2002 Annual Conference

March 2003

# Transforming Defense:

## A Current Assessment and the Road Ahead

## A Conference Report


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The CNA Corporation

## The CNA Corporation

The CNA Corporation (CNAC) is a not-for-profit public service corporation that provides a broad range of analytic services in both the national security and domestic areas. By linking analytical conclusions to practical recommendations, we help today's decision makers keep pace in a changing world. We are applying the experience and expertise we have built up over the past half-century to meet new challenges in national defense, health care, education, air traffic management, and domestic safety. While still deeply engaged with the naval services, we are breaking new ground as we help civilian clients resolve a wide range of problems. With each endeavor, our goal is the same: to provide our clients with superior analysis and link the results to practical recommendations. We are committed to making a difference by putting our minds to work on the critical issues that face our nation and the world.

## Center for Naval Analyses (CNA)

The CNA Corporation operates the Center for Naval Analyses (CNA), a federally funded research and development center. Since 1942, CNA has provided "full-service" research and analysis that have helped the Navy and Marine Corps become more effective and efficient. CNA analysts pioneered the field of operations research during their groundbreaking work with the Navy during World War II. Today, our goal is the same as it was then: to use scientific techniques to support the effective use of naval forces. We do this by working directly with the operating forces of the Navy and the Marines. In peace and war, we provide direct support to operating forces. Our work includes finding the best ways to employ new weapons and technology, and to handle the complex command and control relationships that have become part of recent multinational alliance and coalition operations. We not only provide this support in real time; we also work to ensure that critical lessons are used to strengthen the longer-term support we provide through our other work. This ensures that the policies and systems the naval services develop for the future are tempered by an understanding of the complexities of the real world.

## The Institute for Public Research (IPR)

The CNA Corporation also operates the Institute for Public Research (IPR) to assist our civil and international clients. Building on our innovative skills and long-term experience with the military, we expanded our business to help government agencies, non-profit organizations, and others in the fields of health care, education, air traffic transportation, domestic safety, and others. IPR's services include not only high-quality research and analysis but also technical support in areas where CNAC has developed special expertise. We combine our scientific methodology with a strong desire to help our clients translate their problems into opportunities that improve their businesses and their communities. We work closely with our clients as we come to fully understand their problems, find solutions, and accomplish things that matter.

# Preface

Each year CNAC holds a conference on issues of importance to national security. Two years into the Bush administration and one year after the start of Operation Enduring Freedom, this year's conference examined recent progress and the road ahead in defense transformation. From the vast array of possible topics, we chose to explore the following six areas: the post-Cold War intellectual roots of transformation; views from outside the Department of Defense; a transformation status report from the services; "unglamorous transformation" of Defense Department processes; allied views of U.S. transformation; and homeland security and transformation. The conference also featured speakers from organizations that have key roles in the transformation process: Congress, the Joint Forces Command, and the Office of Force Transformation.

This year's conference was organized and conducted by the Center for Strategic Studies,[1] a division of The CNA Corporation (CNAC). The Center combines, in one organizational entity, analyses of security policy, regional analyses, studies of political-military issues, and strategic and force assessment work. Such a center allows CNAC to join the global community of centers for strategic studies and share perspectives on major security issues that affect nations.

We believe that this year's annual conference was successful in developing a deeper appreciation for the objective implicit in the concept of transformation as well as shedding light on several of the issues that must be addressed for transformation to be judged a successful initiative.

I would like to express my gratitude to our distinguished speakers, panelists, and dynamic, engaged attendees. CNAC staff members Susan McArver, Lisa Bush, Maurine Dalhberg, Karin Duggan, Malia DuMont, Kristen Gunness, Henry Kenny, Pat Roth, Peter Swartz, Eric Thompson, and Leesa Woodard made significant contributions to conference themes and discussions. Many other CNAC employees contributed to the success of "Transforming Defense: A Current Assessment and the Road Ahead." Our Annual Conference Coordinator, James Wylie, and Bernadette Lynch, our Conference Administrative Specialist, pulled all their contributions together to produce a memorable annual conference.

RADM Michael McDevitt, USN (Ret.)
Director
Center for Strategic Studies

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[1] The Center is under the direction of Rear Admiral Michael McDevitt, USN (Ret.), who is available at 703-824-2614 and at mcdevitm@cna.org. The administrative assistant to the director is Ms. Brenda Mitchell, at 703-824-2137.

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# Transforming Defense:

# A Current Assessment and the Road Ahead

*The West won the world not by the superiority of its ideas or values or religion (to which few members or other civilizations were converted) but rather by its superiority in applying organized violence. Westerners often forget this fact; non-Westerners never do.*

—Samuel Huntington

*Transformation is adaptation in advance of necessity.*

—David Berteau, closing commentator

## Executive summary

The CNA Corporation's 2002 Annual Conference, "Transforming Defense: A Current Assessment and the Road Ahead," took place on November 20-21, 2002. The conference featured speakers from organizations playing key roles in the transformation process: the Congress, the Office of the Secretary of Defense, and the Joint Forces Command. Conference panels comprised a mix of government experts, both uniformed and civilian, and influential non-government experts from business, think-tanks, and academe. All provided unique perspectives. The goals were to achieve a better understanding of what transformation entails, to advance the state of thinking regarding defense transformation, to identify future challenges, and to contribute ideas on how best to meet those challenges. By all accounts, the conference was successful in achieving these objectives.

