

# 琉球大学学術リポジトリ

## 在日米軍の削減可能性を探る研究

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# Transforming Defense

*National Security in the 21<sup>st</sup> Century*

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Report of the  
National Defense Panel  
December 1997



# NATIONAL DEFENSE PANEL

1931 JEFFERSON DAVIS HWY  
ARLINGTON, VA 22022-3805

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Honorable William S. Cohen  
Secretary of Defense  
1000 Defense Pentagon  
Washington DC 20301-1000

Dear Mr. Secretary:

We are pleased to provide the report of the National Defense Panel, "Transforming Defense—National Security in the 21<sup>st</sup> Century." This report is in accordance with Section 924 of the Military Force Structure Act of 1996.

Our report focuses on the long-term issues facing U.S. defense and national security. It identifies the changes that will be needed to ensure U.S. leadership and the security and prosperity of the American people in the twenty-first century. We are convinced that the challenges of the twenty-first century will be quantitatively and qualitatively different from those of the Cold War and require fundamental change to our national security institutions, military strategy, and defense posture by 2020.

To meet those challenges, we believe the United States must undertake a broad transformation of its military and national security structures, operational concepts and equipment, and the Defense Department's key business processes. We recognize that much is already being done in this regard and that you are committed to significant change. However, based on our deliberations, it is our view that the pace of this change must be accelerated.

The transformation we envision goes beyond operational concepts, force structures, and equipment. It is critical that it also include procurement reform and changes to the support structure, including base closures, as you pointed out forcefully in your Defense Reform Initiative.

Finally, bringing together all the elements of our national power will demand a highly integrated and responsive national security community that actively plans for the future—one that molds the international environment rather than merely responds to it. Defense needs to continue building on the Goldwater–Nichols reforms and extend that sense of jointness beyond the Department to the rest of the national security establishment and to our friends and allies abroad.

Philip A. Odeen  
Chairman

The Honorable  
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General, USMC (Ret.)  
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Admiral, USN (Ret.)  
David E. Jeremiah

The Honorable  
Robert M. Kimmitt

Doctor  
Andrew F. Krepinevich

General, USAF (Ret.)  
James P. McCarthy

Doctor  
Janne E. Nolan

General, USA (Ret.)  
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The Panel has drawn on the creative thinking of many elements of the military community, other government agencies, experts on defense and national security, as well as business leaders. In particular, I want to thank you for the cooperation we received from you, other senior officials, civilian and military, and others in the Department. We also drew on the valuable insights provided by studies such as that of the President's Commission on Roles and Missions and the President's Commission on Critical Infrastructure Protection. Our report builds on the findings of the Quadrennial Defense Review, but it looks further into the future and places much more emphasis on the transformation strategy that we consider essential to safeguard our security twenty years from now.

We have not attempted to provide all the answers. Rather, our intention is to stimulate a wider debate on our defense priorities and the need for a transformation to meet the challenges of 2020. Such a debate will be critical in building the necessary support of the Congress and American people for the extensive changes that must be made. We hope that our report will help to build a strong consensus for transforming the national security structure to meet the challenges of the next century. If we achieve that, we will have fulfilled our mission and our commitment to you, the Congress, and the American people.

Sincerely,

A handwritten signature in black ink that reads "Philip A. Odeen". The signature is written in a cursive style with a long, sweeping underline.

Philip A. Odeen

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# NATIONAL DEFENSE PANEL

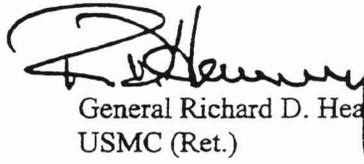
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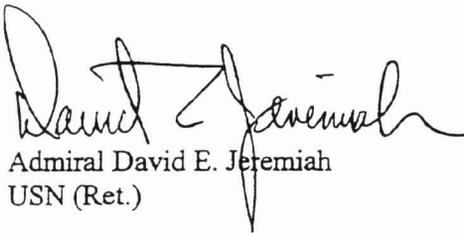
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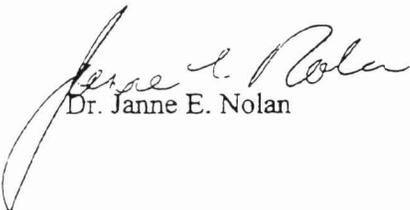
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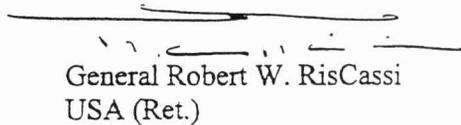
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## EXECUTIVE SUMMARY

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The United States enters the new millennium as the preeminent political, economic, and military power in the world. Today we are in a relatively secure interlude following an era of intense international confrontation. But we must anticipate that future adversaries will learn from the past and confront us in very different ways. Thus we must be willing to change as well or risk having forces ill-suited to protect our security twenty years in the future. Only one thing is certain: the greatest danger lies in an unwillingness or an inability to change our security posture in time to meet the challenges of the next century.

The United States needs to launch a transformation strategy now that will enable it to meet a range of security challenges in 2010 to 2020. Yet we must do this without taking undue risk in the interim. This transformation promises to be complex. We cannot know the full extent and nature of future challenges. Yet, we must make critical decisions and choices entailing significant investments of resources and energies.

### **The Future Operational Environment**

We can safely assume that future adversaries will have learned from the Gulf War. It is likely that they will find new ways to challenge our interests, our forces and our citizens. They will seek to disable the underlying structures that enable our military operations. Forward bases and forward-deployed forces will likely be challenged and coalition partners coerced. Critical nodes that enable communications, transportation, deployment, and other means of power projection will be vulnerable.

Our domestic communities and key infrastructures may also be vulnerable. Transnational threats may increase. As recently stated by Secretary Cohen, the proliferation of nuclear, chemical, and biological weapons and their delivery means will pose a serious threat to our homeland and our forces overseas. Information systems, the vital arteries of the modern political, economic, and social infrastructures, will undoubtedly be targets as well. The increasing commercialization of space makes it feasible for state and nonstate actors alike to acquire reconnaissance and surveillance services.

