over the next quarter century.”*

*–Road Map for National Security: Imperative for Change  
February 15, 2001*

April 6, 1865, on Lee’s long march to Appomattox Court House, 9,980 Americans were killed and wounded at Sailor’s Creek in Virginia. Not until September 11, 2001, would there be so many American victims of violence on American soil in a single day (including the citizens of more than 60 other nations). Even the attack on Pearl Harbor claimed less than half this number (although the strategic implications are perhaps equivalent).

This is about war, what one of my West Point classmates has called, “...combat as a lottery.”<sup>1</sup> For war is a random walk through the maelstrom that claims the courageous, the cowardly, leader and follower, the skilled and blundering, the innocent and the murderous in equal measure. An artillery salvo will scatter craters and air bursts in almost gaussian order about the aim point.

We are being called to war. And while physicists have served in war as both combatants and the innovators of the appliances of war, we must step back and measure the conflict and our responses to it. It is the purpose of this discussion to give you a metric with which to assess the nature of the struggle.

### The United States Commission on National Security/21st Century

In 1999, the US Commission on National Security/21st Century, was established by Executive Order under the aegis of the Department of Defense to review the emerging world security environment, assess US preparedness, develop a strategic overview, identify alternatives to meet perceived threats and, finally, propose a detailed plan to meet these threats. The Commission is chaired by former senators Gary Hart and Warren Rudman and therefore is known as the Hart-Rudman Commission.

In September 1999 and again in April 2000, the Commission released two reports to set the stage for its most recent valedictory released on February 15, 2001, entitled, “Road Map for National Security: Imperative for Change.”<sup>2</sup> The preliminary reports barely received public notice but the 156 page phase III narrative was widely touted in the scientific press for three recommendations:

- C** *We therefore recommend doubling the federal research and development budget by 2010, and instituting a more competitive environment for the allotment of those funds.*
- C** *We recommend further that the role of the President’s Science Advisor be elevated to oversee these and other critical tasks, such as the resuscitation of the national laboratory system and the institution of better inventory stewardship over the nation’s science and technology assets.*
- C** *We also recommend a new National Security Science and Technology Education Act to*

*fund a comprehensive program to produce the needed numbers of science and engineering professionals as well as qualified teachers in science and math.*

Lost in these reports was the context for the Commission's proposals. It was the purpose of these recommendations to revitalize American science and education as a resource for national security. This rationale had all but disappeared in the wake of the Cold War's end and the scientific community had begun to marshal economic and cultural arguments in preparation for a political campaign to restore and expand national support and resources for the domestic science enterprise. The report's executive summary makes clear its purpose and thrust:

- C *ensuring the security of the American homeland;*
- C *recapitalizing America's strengths in science and education;*
- C *redesigning key institutions of the Executive Branch;*
- C *overhauling the US government's military and civilian personnel systems; and*
- C *reorganizing Congress's role in national security affairs.*

But to glimpse the clash confronting us, we must note two other recommendations, one of which was implemented within days of the terrorist attack and the other—affecting our military force structure—which has been underway for several years:

- C *We therefore recommend the creation of an independent National Homeland Security Agency (NHSA) with responsibility for planning, coordinating, and integrating the various US government activities involved in homeland security.*
- C *we recommend that the Defense Department devote its highest priority to improving and further developing its expeditionary capabilities.*

The implicit meaning beneath these recommendations is the merging of the domestic and international security operations and apparatus of the United States. The implications for American democracy and international order are immense.

### The Joint Chiefs and Evolving Forces

In 1990 and early 1991, the military force structure of the US was designed to fight major conflicts in two theaters simultaneously (referred to as the National Military Strategy—NMS which is mediated by the National Security Strategy—NSS).<sup>3</sup> The vast ground, air and naval forces deployed during the gulf war strained the logistic capacities of coalition forces and cost an estimated \$61 billion over the course of military operations which lasted roughly 7 months (August 1990 through February 1991). Of course the US outlay of approximately \$7 billion was more than offset by the expenses borne by the Gulf States, Japan and Germany. Nonetheless, with the loss of a major adversary (the USSR) and the diminishing likelihood of the need for such large scale expeditionary forces in the future (500,000 US and 160,000 coalition), the US military began a protracted restructuring. One element that dominated planning was the extraordinary asymmetry of casualties: 148 American Combat deaths and 458 wounded against an estimated 100,000 Iraqi soldiers killed and 300,000 wounded (with 150,000 desertions and 60,000 prisoners). These estimates of Iraqi casualties have been criticized by some as far too low.