Conferees were keenly attuned to the charged political-military environment. Much of the discussion was illustrated and informed by the dramatic events of the previous year—from the attacks of September 11, 2001, to the anthrax attacks, to Operation Enduring Freedom in Afghanistan—and by the prospect of more fighting ahead in Iraq. Thus, the speakers and panelists provided a unique snapshot of defense transformation at a remarkable historical juncture.

## Conference background

The current focus on transformation has its intellectual roots in the wide-ranging commentary about the "Revolution in Military Affairs" that flowered in the early 1990s. After the 1997 Report of the National Defense Panel, *Transforming Defense: National Security in the 21st Century*, was published, the term "transformation" came increasingly into vogue: it represented the notion that a (very undefined) transformational process could bring U.S. military capabilities to unmatchable levels of dominance. This view was bolstered by the success of new technologies and operational concepts in post-Cold War military operations. Starting with Panama in 1989, the U.S. military operated in many unique and creative ways, and in fact was introducing a number of transformational technologies and operational concepts.

Still, the debate on transformation did not attract wide public attention during the 2000 presidential campaign. The most significant statement on the topic by either candidate was then-candidate Bush's speech at The Citadel in September 1999, in which he called for transformation of U.S. forces to better confront challenges emerging in the 21st century.

## Defining and developing the concept of transformation

After the 2000 election, an important task of the new administration was to define transformation in such a way that the services and Joint Combatant Commands could actually translate them into real programs, operational concepts, and procedures. Secretary of Defense Donald Rumsfeld grappled with this for much of his first year of incumbency. He demanded transformation of the armed services, and he referred to transformation as being "about more than building new high-tech weapons. . . .It's also about new ways of thinking and new ways of fighting." He evoked "revolutionary and unprecedented ways of mixing new and existing capabilities" and using resources in new and "previously unimaginable ways." He said, "Transforming the military is not an event; it is an ongoing process. There will be no point at which we can declare that U.S. forces have been transformed."[2]

Until 9/11, it was unclear what the administration's real defense focus would be, or even whether there could be significant transformation of the armed forces, given budget constraints, without canceling many of the new equipment programs in various stages of development. Some conferees recalled the tensions this generated within the Department of Defense, between those who believed that planned replacement programs already in development were in fact "transformational" and those who believed that it was necessary and possible, given the perceived threat

[2] Donald H. Rumsfeld. "Transforming the Military." *Foreign Affairs*, May/June 2002.

environment before 9/11, to skip a generation in weapon development, as Bush had said at The Citadel. In other words, some wanted to cancel many ongoing programs and invest those funds in what proponents judged to be truly transformational capabilities.

Within Defense, this debate disappeared after the September 11, 2001, terrorist attacks. This was partly because the attacks themselves were energizing and focusing, but also because Operation Enduring Freedom in Afghanistan blended existing capabilities with the transformational use of Special Operations Forces, advanced command and control, and new smart weapons, to illustrate transformation in action. The U.S. military was not as hide-bound as some of the critics had maintained. Finally, in the wake of 9/11, more defense funds became available, easing the pressure to make tough budgetary choices regarding weapons systems in development. Most of these would proceed, while parallel transformational efforts were supported, especially in the realm of experimentation. The new approach to transformation was illustrated in December 2001, when, two years after his first transformation speech, President Bush returned to The Citadel to call for speeding transformation of the military. This time, he called the Afghanistan campaign a "proving ground" for a "revolution" in our military, which promised to "change the face of battle."

The FY 2001 *Quadrennial Defense Review* and the 2002 *Annual Report to the President and Congress from the Secretary of Defense* removed any doubt about what the operational goals of transformation might be. These two documents set out six succinct objectives for the development of future military capabilities. U.S. forces must:

- Protect critical bases of operations—most importantly, the U.S. homeland—and defeat weapons of mass destruction and their delivery systems.

- Protect information systems from attack.

- Project and sustain power in distant anti-access and area-denial environments.

- Deny enemies sanctuary by providing persistent surveillance, tracking, and rapid engagement with high-volume precision strike, against critical mobile and fixed targets at various ranges and in all weather and all terrain.

- Maintain unhindered access to space, and protect U.S. space capabilities from enemy attack.

- Leverage information technology and innovative network-centric concepts to link up joint forces.

The FY 2002 Unified Command Plan assigned U.S. Joint Forces Command (JFCOM) as the incubator for new transformational concepts. The commander of JFCOM was no longer automatically assigned as Supreme Allied Commander, Atlantic (SACLANT). This was a clear signal that the priority for the JFCOM commander was transformation. He was responsible for creating a culture of joint concept development and experimentation. In fall 2002, NATO began work on plans to transform SACLANT into "Allied Command for Transformation," an Alliance counterpart to JFCOM.