In short, we can expect those opposed to our interests to confront us at home and abroad—possibly in both places at once—with asymmetrical responses to our traditional strengths.

### Near-term Implications

Defense choices invariably entail risk; the only question is where we take the risk. A significant share of today's Defense Department's resources is focused on the unlikely contingency that two major wars will occur at almost the same time. The Panel views this two-military-theater-of-war construct as, in reality, a force-sizing function. We are concerned that, for some, this has become a means of justifying current forces. This approach focuses significant resources on a low-probability scenario, which consumes funds that could be used to reduce risk to our long-term security. The Panel believes priority must go to the future. We recognize that, in the near term, the United States cannot ignore the threats posed by Iran and Iraq in the Persian Gulf and North Korea in Northeast Asia. However, our current forces, with the support of allies, should be capable of dealing with both contingencies.

### The Range of Challenges

The types of missions our military and related security structures will be required to perform in 2010–2020 remain largely unchanged but the emphasis is likely to change. Maintaining regional stability is probably foremost among them, for the best way to forestall military challenges to the United States is to foster a stable international system. This demands full interaction with regional partners and alliances through diplomatic efforts as well as the full integration of U.S. diplomatic, economic, and military activities.

We must be able to project military power and conduct combat operations into areas where we may not have forward-deployed forces or forward bases. In particular, we must have the ability to put capable, agile, and highly effective shore-based land and air forces in place with a vastly decreased logistics footprint. Smaller force structures will be the norm, an evolution that must parallel the development of new operational concepts. Regular deployments to far-flung areas of the globe, from open deserts to confining urban terrain, therefore, are something we should expect. These deployments must not be viewed as a detraction from our traditional missions, but as a central element of the responsibilities of the future.

Just as deployments abroad are key to a stable international environment, an adequate defensive structure at home is crucial to the safety of our citizens and well-being of our communities. One of the salient features of U.S. security in 2010–2020 will be a much larger role for homeland defense than exists today.

Effective deterrence of potential nuclear adversaries can be maintained at the reduced levels envisioned by START III and beyond. Over time, the focus of our efforts to deter nuclear attacks against the United States, its allies, and interests may change substantially from that of today. Deterrence of attack as the central focus of nuclear policy already is being supplanted by the need to manage—identify, account for, and safeguard against—the proliferation and possible use of nuclear and other weapons of

mass destruction. Traditional U.S. nuclear policies may not be sufficient to deter nuclear, chemical, or biological attacks by a rogue state against U.S. allies and coalition partners.

In regard to maintaining U.S. information superiority, we will need to integrate existing and new information systems while exploiting commercial technology. We must also have effective defensive and offensive information capabilities. We will need to recognize that the U.S. lead in space will not go unchallenged. We must coordinate the civil, commercial, and national security aspects of space, as use of space is a major element of national power.

### **Force Capabilities**

Our military is superbly equipped, led, and trained and is blessed with magnificent men and women. We must never forget that our people in uniform have been the core of our strength in the past. They, more than any hardware system, form the real defense capability of today and tomorrow. Under no circumstances should we reduce the quality or training of our people. The technology revolution and advanced weapons we seek to embrace will be for naught if we take our military and civilian work force for granted.

It is clear, however, that in the 2010–2020 time frame our military forces will need capabilities very different from those they currently possess. We are on the cusp of a military revolution stimulated by rapid advances in information and information-related technologies. This implies a growing potential to detect, identify, and track far greater numbers of targets over a larger area for a longer time than ever before, and to provide this information much more quickly and effectively than heretofore possible. Those who can exploit these opportunities—and thereby dissipate the “fog of war”—stand to gain significant advantages.

Current force structures and information architectures extrapolated to the future may not suffice to meet successfully the conditions of future battle. Automation and systems architectures capable of disseminating information to widely dispersed and dissimilar units and integrating their actions will be key. We will need greater mobility, precision, speed, stealth, and strike ranges while we sharply reduce our logistics footprint. All operations will be increasingly joint, combined, and interagency. Furthermore, the reserve components will need to be fully integrated with active forces.

Legacy systems procured today will be at risk in 2010–2020. We must carefully scrutinize their utility for future conflicts as well as for peacetime military operations. Joint Vision 2010 and the visions of the services contain many of the capabilities we need in the future. However, the procurement budgets of the services are focused primarily on current systems and do not adequately support the central thrust of their visions. In light of these factors, the Panel questions the procurement plans for Army equipment, Navy ships, and tactical aircraft of all services.

Reserve and Guard units must be prepared and resourced for use in a variety of ongoing worldwide operations. They will play an increasing role in a variety of these by relieving active units and reducing the operational and personnel tempos of frequent and lengthy deployments.

While the other services have successfully integrated their active and reserve forces, the Army has suffered from a destructive disunity among its components, specifically between the active Army and the National Guard. This rift serves neither the Army nor the country well. The Panel strongly believes the rift must be healed and makes a series of recommendations toward that end.

A fully integrated total force requires a common culture to engender unity of thought and action. Shared operational and training experiences, common educational opportunities, and frequent exchange of leaders among active and reserve components, the different services, coalition partners, and national and international agencies will serve to deepen mutual respect and reinforce a common ethic.

### **Transformation Strategy**

Transforming the armed forces into a very different kind of military from that which exists today, while supporting U.S. near-term efforts, presents a significant challenge. Beyond Defense, we must also transform the manner in which we conduct foreign affairs, foster regional stability, and enable projection of military power.

It is important to begin the transformation process now, since decisions made in the short term will influence the shape of the military over the long term. The Defense Department should accord the highest priority to executing a transformation strategy. Taking the wrong transformation course (or failing to transform) opens the nation to both strategic and technological surprise.