Nonetheless, the image of technology triumphant—if not rampant—left most Americans with the impression that war had entered a new era and that future conflicts would be circumscribed by the technical superiority of American arms. This image was reinforced several years later as US fighter-bombers waged a sanitary campaign against Serbs seeking to expunge Bosnia and Kosovo of non-Serbian populations. War, for Americans, became an orchestral euphony of stealth fighters, smart bombs, cruise missiles, robot reconnaissance planes and remote control—absent the 18 dead of the Delta Force that was committed to the arrest of the Somalian warlord Muhammad Farah Aidid in 1993. Presidents could now go to war with little risk, public notice or international remonstrance.

In 1997, Henry H. Shelton was confirmed by the Senate as the 14<sup>th</sup> Chairman of the Joint Chiefs of Staff. It was a remarkable choice. His previous assignment had been as Commander in Chief of the US Special Operations Command—the first master of special operations to be appointed to the highest position in uniform. Two years later, he was joined by Eric K. Shinseki who was confirmed as Army Chief of Staff; a former commander of land forces in Central Europe and a veteran of the NATO Stabilization Force in Bosnia-Herzegovina. Both men had been tested in Vietnam: Shelton as a Special Forces and Airborne officer and Shinseki as an artillery forward observer in successive tours with the 9<sup>th</sup> and 25<sup>th</sup> Infantry Divisions. Both men are coming to an end of their final tours of duty, but their stewardship over the nation's armed forces during the past few years will deeply color the coming conflict. The new Chairman, as of October 1<sup>st</sup>, 2001, General Richard B. Myers, served as Vice Chairman under General Shelton and can be expected to build upon his predecessor's policies although current planning will undoubtedly undergo a profound shift in emphasis as a result of the devastation in New York City and Washington.

As Congress and the Administration wrestled with emerging domestic priorities, it was clear that no serious commitment would be made to sustain the force structure that fought the Gulf War. Nor did the Joint Chiefs presume that this would be a viable goal. A major responsibility for the nation's defense establishment is to assess existing and emerging risks and to develop a military apparatus sufficient to counter these perils. Still, the NMS did not change and this produced strains within the nation's military. As late as June, this year, in testimony before the Senate Armed Services Committee, General Shelton complained:<sup>4</sup>

*After the Cold War, we made a conscious decision to cut procurement and live off the investments of the eighties as we reduced our force structure. Between fiscal years 1993-98, approximately \$100 billion was taken out of DoD procurement accounts. ... However, several recent studies, to include one by the Congressional Budget Office, have concluded that \$60 billion is not sufficient to sustain the force.*

What about the NMS? Was the most serious threat to the nation that of a two-theater conventional war?

At a symposium last April, General Shelton sought to sketch the changes and emerging threats:

C     *The time span between something happening and the demand to do something about it, or the so-called "CNN effect," continues to get shorter.*

- C *Non-state actors, terrorist organizations, and crime syndicates are going to become increasingly prevalent and more powerful.*
- C *...the availability of leading-edge technologies to potential adversaries is expanding.*
- C *The range and types of conflict will expand. We can expect asymmetric attacks ...*
- C *When you combine this with the very real potential for high-intensity regional conflict, or even direct threats to our homeland, you can see the enormous challenges ...*

General Shinseki has also complained to Congress that, "...the Army is too small for the mission profile it carries and underfunded for the strategic guidance it has been given ... ." <sup>5</sup> Part of the problem has clearly been related to the many deployments of peacekeeping forces around the world. But he has also been a strong advocate for the organization of highly mobile, well-equipped small units called Interim Brigade Combat Teams capable of rapid deployment with equipment and armament and backed up with joint support (air and naval forces) to sustain combat operations for protracted periods. <sup>6</sup> These are the kinds of units that will be mobilized in any coming conflict. But there are still others.

Shinseki conceived of transforming the Army's Legacy Force (the existing divisional and corps organization of army units), into the Interim Force (as exemplified by the Interim Brigade Combat Teams) and then implementing a large S&T effort to totally transform military units into the Objective Force (an Army consisting of technologically innovative weaponry and transport, consisting of flexible, highly mobile combat units integrated with air and naval forces). <sup>7</sup>

Currently, the Interim Force is in formation and the brunt of envisioned deployments will obviously fall to Special Operations—a mixture of small units whose principle function is to supply, train and coordinate with indigenous opposition groups, gather information, provide targeting information for land, naval and air forces, accomplish limited military objectives, and help prepare for sustained ground operations should this become necessary and feasible. It is certain, that as these words are being written—and read—such operations are well underway and US forces are already in harm's way.