## Transformation vision and strategy

Retired Vice Admiral Arthur Cebrowski, USN, the Director, Force Transformation, Office of the Secretary of Defense, elaborated on DoD's transformation strategy. He envisions it progressing along three concurrent paths: continuous small steps; many medium jumps; and a few big bets. Each path would offer a different scale of progress, risk, and reward. This hedging strategy permits modernization, thus acknowledging that evolutionary development is part of transformation; it allows for exploration on the boundaries of capabilities; and it allows for the occasional exploration of truly new concepts that can create new realities and change the nature of warfare. Such big-bet transformations have taken place fairly regularly in modern defense. Examples include widespread use of the Global Positioning System (GPS), the decision to put sensors in space, the development of stealth aircraft, and the Army's decision to "own the night." The "bigness" of the bet is rightly measured by the payoff, not by the cost of development.

To sustain meaningful transformation, DoD must:

- Make it a continuing process.
- Create/anticipate the future.
- Ensure co-evolution of concepts, processes, organizations, and technology.
- Form new competitive areas/competencies; reevaluate attributes of our military forces.
- Ensure that there are fundamental shifts in underlying principles.
- Have new sources of motive power, to reduce dependence on internal combustion engines.
- Broaden the capability base.

According to VADM Cebrowski, a "transformed" U.S. military will have these attributes:

- It will be a more expeditionary force, one that is based in the United States but can project useful military power across the oceans that separate the U.S. from many of its interests and most of its allies. It will be a force that can deter forward.

- It will be a more thoroughly networked force that will seamlessly interoperate at the JTF level.

- It will exploit the fact that the U.S. is likely to have to fight in exterior positions and turn this historical military disadvantage into leverage, combining close-in unmanned sensors and distant manned precision firepower.

- It will exploit increasingly persistent ISR systems that can "stare" continuously at targets.

- It will have much tighter sensor-shooter timelines, in order to exploit persistent ISR and the exterior position. In other words, it will shorten the time between target detection and weapon-on-target.

- It will be committed to information superiority and information operations.

- It will dramatically increase its use of and dependence on unmanned capabilities (UAV, UCAV, UUV, robotics). This will enable many other of the attributes mentioned above.

- It will have an officer corps prepared to deal with important new trends in warfare, such as networking components, precision effects, sensor reach, networked forces, a full-spectrum maneuver force, and access assurance.

## Acceptance of transformation

At the conference, many noted that over the past year discussion on transformation has moved beyond attempts to define it, and even beyond questioning the need for it. Mr. David Berteau, the conference's closing speaker, noted that the conference reflected the changed nature of the transformation debate: Nobody said, "We can't do transformation," or "We will not do transformation." Nobody said, "We don't know what transformation is." A lot of people said, "We don't need to have a concrete definition of transformation." Nobody said, "Inter-service rivalry is good." Many people said that a joint operating concept is needed and is the

necessary missing piece that will permit transformational joint operations to take place routinely at the operational and tactical levels of war.

## Service transformation plans

SECDEF directed each service to develop transformation roadmaps. These roadmaps represent the services' best efforts to cope with the initially ill defined guidance to "transform," and to develop corporate strategies linking service acquisition programs to the evolving definition of transformation. Of the four services, the Army is faced with the most difficult transformational challenge: to turn an army optimized for war with a peer competitor on a global scale, into an army that is more agile and responsive to emerging missions distant from its primary support structure. This is a formidable task. The Army is proceeding in two steps: As a first step, it will field an "interim force," which will consist of at least six maneuver brigades equipped and trained with commercially available equipment and enhanced light armored vehicles. Then, as the second step, it will become a "transformed" army, known as the Objective Force.

The other three services' approaches to transformation have much in common with one another. They are different from the Army's approach—mainly because their tasks are not so daunting, but also because they have been involved in transformative activities *that are relevant to the post-Cold War era* longer than the Army. The Navy, Marine Corps, and Air Force are thinking about how best to blend soon-to-be-introduced new systems with legacy forces in new and unique operational formations that are increasingly netted together by high-capacity data and communication links. Each of them is also focused on creating service-unique niches that will allow them to provide a new capability for the nation. The Air Force is organizing a series of task forces, which are formed as the need arises. For example, its Global Strike Task Force is envisioned as a long-range stealth precision strike capability that can "kick open the door" from the air. The Marines are considering how capabilities such as the V-22 would allow them to project ground combat power 400 to 700 miles in-land from a sea base. The Navy is reorganizing its operating forces in order to multiply the number of self-contained task groups that have a precision strike capability, while adding new capabilities, such as missile defense, to existing forces.

Critics have held that service-specific roadmaps are more interesting than relevant, since the U.S. fights "joint." Others believe that this statement is too harsh—that these roadmaps are key building blocks on the way to joint transformational strategies. They show what capabilities will be available for the joint commander to employ. Once joint concepts are complete, these service-specific visions will help reveal duplicative capabilities and capability gaps.