Transformation will take dedication and commitment—and a willingness to put talented people, money, resources, and structure behind a process designed to foster change. Greater emphasis should be placed on experimenting with a variety of military systems, operational concepts, and force structures. The goal is to identify the means to meet the emerging challenges, exploit the opportunities, and terminate those approaches that do not succeed. It will take wisdom to walk the delicate line that avoids premature decisions and unintended “lock-in” with equipment purchases, operational concepts, and related systems whose effectiveness may quickly erode in a rapidly changing environment.

At the core of this effort should be a much greater emphasis on jointness, building upon the legacy of Goldwater–Nichols. However, competition among the services can assist in determining how best to exploit new capabilities or solve emerging challenges. It takes a considerable amount of time, a decade or two, to play out an effective transformation. Indeed, even those military systems that are placed on a “fast track” for development and fielding often take ten years or more to reach forces in the field. Time

also is required to determine how best to employ new military systems, and to make the appropriate adjustments in the force structure.

We must look beyond the challenges for defense and assess the relevance of the National Security Act of 1947 for the next millennium. This framework served us well during the Cold War, but we must objectively reexamine our national security structure if we intend to remain a world leader. Interagency processes, both international and domestic, must be reviewed and refined to provide the National Command Authority and the American people with an effective, integrated, and proactive organization.

We must also look closely at our alliances to ensure they are adjusting to the changing environment. As we work hard to establish mutual trust and commitment with our allies, we must be willing to sacrifice for common goals. Alliances have been and will continue to be a two-way street.

Our intelligence structure faces immensely more complicated tasks than during the Cold War. Asymmetric threats pose particular difficulties. Information technologies are a two-edged sword of both tremendous opportunities and vulnerabilities. The various facets of the intelligence community must merge their efforts and information, handle highly complicated technical challenges, ensure all parts of the intelligence gathering apparatus are robust, and work to ensure their products are easily accessible and meet the needs of the warfighter.

The Panel has identified areas in the Unified Command Plan where seams might hinder the effectiveness of our forces. We recommend that an Americas Command be created to address the challenges of homeland defense as well as those of the Western Hemisphere. A Joint Forces Command would be the force provider to the geographic CINCs, address standardization among the various Unified commands, oversee joint training and experimentation, and coordinate and integrate among the networked service battle labs. A Logistics Command would merge necessary support functions that are now divided among various agencies. Space Command would expand to absorb the domain of information.

### **Infrastructure**

Fundamental reform of the Defense Department's support infrastructure is key to an effective transformation strategy for the years 2010–2020. Today, the Department of Defense is burdened by a far-flung support infrastructure that is ponderous, bureaucratic, and unaffordable. Unless its costs are cut sharply, the Department will be unable to invest adequately for the future. The Panel supports the initiatives put forward by the recent Defense Reform Initiative. However, the Panel believes even more can and should be done.

Meaningful reform of the support infrastructure is not possible unless the Department establishes a more effective and business-like approach to resource management. To that end, the Panel recommends that the Department continue its efforts to reform the acquisition process as well as to rethink the Planning, Programming, and

Budgeting System (PPBS) to make it less burdensome and more receptive to innovation and change.

Accurate cost information is also a prerequisite for cost-effective resource management decisions. Without good cost data, Defense managers have difficulty identifying inefficient practices and unwittingly make suboptimal resource allocation decisions. In addition, the Department must work with Congress to relax “color of

The Defense Reform Initiative recommends competing 150,000 positions across Defense. We endorse this plan, but recommend expanding it to the 600,000 military and civilian personnel who perform commercially oriented support tasks.

### **Industrial Base**

In coming decades, the United States can only preserve its current technological advantage through time-based competition. The Department of Defense needs to provide industry with incentives to innovate so that we may maintain a qualitative technology and systems edge so that the United States will continue to be preeminent in military technology. Rather than being reactive, we should make our military acquisition process proactive. The Department must work with Congress to devise new rules and procedures that encourage technology development, rather than large production quantities, in order to recover cost and profit. This may create unit cost “sticker shock” unless we shorten the development cycle to lower development costs. But reduced production quantities will reduce total program cost, the real measure of the cost to the nation.

A close examination must be made of industrial mobilization programs. Much of the existing requirements and structures are predicated upon maintaining or overseeing an industrial and manpower mobilization base for a Cold-War era contingency. This approach and associated overhead is clearly inappropriate to the relatively short wars we expect in the future. Further, this mobilization approach is clearly inappropriate, given the short technological life-cycles we experience today and certainly will experience in 2010–2020.

### **Installations**

The Panel strongly endorses the infrastructure recommendations within the Defense Reform Initiative, which stated that there is sufficient surplus capacity for two additional BRAC rounds. Indeed, we believe there may be even more excess capacity that could be identified, should a review be done from a joint-base perspective. Therefore, the Panel strongly recommends that two BRAC rounds be conducted earlier than the current 2001/2005 Department proposal. The object is to transform the base structure from an impediment to a cost-effective enabler of readiness and modernization

The services should also reconsider the traditional concept of the military base. Rather than using on-base housing, commissaries, and other support services, military

personnel would receive additional compensation. This shift would allow the services to reduce their on-base infrastructure, while increasing the benefit received.

### **The Cost**

The issue of how to fund this transformation in this fiscally constrained environment is no small challenge. The Panel estimates an annual budget wedge of \$5 to 10 billion will be needed to support a true transformation. This money would fund initiatives in intelligence, space, urban warfare, joint experimentation, and information operations. In the absence of additional defense funding, the transformation could best be funded by infrastructure and acquisition reform. If these reforms are not forthcoming, it will be necessary to reduce Operations Tempo (OPTEMPO), cancel acquisition programs, or reduce force structure and end strength. There will be no easy answers, and difficult choices must be made.

### **Conclusion**

In the increasingly complex world that we foresee, the Department of Defense and its armed services cannot preserve U.S. interests alone. Defense is but one element of a broader national security structure. If we are to be successful in meeting the challenges of the future, the entire U.S. national security apparatus must adapt and become more integrated, coherent, and proactive.