The day for planning the introduction of large armored units into the Hindukush and Panjshir Valley is long past and certainly not an option. By law, the DoD was required to submit a Quadrennial Defense Review to the Congress by September 30, 2001. <sup>8</sup> Most experts believe that the draft currently on Secretary Rumsfeld's desk is dead on arrival since it reflects the parochial vision of the NSS and corresponding NMS despite a new-found emphasis on "asymmetric threats" from terrorists. We now face an enemy unrestrained by national borders, absent standing armies, military assets and government buildings (except for the states that support them), whose operatives are adept at exploiting the very assets and vulnerabilities of the civil society they assail. We have become the prey of a new kind of "asymmetry" where a few committed men and women emerge from the shadows to attack the vast precincts of heretofore undefended territory with unimagined savagery.

### The Cauldron of South-Central Asia

Of the world's Muslims, approximately 85% are Sunni and 15% are Shi'a. In Afghanistan, while

overwhelmingly Sunni, the population is divided into 36 (by some counts) ethnic and tribal groups with the Pashtoons (Pushtuns) in the majority.<sup>9</sup> They form the backbone of the Taliban movement. They are concentrated in the southern and eastern parts of the country with sizable pockets in the west and north. Many also live in Pakistan. The Pashtoon are further made up of Durrani who live in and around Qandahar (in the south-central part of the country) and form the social and political elite, and the Ghilzays who live between Kabul and Qandahar. To understand the nature of the other groups within the country, one need only look at a political map of the region.

In the north, from west to east, Afghanistan is bordered by the former Soviet Central Asian republics of Turkmenistan, Uzbekistan and Tajikistan. To the south and south-east is Pakistan and to the West, across the great deserts beyond Qandahar, is Iran. Also of geographic importance are the more remote former Soviet countries of Kyrgyzstan and Kazakhstan. The main opposition group to the Taliban are the Northern Alliance made up mostly of Tajiks and Uzbeks and some Hazara's from the center of the nation. While roughly equivalent in number, these groups are less unified and much weaker militarily than the Taliban. The former Soviet Central Asian republics support the Northern Alliance as a buffer to the spread of radical Islam into their territories. There is also the narrow eastern panhandle of the Vakhsh valley that drills into China and through which the Taliban conducts its political commerce with Chinese Muslim separatists.

Iran is not only Shi'ite, but ethnically and politically far different from the other nations in the region. A blood feud divides Iran from the Taliban. Nonetheless, Iran will not accept a dominant presence of US led regional and western forces for obvious political and strategic reasons.

Pakistan—ethnically and politically related to the Pashtoons—many of whom are Pakistani—has been sympathetic to the Taliban and have provided political, economic and military support, despite the efforts of the Taliban and bin Laden's al Qaeda movement to destabilize successive Pakistani regimes.<sup>10</sup> Over the past decade, as first war with Russia and then civil war consumed the country, millions of displaced Afghans have fled to Pakistan and Pakistan's northern frontier has become a country within a country. A humanitarian catastrophe now threatens as increasing numbers of indigenous peoples flee to the borders and food and shelter succumb to the exigencies of the coming bitter winter.

What is the nature of these adversaries? Richard Kidd (a 1986 West Point graduate) wrote an email that was widely distributed to the Military Academy Association of Graduates. In my view, some of what he says accurately telegraphs the situation faced by civilian and military planners. Some of what he says also conveys the uglier proclivities that color all wars:

*“Many of you are probably not aware that I was one of the last American citizens to have spent a great deal of time in Afghanistan. I was first there in 1993 providing relief and assistance to refugees along the Tajik border and in this capacity have traveled all along the border region between the two countries. In 1998 and 1999 I was the Deputy Program Manager for the UN's mine action program in Afghanistan. ... I was somewhat ironically engaged in a ‘Holy War’ as decreed by the Taliban, against the evil of landmines, and by a special proclamation of Mullah Omar, all those who might have died in this effort were considered to ‘martyrs’ even an ‘infidel’ like myself.*

*“... Our enemy is not the people of Afghanistan. The country is devastated beyond what most of us can imagine. The vast majority of the people live day-to-day, hand to mouth in abject conditions of poverty, misery and deprivation. ... The country is exhausted, and desperately wants something like peace.*

*“... our enemy is a group of non-Afghans, often referred to by the Afghans as ‘Arabs’ and a fanatical group of religious leaders and their military cohort, the Taliban. The non-Afghan contingent came from all over the Islamic world to fight in the war against the Russians.*

*“... It is my assessment that most Afghans no longer support the Taliban. Indeed the Taliban have recently had a very difficult time getting recruits for their forces and have had to rely more and more on non-Afghans, either from Pushtun tribes in Pakistan or from OBL [Usama bin Laden].*