## Transforming the "unglamorous" business process of DoD

Since transformation became a key objective for the Defense Department, the bulk of the discussion has revolved around new weapons systems and operational concepts—the exciting and more fascinating side of transformation. But as transformation cognoscenti realize, it is the mundane, "unglamorous," portion of defense—which has to do with how capabilities are fielded and supported—that will determine whether the U.S. military is able to fulfill its transformational aspirations. As Dr. Carla Tighe Murray, from the Congressional Budget Office, said, "DoD needs to transform the 'business' side as well the 'operational' side."

OSD recognizes that DoD business and procurement processes hinder change, perpetuate inefficiency, and waste scarce resources. For example, DoD's financial systems are decades old and not properly interconnected. Accounting and auditing processes cannot meet the standards of accepted accounting principles. Business processes are engineered to prevent mistakes rather than to solve problems. Regulations often discourage taking risks or significantly improving efficiency. Consequently, OSD has developed the following goals:

- Reducing the cycle time for decisions on weapons development and logistics support.
- Shortening and bringing realism into the program and budgeting process.
- Developing metrics to track and assess how well the Department is performing.

Conferees agreed that these are commendable goals, but voiced some skepticism as to whether this administration will have any more success than many of its predecessors who tilted at these same issues. Because such process changes are so unglamorous and hence not newsworthy or attention grabbing, they often fail to command the sustained attention of leadership. There are indications that this problem exists today in the Defense Department, and that the primary organizational attempt to fix it, undertaken by the Senior Executive Council, is not far along in identifying solutions.

## Allied reactions to transformation

Surprisingly, panelists were optimistic that requisite capabilities and contributions could be developed internationally, and that the U.S. lead in transformation would not permanently foreclose others from keeping up by using either appropriate niche capabilities or specially developed elite formations. There was widespread, but not universal, enthusiasm for the NATO decision to dramatically

restructure the mission of SACLANT, headquartered in Norfolk, Virginia. This command has recently been assigned by NATO to lead transformational efforts, as "Allied Command for Transformation," the Alliance counterpart to JFCOM. However, if Allies are to have any chance of keeping pace, disclosure and technology transfer issues must be solved; otherwise, impediments to transformative interoperability with Allies and friendly forces will be insurmountable. In fact, overcoming these issues may require a transformational paradigm shift by the United States. As Dr. Hans Binnendijk of the National Defense University observed, this discussion showed that:

- Transformation has the attention of the Allies, as demonstrated by changing the mission of SACLANT to the Allied Command for Transformation.
- Answers and solutions are not necessarily expensive.
- C4ISR, training, and experimentation are key.
- The United States needs to change its laws and regulations, especially the Arms Export Control Act.

Binnendijk emphatically added, "We need to get this right."

## Homeland security

The conferees appreciated the monumental task faced by the newly minted Department of Homeland Security (DHS) and its military counterpart, Northern Command (NORTHCOM), of creating vibrant, effective organizations that will actually transform the nature of homeland security. Clearly, the simple fact that these two organizations are established and beginning to function is transformational. Neither existed two years ago.

While a great deal of information about DHS has been in the press, and there was little new to be learned about it at the conference, far less was known about NORTHCOM, which came into existence on October 1, 2002. Its mission is the military defense of the United States, and military assistance to civilian authorities. NORTHCOM's concern is the gap that exists between crime fighting and war fighting. It sees this as an important vulnerability. The enemy will commit an act of war using the methods of crime. NORTHCOM hopes to establish a seamless relationship with law enforcement, and a strong connection to FEMA for consequence management. No forces will be in the field. NORTHCOM's challenge is complicated by the fact that most military organizations don't have homeland defense/consequence management as their primary mission.

NORTHCOM envisions a "defense in depth" approach as a concept of operations with lines of defense established well beyond our national borders. The NORTHCOM area adjoins Southern Command in Central America and the Caribbean, and overlaps with Pacific Command in Alaska. Its area of responsibility includes Mexico. This is a big change, because up to this time Mexico has not been included in any regional commander's area of responsibility; rather, it has been a Joint Staff "account." Fortunately, NORTHCOM has a strong relationship with Canada through long-established NORAD links, and the Canadians will establish a joint planning group to work with NORTHCOM.

Like DHS, NORTHCOM is very much a work in progress. Less than a third of the new unified commander's staff was in place at the time of the conference. But the fact that we now have a four-star unified commander expressly charged with the military defense of the United States reflects the transformational impact that 9/11 has had on the U.S. military.

## Concluding observations

- In the wake of the September 11th attacks, the transformation of the military has been "transformed" from a contentious issue to a consensus issue within DoD. The increase in the defense budget that followed 9/11 meant that there were enough resources to proceed with most service modernization plans, which in fairness included transformational systems, as well as with experimentation and the pursuit of transformational capabilities. As a result, it was no longer necessary to argue that a wholesale cancellation of planned improvements was needed in order to fund the "next" generation.

- The successful demonstration of many "transformational" capabilities in Afghanistan convinced many skeptics that the U.S. military was in fact transforming itself. In fact, it had been transforming itself throughout the 1990s. Afghanistan also illustrated how many older, frequently disparaged "Cold War" systems could be used in new ways, or with new weapons, and produce dramatic effects. (The blend of an even older military resource, the horse cavalry, with U.S. special operations forces to direct air strikes is frequently cited to illustrate this point.)