Implementing the transformation described in this Report promises to be complex and will require careful balance to preserve our current security interests. It is our belief, however, that if we refuse to change in a timely manner we could be fundamentally unprepared for the future, and put at risk the safety of future generations of Americans. We have the time and the opportunity to adjust. But we cannot equivocate. We must begin now.

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## INTRODUCTION

The United States enters the new millennium as the preeminent political, economic, and military power. Our military in particular is superbly equipped, led, and trained and blessed with magnificent men and women in its ranks. For the near term, we are unlikely to see an opponent who can successfully counter our military strength directly.

***Looking back from 2020:***

*Different opportunities and challenges; unanticipated asymmetries*

Our military forces today are organized according to current threats. But today's threats are not necessarily the ones we will see in the future. Unless we are willing to pursue a new course, we are likely to have forces that are ill-suited to protect our security twenty years in the future. Our future adversaries will learn from the past and will likely confront us in very different ways. New challenges will surely emerge. Even a regional power with a relatively modest defense budget could alter its force posture and operational concepts to present us with significant problems by avoiding our strengths and attacking our weaknesses.

Therefore, we must begin to change now or risk being caught unprepared. The very context of war and battle could change dramatically over the next generation as enemies find ways to deny us access to contested regions, attack our information systems, and strike at our deployed forces or citizens with chemical and biological weapons. They will seek asymmetric means to overcome our forces and our will. If we fail to anticipate such new challenges and if we fail to change commensurately over the next twenty years, our ability to protect U.S. interests will inexorably erode.

The current era, therefore, offers us a great paradox. On the one hand, we are in a relatively secure interlude following an era of intense international confrontation. On the other hand, we are uncertain about the nature and form of emerging risks. One certainty, however, is clear: the greatest danger lies in an unwillingness or an inability to change our security posture in time to meet the challenges of the next century.

The United States needs a transformation strategy that enables us to meet a range of security challenges in 2010–2020 without taking undue risk in the interim. Implementing such a transformation will require a delicate balance. If we transform ourselves too quickly, we may inadvertently dismantle elements of our military that have kept us safe all these years and still have to play a role. But the Panel strongly believes that if we fail to begin the transformation now, we could be fundamentally unprepared for the future, and the security of future generations of Americans will be at risk.

***Transformation Strategy:***

*U.S. forces must change—  
a process that must begin now!*

This transformation promises to be complex. We must recognize that we cannot know the full extent and nature of future challenges, emerging threats, or even the pace of change in technology. Yet we must make critical decisions and choices entailing significant investments of resources and energies. The easiest path would be to increase the defense budget by several billion dollars annually to fund the necessary transformation while simultaneously maintaining a defense structure and military strategy to meet near-term challenges. In an era of increasing fiscal austerity, however, such budget increases are unlikely.

If increased funding is not feasible, we can do one or some combination of the following:

- Mount a major effort to streamline support costs and infrastructure;
- Rethink today's defense posture with its focus on two regional conflicts;
- Develop new operational concepts to employ currently planned forces exploiting asymmetric advantages and reducing the number of required forces;
- Reduce readiness and manpower levels;
- Reduce Defense participation in peacekeeping and humanitarian activities;
- Cancel one or more major weapon systems and reorder service acquisition plans, accepting some increased near-term risk.

No matter which course we choose, it is clear that in the increasingly complex world that we foresee, the Department of Defense alone cannot preserve U.S. interests. Defense is but one element of the broader national security structure. If we are to succeed in meeting the challenges of the future, the entire U.S. national security structure must become more integrated, coherent, and proactive. The national security structures laid out by the 1947 National Security Act have served us well over the past fifty years. It is time, however, to think through what changes are necessary and to update accordingly.

Additionally, we must not ignore the role of our alliance partners. We share many interests and have similar security challenges. The United States should not expect to ensure its security unilaterally and must have the active support and involvement of our allies. In some cases we must be prepared to act alone, but in almost all cases we will be more effective if we work within a coalition.

This Report will review the critical issues, challenges, and threats we believe will emerge over the next ten to twenty years. Our response will be influenced by key global trends, their potential manifestation in four hypothetical worlds possible in the years 2010–2020, and how the United States might adapt to meet its future security needs.

We then describe how a range of operational challenges will affect our future security requirements: security of the homeland, support for regional stability, the projection of military power, protection of our space and information assets, and deterrence against attacks by weapons of mass destruction. We then consider the corresponding military capabilities that would enhance our ability to meet our security needs.

Finally, we focus on the specifics of a transformation strategy for our military. We examine the process of experimentation and change leading to new force structures, platforms, operational concepts, and doctrine; consider what revisions might be necessary in the unified command plan that delineates geographic and functional responsibilities of the uniformed services; review Defense infrastructure and support systems; and consider how to best shape our national security arrangements for the twenty-first century.

It is our hope to engender a broad and informed debate of national security. Toward that end, this Report will provide a series of recommendations to move us, as a nation, forward to a more secure future.

*Those who expect to reap the blessings of freedom must undergo the fatigue of supporting it.*

*–Thomas Paine, 1777*

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# THE WORLD IN 2020

## KEY TRENDS

The United States enters the new millennium facing challenges very different from those that shaped our national security policy during the almost fifty years of the Cold War. The dynamics of four key trends, parallel and interrelated, are driving change:

- The geopolitical revolution that prompted the collapse of the Soviet Union and that will see the emergence of China as a major regional and global actor;
- Demographic and social pressures on potentially volatile social systems;
- The emergence of a global, interdependent marketplace that affects the well-being of virtually every nation and society; and
- The technological revolution that is transforming advanced industry-based economies into information-based economies and that promises to effect a revolution in military affairs.

All of this must be related to actions taken by the United States. The decisions we make today about what we stand for as a nation and our place in the international system will have tremendous implications, not just for our future, but for the future of people everywhere.