*“... Our challenge is to play to the weaknesses of our enemy, notably their propensity for internal struggles, the distrust between the extremists/Arabs and the majority of Afghans, their limited ability to fight coordinated battles and their lack of external support. More importantly ... we have to take steps not to play to their strengths, which would be to unite the entire population against us by increasing their suffering or killing innocents, ... or to get into a battle of attrition chasing up and down mountain valleys.*

*“... I would support the Northern alliance with military assets, but not take it over or adopt so high a profile as to undermine its legitimacy in the eyes of most Afghans.*

*“... give massive amounts of humanitarian aid and assistance to the Afghans in Pakistan in order to demonstrate our goodwill and to give these guys a reason to live rather than the choice between dying of starvation or dying fighting the ‘infidel.’”*

But South-Central Asia does not delineate the entire theater of operations. In 1997 the State Department listed Cuba, Iran, Iraq, Libya, North Korea, Sudan, and Syria as responsible for state-sponsored terrorism (the assessment admitted that Cuba no longer sponsored terrorism but complained that some retired terrorists still lived there).<sup>11</sup> The report documented Usama Bin Laden's organizational activities to include the dispersal of trainers throughout Afghanistan as well as Tajikistan, Bosnia, Chechnya, Somalia, Sudan, and Yemen and was further reported to have trained fighters from numerous other countries including the Philippines, Egypt, Libya, and Eritrea. We now know that the list has been enlarged to include the United States and most of the industrialized northern hemisphere.

Thus, it is clear that the confrontation of forces is widely dispersed and diffuse with cultural, religious, political economic and military realms, that the openness of industrial society and accessibility of technology has conferred advantages on the aggressor and vulnerabilities on those being attacked. Further, the globalization of commerce and freedom of exchange has provided ease of transfer of resources, communications and means for assault.

## Defense of the Homeland

The phrase, “defense of the homeland,” is alien to American ears. The formal restraints on combatants—consumed and fragmented in the massive conflicts of the previous century—are now ignored by those who promulgated the immolations of September 11. More importantly, perhaps, there is no end to the destructive imagination of our enemies. Where once casualties were counted in the dozens or even hundreds, we have now suffered thousands of deaths and our antagonists have made clear that millions are at risk. They have said that if we withdraw from our interests and alliances in South Asia and the Middle East they will no longer be at war with America. But is this true? Is it possible for America to withdraw? Is there a better way to defend ourselves without resorting to diplomatic/economic/ political/military war on a global scale? What dangers does our democracy face as we integrate our international military and intelligence capabilities with domestic policing and counterintelligence?

These questions will not be answered here. Rather, let us look at the front lines and areas of defense under the presumption that we must defend ourselves from murderous attack. We must also preserve our culture and political freedoms and we must safeguard the very essence of America in a world grown suddenly hostile.

It is obvious that weapons of mass destruction have many methods for delivery. Had the suicide bombers of September 11 had the means, they would have detonated a nuclear device, distributed nerve gas or dumped biological agents on New York and Washington. There is really nothing to prevent a truck/ship/airplane/person-carried device from being deployed anywhere. Thus our first task is to clearly delineate the threat and make a realistic assessment of risk in order to defend against attack. Many of our most serious and knowledgeable colleagues in all of the sciences have been attempting to do just this but their efforts have been lost in the noise of competing priorities.

In a letter to the President dated September 20, the presidents of the three academies have announced their intention to organize panels to begin anew defining the menace facing progressive industrial societies.<sup>12</sup> Undoubtedly the learned and professional societies can do much to marshal the expertise and talents of their respective communities to deal with our quandaries. How do we assure our liberal democracy and domestic justice while facing attack? How do we preserve freedom of movement when our very mobility is so easily turned against us? How do we defend the integrity of global commerce when international banking and monetary transfers can be so easily subverted? How do we prevent cryptographically secure communications and commerce from being used as weapons? How do we assault the minions who would destroy us while preserving the political stability and comity of our friends? How do we assure justice abroad as we summarily deploy our forces to seek out those responsible for these terrible attacks?

The very first of the Commission on National Security’s recommendations, the establishment of a National Homeland Security Agency, is reality. Many of the other recommendations are sure to be implemented, to include additional responsibilities for the President’s S&T advisor. Our community will be called upon to participate and to serve. Beyond this, a new NSS will have to be devised and the S&T community will be asked to develop the means for transforming the nation’s force structure to meet the evolving threat. We must also examine strategies and tactics for improving homeland security without damaging our most precious assets: democracy and civil liberty. Our only hope to evade the lottery of war is to control the chaos.

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