- Afghanistan also illustrated transformation in operational concepts. Many thoughtful military experts believe that this is the area of transformation that is the most important. As LtGen Paul Van Riper put it, in the imaginary transformation triangle of force structure, technology, and operational concepts, operational concepts should always be at the apex.

- Progress in transforming DoD's operating portion appears to be outpacing efforts to transform its business and acquisition processes. But, as many par-

ticipants noted, if this unglamorous transformation does not actually take hold, it will be virtually impossible for the operational military to achieve and sustain the agility that transformational seers believe is necessary for the 21st century.

- The most glaring shortcoming in military transformation is the absence of a transformational vision or roadmap for the way the U.S. actually fights—that is, jointly. Each service has its own transformational vision, but as yet there is no "capstone document," as the Joint Staff terms it, which would seek to meld the four independent visions into one. This work is underway. It may be a very contentious effort, because it is certain to raise issues regarding traditional service roles and missions. It also will be contentious because some hold that "joint structures" should not be limited to the operational level of war but should extend down to the tactical level of the warfighters, who have "trigger authority," to use VADM Cebrowski's words.

- VADM Cebrowski's description of a "transformed" military is rational and appears to be within the realm of the possible. Still, the attributes he listed are breathtakingly ambitious, and there are many questions as to how such attributes will be "distributed" among the four services. The capstone document will need to address these questions.

- During the 12 years since the end of the Cold War, the U.S. military has demonstrated a new facet of transformation in each of its combat experiences. These real-world operations have acted as de facto "battle-labs" for experimentation and testing. These experiences also apparently have revealed a new "American Way of War" in the post-Cold War era. This new American way of war includes a real commitment to fielding transformational systems, often in very small numbers, as soon as they are available. This is a phenomenon that demands further study.

- Because of this phenomenon, it is a challenge for Allies who are inclined to remain interoperable with the United States to do so. The conference illustrated that this challenge is not an insuperable task for Allies with the will, but the United States has to become more forthcoming in its ability, and willingness, to share both technology and operating concepts.

- Homeland security and the military defense of the United States—here at home, as opposed to forward overseas—is a work in progress. Both the Department of Homeland Security and Northern Command face many challenges on their way to becoming effective and valued contributors to national security. It is too soon to tell when they will reach that point, or whether this experiment in dealing with terrorism in our country will be successful. We pray that it will succeed.

- A neglected area of America's post-Cold War military experience has been the persistent requirement for post-conflict reconstruction or deterrence operations that occupy large numbers of U.S. forces for very long periods of time. While the need for U.S. presence for deterrence is nothing new, the perceived widespread use of the military for peacekeeping and so-called "nation building" became an issue during the 1990s, when the issue of tailoring some U.S. forces for "peacekeeping" was debated and rejected by the Department of Defense. This was seen as a mission that Allies could and should perform. Yet the reality has been that U.S. forces remain involved in this mission despite the contributions of Allies and friends. DoD should take another hard look to determine the appropriate active/Reserve mix for high-demand peacekeeping forces.

- Transformation is a leadership issue. Without leadership, it will not be able to compete with "real" priorities. The culture of risk aversion, and lack of incentive to take risk, works against transformation. This may be the most important obstacle to transformation. We should re-examine promotion criteria and incentives regarding transformation. One way might be to revisit the assignment and promotion rules put in place to enforce compliance with Goldwater-Nichols jointness objectives, to see whether we need to reform administrative processes in order to foster transformation.

- Discussions reinforced the new reality of the changing nature of deterrence. Classic concepts of deterrence will not provide effective security for many aspects of the 21st-century threat environment. Deterrence cannot be based on the threat of retaliation if the enemy is not a nation state. The only deterrent for terrorists is failure.

# Agenda

## THE CNA CORPORATION
## 2002 ANNUAL CONFERENCE

## Transforming Defense: A Current Assessment and The Road Ahead

**November 20-21, 2002**

**Sheraton Crystal City Hotel**
**1800 Jefferson Davis Highway, Arlington, Virginia**

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**Wednesday, November 20, 2002**

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**0730-0830** **REGISTRATION AND CONTINENTAL BREAKFAST**

**0830-0845** **WELCOME AND OPENING REMARKS**

The Honorable Robert J. Murray, *President and Chief Executive Officer, The CNA Corporation*

**0845-0930** **KEYNOTE ADDRESS: DEFINING TRANSFORMATION AND TRANSFORMATIONAL OBJECTIVES**

Vice Admiral Arthur K. Cebrowski, USN (Ret.), *Director, Force Transformation, Office of the Secretary of Defense*

**0945-1115** **PANEL I: POST-COLD WAR MILITARY TRANSFORMATION—WHAT THE EXPERTS SAID AND WHAT THE ARMED FORCES DID**

The current focus on transformation has its intellectual roots in the wide-ranging commentary about the "Revolution in Military Affairs" that flowered in the early 1990s, largely due to the inspiration of Mr. Andrew Marshall from the Office of Net Assessment. While this debate was ongoing, military operations, starting with Panama in 1989, demonstrated that the United States military was operating in many unique and creative ways, introducing a number of transformational technologies and operational concepts. This panel will discuss these transformations and their intellectual roots of the last decade and a half.