### Geopolitical Trends

The political ramifications of the Soviet empire's collapse are likely to continue into the twenty-first century, even as groups of states seek to join together in regional or other interstate arrangements to further common political and economic interests. The ethnic and national pressures for independence and sovereignty that the collapse of the former

*A Changing World:*

*Political decisions of the twentieth century may define the environments of the twenty-first century*

- *New ethnic-cultural-religious polarization*
- *National boundaries redrawn*
- *Powerful nonstate entities*

Soviet Union released may well continue over the next several decades, reconfiguring the landscapes of Europe, Asia, and Africa. Conflict based upon race, religion, political ideology, or economic status will continue to exert internal and external pressures on many nations. At the same time, the role and importance of nonstate actors—whether they are international humanitarian

providers and multinational corporations, or bands of criminals and illegal drug traffickers—will exert growing influence on the global community.

These developments have implications for our approach to security arrangements, alliances, and international agreements on everything from nonproliferation of weapons of mass destruction, to trade and the environment. We will continue to honor what has been a strong obligation: to support our historic European and other long-term allies and partners, both bilaterally and as a part of NATO. Increased interaction between NATO and the countries of Eastern Europe and newly independent states invites military and economic cooperation that can have profound effects on world stability and long-term U.S. military requirements.

Our involvement in Asia will likely increase and change over time, making our alliances and relationships in this region even more important. We envision a reconciled, if not a unified, Korean peninsula—an eventuality that has significant security implications for the United States as well as for our relations with Japan and China. China and India, with their growing populations and economies, promise to be increasingly important to our strategic interests.

We will continue to be involved in regions that control scarce resources, such as the Middle East and the emerging Caspian Sea areas for oil, as we try to hedge our own and our allies' resource dependencies. We will also continue to be involved with the nations of Africa in areas of mutual interest.

Neither can we overlook the importance of those who share our borders and our hemisphere—Canada, Mexico, Central and South America, and the Caribbean nations. Developments in these countries can have a profound effect on our security and economic well-being.

### Demographic and Social Trends

Paralleling and influencing these political developments are social and demographic trends that threaten to outstrip the ability of many countries to adapt. These include rapid population growth in regions ill-prepared to absorb it, refugee migration and immigration, chronic unemployment and underemployment, and intensified competition for resources, notably energy and water.

*A Changing People:  
Adapting to a Changing World Population*

- *Uneven and rapid population growth*
- *Migration to resources*
- *Challenge to provide basic necessities*

The impact of burgeoning population growth will not be evenly distributed over the globe. The world's poor and developing countries face the greatest rates of population increase and the concomitant challenge of providing jobs, health

care, decent living conditions, and requisite social services. This challenge will be especially serious in urban areas, which are already experiencing acute shortfalls in services. Such developments may trigger recurrent humanitarian crises characterized by famine and disease that could require military involvement and other responses by the international community. Conversely, it should be noted that the slowing of population growth—and even declines—in other parts of the world will create economic challenges, including strong downward pressure on defense spending in most European countries and Japan.

### **Economic Trends**

Closely tied to the challenges developing from these demographic and social trends are the effects of the expanding global marketplace. U.S. citizens, businesses, and nongovernment organizations will move into every corner of the globe, including those areas “off-limits” during the Cold War. Multinational corporations will continue to gain economic power and political influence, posing opportunities and challenges for diplomacy and other aspects of international relations. Economic sanctions, for example, may be more difficult to implement and enforce, given the multinational character of global corporations.

At the same time, the flow of private capital into the less-developed world can be a force for positive change. The explosion of communications and information accessibility will influence political, cultural, and economic patterns, perhaps profoundly. Critical resources such as water or arable land may become scarcer than oil, exacerbating political, economic, and ethnic tensions. However, access to oil in the Gulf, the Caspian Sea, and elsewhere will likely remain critical to global economic stability. Finally, perceived disparities of wealth, where vast riches are controlled by a relatively few countries, could also create tension and present political and moral challenges for governments.

### **Technology Trends**

Technology will play an ever-increasing and imperative role in America’s security policy and programs in the future. Robotics and unmanned vehicles will become a part of everyday life, both in the military and society at large. Nano-technology has the potential to radically alter everything from computer systems to the way we construct household goods and spacecraft. Information technologies, as will be discussed, will play a preeminent role, with offensive and defensive manifestations. Technological advances will also lend themselves to even more lethal and destructive weapons. In the hands of rogue states and terrorist or criminal groups, foreign or domestic, new weapons offer frightening prospects to our country.

In short, we are in the early stages of a revolution in military affairs—a discontinuous change usually associated with technology but also representing social or economic changes that fundamentally alter the face of battle. The rapid

rate of new and improved technologies—a new cycle about every eighteen months—is a defining characteristic of this era of change and will have an indelible influence on new strategies, operational concepts, and tactics that our military employs. If we do not lead the technological revolution we will be vulnerable to it.

## ALTERNATIVE WORLDS

To appreciate the range of security considerations in 2010–2020, the Panel hypothesized four different and plausible futures of the world. While we do not argue that any one of these future worlds will actually occur, their description and articulation help to identify the principal factors that could drive change worldwide in the next two decades. Although we recognize that “wild cards”—such as environmental disasters, wars, epidemics, and technological breakthroughs—can radically alter the international security environment, we focused on creating worlds that reflect various manifestations of the trends discussed previously. Each hypothetical world is briefly described below:

*The future is hidden  
even from the men who  
make it.*  
—Anatole France

1. The first world, *Shaped Stability*, describes an environment in which international cooperation on economic development and security issues has created a relatively stable international order. The world’s wealth is greater and more evenly distributed. The rise of such transnational challenges as terrorism, organized crime, and environmental degradation has created broad public understanding of the importance of cooperative security arrangements. As a result, the American people have accepted vigorous engagement abroad as essential to their security. For example, the deterrence and prosecution of international crime has required U.S. law enforcement agencies, the intelligence community, the military, and various international government and nongovernment police institutions to collaborate regularly. Partially as a consequence of this cooperation, the rule of law is increasingly accepted internationally.

Nevertheless, this world is not without its continuing frictions. These frictions include demographic pressures, shortages of natural resources, weapons proliferation (including weapons of mass destruction), and continuing ethnic and national tensions. Although somewhat ameliorated by global prosperity, these tensions exist in isolated pockets of the developing world, occasionally spilling over into the developed world. The U.S. military’s principal role as an instrument of national security is to augment diplomatic, economic, and political efforts and protect against their failure.

2. The second world, *Extrapolation of Today*, is a baseline projection of today’s uncertainties into an increasingly competitive and politically diverse world. Although the global economy continues to expand, some countries remain

disadvantaged. Economic expansion is most pronounced along the Pacific Rim, where China has become the key economic and political state in the region. India, with a larger middle class and possibly a greater population than China, is also important. Some rogue states, as well as nonstate actors, have acquired the means of delivering weapons of mass destruction. The American homeland cannot be viewed as a sanctuary from their use. Although the United States is still the leading world power, its sustained political-economic-military dominance is uncertain.

3. The third world, *Competition for Leadership*, envisions a traditional balance of power world in which a hostile regional alliance (or possibly a single nation) is rising to challenge the United States. As a result, the United States adapts existing security relationships and enters into new alliances and trading partnerships to balance and, if necessary, counter these challenges. An all-Asia trading bloc has been formed in the Far East. A new alliance of South and Southwestern Asian nations has formed, centered on opposing the political, economic, and cultural influence of the West. Increased military spending worldwide and regional arms races are prominent features of this world. Moreover, many states have acquired weapons of mass destruction and the means to deliver them. Although ethnic and humanitarian tensions still exist, their relative significance in the international system has been reduced owing to the resurgence of nation-state conflict.

Clearly recognized emerging threats foster public support for the expansion, and use, of military power. The U.S. military must now plan for the possibility of major combat operations against powerful enemies capable of quickly concentrating force against our interests within critical security regions. The military must also position itself to defend the homeland against attacks, the most likely being covert introduction of weapons of mass destruction, attacks by ballistic and cruise missiles, or information systems disruption.

4. The fourth world, *Chronic Crisis*, describes deteriorating global economic conditions coupled with the breakdown of international institutions. Weakened nation-states, nonstate organizations, and coalitions fight over scarce resources. Alliances are fluid, unpredictable, and opportunistic. Nationalism and ethnic hatreds have formed violent independence movements in Asia, South Asia, and the Middle East. Pivotal states are in crisis. Virtual narco-states (host states dominated by drug organizations) exist in regions of South America and Southeast Asia. Weapons of mass destruction and their means of delivery are widely available. Unchecked massive migrations and failing municipal infrastructures accelerate urban chaos. The United States is in danger of losing much of its will and ability to influence international events.

The American public—perceiving little chance of influencing the chaos abroad—is preoccupied with domestic security as nonstate actors increasingly

penetrate the United States with illegal drugs, terrorism, weapons of mass destruction, and transnational crime.

## IMPLICATIONS

In considering these trends and the various worlds and possible strategic environments we may face, several implications emerge. The nation-state, although still the dominant entity of the international system, is increasingly affected by the growing power of multinational corporations and international organizations, transnational encroachments on national sovereignty, and demographic pressures that stress the abilities of governments to meet their citizens' needs. New alliance structures may develop that reflect concerns about these evolving challenges, while less relevant alliance relationships will decline. Technology, geopolitical developments, and economic and social trends may fundamentally alter the realities of today.

The range of possible outcomes is wide and impossible to predict with any certainty. Each will present unique conditions, many very different from those of today. The central challenge to our defense structure, therefore, is to move forward in a manner that enables us to respond effectively to whatever does occur. This strongly

suggests a hedging approach to preparing for the future. We must maintain adequate current capability as we adapt. As we learn more about new ways to apply military power, we can shift the emphasis of our forces while curtailing outdated or less useful forces and operational concepts. As time passes we will learn more about evolving challenges and competitors while continuing to adapt our forces accordingly.

*The World in 2020:*  
*IMPLICATIONS*

- *Hedge against uncertainty*
- *Curtail the outdated/less useful*
- *Explore new concepts*
- *Adapt over time*

The U.S. military must not go through this transformation alone. Our entire national security establishment and our alliance relationships must change in parallel if we hope to sustain global stability through regional partnerships. Alliance structures, both formal and informal, will grow in importance and should be viewed as essential ingredients to regional stability. For example, we must encourage China to be a constructive member of the international community even as we balance the security needs of our allies with the concerns of China. We must encourage

Russian stability as well. At the same time, we may face new regional competitors that threaten U.S. ability to influence events in regions of vital interest. Above all, we must recognize that while protecting traditional interests (nuclear deterrence, support of alliance structures, protection of critical resources,

*The World in 2020:*

*The required military transformation must be done within the context of a parallel review of the entire national security establishment.*

the safety of Americans abroad, etc.), an entire new array of operational challenges is emerging that our forces of 2010–2020 must be able to handle.

## OPERATIONAL CHALLENGES TO THE MILITARY

Over the last quarter of the twentieth century, the U.S. military has had several successes, perhaps best illustrated in the overwhelming Gulf War victory in 1991. These successes were earned by dedicated professionals who learned from past mistakes and implemented new training and operational concepts and technological advantages to allow us to meet and master these challenges. As we enter a new era, we will face a new and demanding set of challenges that will require us to transform our military and elements of our national security system to meet them.

We can assume that our enemies and future adversaries have learned from the Gulf War. They are unlikely to confront us conventionally with mass armor formations, air superiority forces, and deep-water naval fleets of their own, all areas of overwhelming U.S. strength today. Instead, they may find new ways to attack our interests, our forces, and our citizens. They will look for ways to match their strengths against our weaknesses. They will actively seek existing and new arenas in which to exploit our perceived vulnerabilities. Moreover, they will seek to combine these unconventional approaches in a synergistic way.