Moderator: Dr. Harlan K. Ullman, *Senior Fellow, The CNA Corporation*

Panelists: Dr. Andrew Krepinevich, *Executive Director, Center for Strategic and Budgetary Assessments*

Rear Admiral Michael A. McDevitt, USN (Ret.), *Director, Center for Strategic Studies, The CNA Corporation*

Lieutenant General Paul K. Van Riper, USMC (Ret.), *former Commanding General, Marine Corps Combat Development Command*

Commentator: General Wesley K. Clark, USA (Ret.), *Senior Advisor, The CNA Corporation*

**1145-1315** **LUNCHEON: JOINT FORCES COMMAND—A JOINT PERSPECTIVE ON TRANSFORMATION**

Speaker: Major General Dean W. Cash, USA, *Special Assistant to the Commander, U.S. Joint Forces Command*

**1330-1500** **PANEL II: TRANSFORMATION—VIEWS FROM OUTSIDE THE DEPARTMENT OF DEFENSE**

This panel will present the views of those who hold that transformation is unnecessary or, alternatively, is proceeding too slowly or is not sufficiently bold.

Moderator: Mr. William D. O'Neil, *Vice President and Chief Scientist, The CNA Corporation*

Panelists: Ms. Michèle A. Flournoy, *Senior Advisor, International Security Program, Center for Strategic and International Studies*

Dr. Thomas C. Hone, *Professor, Industrial College of the Armed Forces*

Mr. Lawrence J. Korb, *Vice President and Director of Studies, Council on Foreign Relations*

Commentator: Admiral William A. Owens, USN (Ret.), *Co-Chief Executive Officer and Vice Chairman, Teledesic, LLC*

**1530-1730** **PANEL III: TWO YEARS INTO THE BUSH ADMINISTRATION—A TRANSFORMATION STATUS REPORT FROM THE SERVICES**

This panel will discuss each service's transformation plans and how they square with DoD transformation goals. Panelists will also consider whether there is synergy among the service plans and what impact the war on terrorism has had on defense transformation plans.

Moderator: Dr. Mark T. Lewellyn, *Vice President and Director, Advanced Technology and Systems Division, The CNA Corporation*

Panelists: Lieutenant General John M. Riggs, USA, *Director, Objective Force Task Force*

Major General Ronald J. Bath, USAF, *Director, Air Force Strategic Planning*

Lieutenant General Robert Magnus, USMC, *Deputy Commandant for Programs and Resources*

Vice Admiral Michael G. Mullen, USN, *Deputy Chief of Naval Operations for Resources, Requirements and Assessments*

**1730-1930** **COCKTAIL RECEPTION**

## Thursday, November 21, 2002

**0730-0830** **REGISTRATION AND CONTINENTAL BREAKFAST**

**0830-1000** **PANEL IV: UNGLAMOROUS TRANSFORMATION—TRANSFORMING THE DEFENSE DEPARTMENT**

This panel will discuss the challenge of transforming the Defense Department's planning, programming, and budgeting processes. The panel will consider how to create a culture of creativity and intelligent risk-taking based on a more entrepreneurial approach that anticipates, rather than "validates," threats. Is the entire "programmatic system," as it has evolved since the 1960s, in need of overhaul? If so, what approaches or new processes make sense?

Moderator: Dr. Carla Tighe Murray, *Senior Analyst, Congressional Budget Office, National Security Division*

Panelists: The Honorable David S. C. Chu, *Under Secretary of Defense for Personnel and Readiness*

Mr. Kenneth J. Krieg, *Special Assistant to the Secretary and Deputy Secretary of Defense*

The Honorable Robert B. Pirie, Jr., *Senior Fellow, The CNA Corporation*

**1030-1200 PANEL V: A VIEW FROM ABROAD**

Allies and friends have been concerned about the growing capability and technology gap between their own militaries and U.S. forces—will a further transformed U.S. military leave them even further in its wake? This panel will bring international perspectives to this question and others: Is there a place for interoperability and combined operations in transformation plans? How might U.S. coalition partners think of transforming their own forces to meet the common threat?

Moderator: Dr. Hans Binnendijk, *Director, Center for Technology and National Security Policy, National Defense University*

Panelists: Vice-Amiral-d'Escadre Jean Betermier, French Navy (Ret.), *Personal Advisor to the Presidents and CEOs of European Aeronautic Defence and Space Company (EADS)*

Rear Admiral Richard K. Gallagher, USN, *SACLANT Deputy Assistant Chief of Staff For Policy*

Major General Noboru Yamaguchi, Japan Ground Self-Defense Force, *Deputy Commanding General, Ground Self-Defense Aviation School*

Commentator: Dr. Michael O'Hanlon, *Senior Fellow, The Brookings Institution*

**1230-1400 LUNCHEON: A VIEW FROM CONGRESS**

Speaker: The Honorable William M. "Mac" Thornberry, U.S. House of Representatives, R-Texas

**1415-1545 PANEL VI: HOMELAND SECURITY AND TRANSFORMATION**

What impact has the "terrorist war" on the United States had on plans to transform the armed forces? The Secretary of Defense has written that "No U.S. President should have to choose between protecting citizens at home and U.S. interests and forces overseas." This panel will review the initiatives taken since September 11, 2001, to enhance homeland defense, which in itself has become a transformational mission, within the broader scope of interagency homeland security.