### *THE ASYMMETRIC THREAT*

*An adaptive adversary:*

*exploiting his strengths—attacking our weaknesses*

- *Attack our will to fight*
- *Employ imaginative tactics and techniques*
- *Deny access to forward locations*
- *Exploit WMD technology*
- *Target fixed installations and massed formations*
- *Move the fight to urban areas*
- *Combine approaches for even greater synergy*

We should recognize that potential competitors will seek every advantage. Their forces almost certainly will not be a mirror image of ours. They may attempt to:

- Employ military tactics that cause high casualties among U.S. forces and civilians to raise the cost and possibly deter U.S. involvement;
- Turn to weapons of mass destruction and ballistic and cruise missiles to neutralize forward ports, bases, and prepositioned assets and to inflict heavy casualties on us and our allies;
- Attack our information systems, seeking to debilitate them;

- Counter our control of the sea by seeding key straits and littorals with large numbers of mines and by subjecting any forces therein to missile salvos;
- Counter our control of the air with speed-of-light weapons and extensive anti-aircraft systems;
- Target fixed installations and massed formations within the range of their weapons and seek greater stand-off ability with those systems;
- Attack the underlying support structures—both physical and psychological—that enable our military operations;
- Deny us access to key regions and facilities;
- Use terror as a weapon to attack our will and the will of our allies, and to cause us to divert assets to protect critical installations, infrastructures, and populations.

*As flowing water avoids the heights and hastens to the low lands, so an army avoids strength and strikes weakness.*  
—Sun Tzu

The most pressing challenges of the future—and therefore potential asymmetric areas that our enemies will try to exploit—are summarized below.

### Power Projection

The cornerstone of America's continued military preeminence is our ability to project combat power rapidly and virtually unimpeded to widespread areas of the globe. Much of our power projection capability depends on sustained access to regions of concern. Any number of circumstances might compromise our forward presence (both bases and forward operating forces) and therefore diminish our ability to apply military power, reducing our military and political influence in key regions of the world. For political (domestic or regional) reasons, allies might be coerced not to grant the United States access to their sovereign territory. Hostile forces might threaten punitive strikes (perhaps using weapons of mass destruction) against nations considering an alliance with the United States. Thus, the fostering and nurturing of allies and alliances, as well as our ability to protect our allies from such threats, will be an important factor in our future ability to project combat power anywhere in the world.

**POWER PROJECTION**  
*DEMANDS for power projection continue to increase*  
*CHALLENGES to power projection continue to increase*

Even if we retain the necessary bases and port infrastructure to support forward deployed forces, they will be vulnerable to strikes that could reduce or neutralize their utility. Precision strikes, weapons of mass destruction, and cruise and ballistic missiles all present threats to our forward presence, particularly as stand-off ranges increase. So, too, do they threaten access to strategic geographic areas. Widely available national and commercial space-based systems providing imagery, communication, and position location will greatly multiply the vulnerability of fixed and, perhaps, mobile forces as well.

At the same time, constraints on forward-basing (i.e., infrastructure outside the continental United States: ports, installations, prepositioned equipment, and airfields) and advanced technologies threaten to impede our access to key regions. Geographic realities are putting greater demands on power projection capabilities. For example, as oil and gas fields in Central Asia gain in strategic value, we may need to project power greater distances, farther from littorals or established bases. Political realities also drive our standoff options. As we attempt to protect our own forces, we are left with a dilemma: our allies, whom we are trying to protect, will remain exposed—a situation that requires new provisions for their defense. Adaptive enemies, emerging technologies, greater distances, and altered alliance relations will present new conditions to U.S. military forces that must be mastered if we are to maintain our current ability to project power.

### Information Operations

The importance of maintaining America's lead in information systems—commercial and military—cannot be overstated. Our nation's economy will depend on a secure and assured information infrastructure. These systems are also instrumental to the success of military operations. As we learned in the Gulf

<p style="text-align: center;"><b>INFORMATION OPERATIONS</b> <i>A future opportunity, competition, and vulnerability</i> —all at once</p>
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War, significant advantages in situational awareness translate directly into significant advantages on the battlefield. As a result,

information operations are likely to be crucial to the course of future conflict, challenging us, and our allies, in both offensive and defensive ways.

Already, the commercial development of information technology is so widespread, accessible, and cheap that it promises to create both opportunities and risks for our nation. For example, access to, and the meaningful synthesis of, information will be a key aspect of relations among states and nonstate actors, in peace, crisis, and war. The entity that has greater access to, and can more readily apply, meaningful information will have the advantage in both diplomacy and defense. More ominously, this information arena will also create new vulnerabilities as we depend more and more on computer systems and

telecommunications to manage financial operations, public utilities, and other key elements of economic systems.

Effective use of information superiority demands that we move rapidly to the next level of “jointness” among the uniformed services: full commonality of U.S. military information systems. This commonality must be interoperable with the information systems of our allies as well, if we are to reap the advantages of coalition operations.

Given the importance of information—in the conduct of warfare and as a central force in every aspect of society—the competition to secure an information advantage will be a high-stakes contest, one that will directly affect the continued preeminence of U.S. power.

### Space

Given the importance of space-based capabilities to information operations, our ability to operate in space, support military activities from space, and deny adversaries the use of space will be key to our future military success. In the near term, a wide variety of commercial and international initiatives will make space much more accessible. As the costs of launching payloads into space are substantially reduced, the use of space for civil, commercial, and military purposes will quickly expand. Consequently, our ability to control operations on the land, sea, and air will depend to an increasing extent on our access to space.

<p><b>SPACE</b></p> <ul style="list-style-type: none"><li>• <i>An opportunity for us AND our adversaries</i></li><li>• <i>A lead we cannot lose</i></li><li>• <i>An asset we must protect</i></li></ul>
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We must anticipate that our enemies will seek to use commercial remote-sensing and communications satellites, along with space-based timing and navigation data, to accurately target U.S. forces with high degrees of accuracy. In turn, they will seek to degrade our abilities to track and target them. If we do not control the military utility of space, the advantages we now hold in information operations and more traditional military operations could be put at risk. Therefore, in addition to exploiting space for our own benefits, we must protect our space assets to include our commercial assets and deny our enemies the opportunity to gain military advantages through their use of space.

### Urban Operations

A particularly challenging aspect of the future security environment will be the increasing likelihood of military operations in cities. Demographic trends in the less developed regions of the world are creating more and more sprawling urban and suburban complexes characterized by a significant increase in younger populations and decaying infrastructures. At the same time, political, financial, informational, and cultural developments are making cities more integral to

relations among sovereign nations. The new terrain of the “megacity”, unfamiliar to modern-day forces, is not the open terrain on which much of our conventional superiority is predicated. We must also expect to be involved in cities while conducting such contingencies as humanitarian and disaster assistance, peacekeeping, and peace enforcement operations.

Cities challenge our ability to project power and mount military operations. Urban control—the requirement to control activities in the urban environment—will be difficult enough. Eviction operations—the requirement to root out enemy forces from their urban strongholds—will be even more challenging. Urban operations have historically required large numbers of troops while diluting technological advantages, making for extremely tough fighting. Urban structures and human densities vastly complicate targeting and maneuvering. Many of our current weapons are often ineffective in urban environments because of trajectory limitations, built-up areas, subterranean passages, and unobservable targets. Our ability to employ force could be significantly hampered by the proximity of noncombatants, vital infrastructures, and government and nongovernment institutions.

<p><b>URBAN OPERATIONS</b></p> <p><i>Prepare now:</i></p> <p><b>Contingencies</b></p> <ul style="list-style-type: none"> <li>• <i>Urban control</i></li> <li>• <i>Urban defense</i></li> <li>• <i>Eviction operations</i></li> <li>• <i>Targeting and strike</i></li> </ul> <p><b>Conditions</b></p> <ul style="list-style-type: none"> <li>• <i>Noncombatants</i></li> <li>• <i>Skyscraper “jungles”</i></li> <li>• <i>Vital infrastructure</i></li> <li>• <i>Government institutions</i></li> </ul>
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We should make every effort to avoid conducting urban operations unilaterally. Allies, particularly those in the affected region, will likely be instrumental to mission success and eventual transition back to peacetime conditions. Civil-military operations will be fundamental to the aftermath of such battles.

### Weapons of Mass Destruction

The proliferation of nuclear, chemical, and biological weapons and the means to deliver them (to include missiles) poses a serious and growing threat to the people and interests of the United States. The threat is qualitatively different because of its potential to do extreme damage, physical and psychological, with a single strike. Due to their availability, relative affordability, and easy use, weapons of mass destruction

<p><b>WEAPONS OF MASS DESTRUCTION</b></p> <ul style="list-style-type: none"> <li>• <i>Proliferated</i></li> <li>• <i>Available</i></li> <li>• <i>Affordable</i></li> <li>• <i>Simple</i></li> </ul> <p><i>Vulnerability of citizens at home and troops abroad</i></p>
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allow conventionally weak states and nonstate actors to counter and possibly thwart our overwhelming conventional superiority.

These weapons threaten security at home. The 1995 use of sarin gas in the Tokyo subways stands as a stark and ready reminder of the chemical threat. Biological weapons are an even more serious problem. For example, they could be readily introduced into mass transportation systems and quickly spread to thousands of people with devastating consequences. Small nuclear devices smuggled into population centers could also produce thousands of casualties.

Abroad, such weapons challenge our ability to project combat power. Their use, or threat of use, could deter allies from granting the United States forward operating areas and degrade or impede the ability of our forces and allies to effectively complete the mission at hand. Campaigns could be waged by our enemies in several venues: from driving wedges among our allies to direct use against American forces in a region to retribution against communities within the United States.

To address the challenges posed by weapons of mass destruction, the United States will need a comprehensive approach that begins with excellent intelligence actions to prevent or slow proliferation, to protect our forces and citizens from attack, and to deal with the consequences of such an event, at home or abroad. Collectively, efforts like these would begin to form the basis of a sufficient weapons of mass destruction deterrence policy for the twenty-first century. The capability to manage the consequences of such weapons of mass destruction, in particular, will be an important tool in strengthening deterrence by denying an adversary the political and psychological benefits of use. As we did with the Cold War nuclear threat, we must invest in preparing for the “unthinkable.” Consequence management will require effective coordination among local, regional, national, and international agencies and organizations, both here and overseas. We must take care to ensure that the proper training facilities are available, such as the Center for Domestic Preparedness in Alabama.

### Transnational Threats and Challenges

Transnational challenges and threats, by definition, reside in more than one country and require a multi-partner response. They range from information, space, and weapons of mass destruction attacks to problems that might become security threats (e.g., environmental disruptions, pandemics, and mass migrations).

<p style="text-align: center;"><b>TRANSNATIONAL CHALLENGES</b></p> <ul style="list-style-type: none"><li>• <i>The effect felt at home and abroad</i></li><li>• <i>A challenge that crosses borders and confuses jurisdictions</i></li><li>• <i>A response requiring the attention of all</i><ul style="list-style-type: none"><li>– <i>Domestic and foreign governments</i></li><li>– <i>Nongovernment organizations</i></li></ul></li></ul>
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These challenges are real. Terrorists, foreign and domestic, state and nonstate, have already demonstrated the ability to strike at us at home and abroad. Their sophistication, access to technologies that could include weapons of mass destruction, and frequent state sponsorship give them great potential to do us harm.

Criminal enterprises, to include the illegal drug trade, are also detrimental to the well-being of our society. Their access to enormous amounts of money allows them to purchase the goods and services they need to penetrate our communities more effectively and put our citizens at risk. With ties to rogue states, corrupt public officials, and terrorist organizations, these criminal entities could present a significant challenge to our domestic security.

In short, the increasing erosion of the sanctity of international borders as barriers to the challenges described above will force us away from our existing paradigms; in response, international cooperative agreements, intelligence systems, consequence management structures, and a variety of intergovernmental jurisdictional and legal procedures will have to be developed and adapted.