Moderator: Dr. Gordon M. Adams, *Director, Security Studies Policy Program, Elliott School of International Affairs, George Washington University*

Panelists: Admiral Charles S. Abbot, USN (Ret.), *Deputy Homeland Security Advisor, Office of Homeland Security, The White House*

The Honorable Richard Danzig, *Senior Fellow, The CNA Corporation*

Major General (Sel.) Richard L. Comer, USAF, *Director of Plans and Policy (J-5), U.S. Northern Command*

Commentator: Mr. Peter F. Verga, *Special Assistant for Homeland Security, Department of Defense Homeland Security Task Force*

**1545-1630 CLOSING COMMENTARY**

Mr. David J. Berteau, *Director, National Security Studies, Maxwell School, Syracuse University*

# Speaker biographies

(in order of appearance)

**ROBERT J. MURRAY** has been President and CEO of The CNA Corporation since 1990. A former lecturer in public policy and Director of National Security Programs at the John F. Kennedy School of Government, Harvard University, Mr. Murray has over 20 years of government service. He has had various appointments, including Deputy Assistant Secretary for Manpower and Reserve Affairs, Deputy Assistant Secretary for International Security Affairs, and Under Secretary of the Navy. He has a B.S. from Suffolk University and an M.P.A. from Harvard.

**VICE ADMIRAL ARTHUR K. CEBROWSKI, USN (RET.),** was appointed Director, Force Transformation, Office of the Secretary of Defense, in 2001. In this position, he is the advocate, focal point, and catalyst for transformation. He links transformation to strategic functions, evaluates transformation efforts, recommends steps to integrate ongoing transformation activities, monitors experimentation programs, and makes policy recommendations to the Secretary and Deputy Secretary of Defense. VADM Cebrowski retired from the Navy in 2001, after serving as President of the Naval War College. He has a B.S. from Villanova University and an M.S. from the Naval Post-Graduate School. He also attended the Naval War College.

**HARLAN K. ULLMAN** is a Senior Fellow at CNA and a Senior Associate at the Center for Strategic and International Studies. He also has held key positions in international investment and high-technology firms. His expertise covers the fields of national security, foreign and defense policy, and naval matters. Widely published with more than a half dozen books to his credit, he is a frequent media commentator on current events. Dr. Ullman is a graduate of the U.S. Naval Academy, and holds a master's degree, a Master's of Law and Diplomacy, and a Ph.D. in international politics, finance, and economics from the Fletcher School of Law and Diplomacy.

**ANDREW F. KREPINEVICH, JR.** is Executive Director of the Center for Strategic and Budgetary Assessments, an independent policy research institute. He is an accomplished author and lecturer on U.S. military strategy and policy, and frequently contributes to national print and broadcast media. He has taught at West Point and George Mason University, and is now on the adjunct faculty at Georgetown University and The Johns Hopkins University School of Advanced International Studies. In 1993, he retired from a 21-year career in the U.S. Army. Dr. Krepinevich is a member of the Council on Foreign Relations. He holds an M.P.A. and Ph.D. from Harvard University.

**REAR ADMIRAL MICHAEL MCDEVITT, USN (RET.)**, is Director of the Center for Strategic Studies for The CNA Corporation. He also serves on the Board of Directors of the U.S. Council for Security Cooperation in the Asia-Pacific. RADM McDevitt held four at-sea commands and spent nearly all of his at-sea assignments in the Pacific. He was the Director of the East Asia Policy Office in the first Bush administration, and Director for Strategy, War Plans and Policy for the commander of U.S. forces in the Pacific and Indian Ocean region (CINCPAC). He was also the Commandant of the National War College for more than two years. RADM McDevitt has a B.A. from the University of Southern California and a master's from Georgetown University

**LIEUTENANT GENERAL PAUL K. VAN RIPER, USMC (RET.),** served as the Commanding General of the Marine Corps Combat Development Command (MCCDC) from July 1995 until October 1997, when he retired from the Marine Corps with over 41 years of service. During his career, he also served as the Deputy Commander for Training and Education; Director of the Command and Staff College at Quantico; Commanding General, 2d Marine Division; and Director of Intelligence, Headquarters Marine Corps. Highly decorated, he is a graduate of the U.S. Army's Airborne and Ranger Schools. LtGen Van Riper has a B.A. from California State College in California, Pennsylvania.

**GENERAL WESLEY K. CLARK, USA (RET.),** is a Senior Advisor for The CNA Corporation. He is currently associated with Stephens Group, Inc., working with high-technology venture capital. As Supreme Allied Commander, Europe, General Clark commanded Operation Allied Force, NATO's successful military action in response to the Kosovo crisis. He has been highly decorated throughout his military career. General Clark is a graduate of the U.S. Military Academy, National War College, and Command and General Staff College. He holds a master's degree in philosophy, politics, and economics from Oxford University.

**MAJOR GENERAL DEAN W. CASH, USA,** is the Director of Joint Experimentation at U.S. Joint Forces Command, which endeavors to lead the transformation of America's military by developing and assessing new joint concepts, organizational structures, and emerging technologies, toward the optimal future of joint force capability. Major General Cash's last assignment was as Commanding General, U.S. Army, Alaska. He has served in a number of other positions, including Commanding General of the National Training Center and Fort Irwin. He has an M.S. from Virginia Polytechnic Institute and attended the Command and General Staff College and the Industrial College of the Armed Forces.

**WILLIAM D. O'NEIL** is a vice president of CNA and its Chief Scientist. He has been with CNA since 1991, and has directed a CNA research division focusing on issues relating to application of technology. He was Lockheed Corporation's Corporate Director of Strategic Planning and directed Lockheed's systems engineering efforts for the F-22 advanced fighter. As an official in the Office of the

Secretary of Defense, he was responsible for technical and management oversight for all R&D and acquisition programs for naval warfare and strategic mobility systems. His B.A. and M.S. are from UCLA.

**MICHELE A. FLOURNOY** is senior adviser in the CSIS International Security Program, where she works on a broad range of defense policy and international security issues. Previously, she was a professor at the Institute for National Strategic Studies at the National Defense University, and founded and led the university's Quadrennial Defense Review working group. Before joining NDU, she served as Principal Deputy Assistant Secretary of Defense for Strategy and Threat Reduction, and Deputy Assistant Secretary of Defense for Strategy. She has published more than 50 articles on international security topics. Ms. Flournoy has a B.A. from Harvard University and an M.Litt. from Balliol College, Oxford University.

**THOMAS C. HONE** is a professor and researcher at the Industrial College of the Armed Forces, National Defense University. Previously, he was Principal Deputy Director, Office of the Secretary of Defense, Program Analysis and Evaluation. He has taught at the Naval War College, the George C. Marshall Center in Germany, and the Defense Systems Management College. He has served as a consultant to the Office of the Chief of Naval Operations, the Office of Naval Research, and the Naval Air Systems Command, and was an analyst and program manager at CNA. He is the author or co-author of four books and over 30 articles and book chapters on Navy policy, Navy history, and defense management. Dr. Hone has a Ph.D. from the University of Wisconsin.

**LAWRENCE J. KORB** has been the Vice President and Director of Studies, and holder of the Maurice Greenberg Chair, at the Council of Foreign Relations since July 1998. Before joining the Council, he was Director of the Center for Public Policy Education and Senior Fellow in the Foreign Policy Studies Program at the Brookings Institution, and, earlier, the Assistant Secretary of Defense (Manpower, Reserve Affairs, Installations and Logistics). Mr. Korb has written 15 books and 100 articles on national security issues, and is frequently a commentator on such shows as "Crossfire," "Larry King Live," and "The MacNeil-Lehrer News Hour." He has an M.A. from St. John's University and a Ph.D. from the State University of New York.

**ADMIRAL WILLIAM A. OWENS, USN (RET.),** is co-CEO and Vice Chairman of Teledesic LLC, and serves as Chairman and CEO of affiliated Teledesic Holdings, Ltd. Previously, he was President, Chief Operating Officer, and Vice Chairman of Science Applications International Corporation (SAIC). Prior to joining SAIC, Admiral Owens was Vice Chairman of the Joint Chiefs of Staff. His latest book, *Lifting the Fog of War*, was published in April 2000. A graduate of the U.S. Naval Academy, he also holds bachelor's and master's degrees in politics, philosophy, and economics from Oxford University and a master's in management from George Washington University.

**DR. MARK T. LEWELLYN** is Vice President and Director of the Advanced Technology and Systems Analysis Division at CNA. Since joining CNA in 1977, he has led numerous technology and acquisition studies for the Navy, Marine Corps, and Coast Guard. He is the Managing Director for the Navy's Surface Combatant Spiral Development Review, and has served as Scientific Advisor to Navy and Marine Flag and General officers charged with developing and acquiring new systems. He has a B.A. from Hamline University, an M.Sc. from the University of East Anglia, and a doctorate from the University of California (Berkeley), all in the physical sciences. He attended the National Security Program at Harvard's Kennedy School of Government.

**LIEUTENANT GENERAL JOHN M. RIGGS, USA,** became Director of the Objective Force Task Force in June 2001. This task force means to help the Army realize its full-spectrum Objective Force in this decade, by integrating and synchronizing OF efforts and by making assessments that will focus the Army's decision-making. General Riggs has served in a variety of staff assignments and has commanded at platoon through Army levels. Before assuming his current duties, he was Commanding General of the First U.S. Army, Ft. Gillem, Georgia. He has a B.A. in political science and an M.A. in personnel management and administration. He has also completed a National Security Fellowship at the John F. Kennedy School of Government, Harvard University.

**MAJOR GENERAL RONALD J. BATH, USAF,** became the Director, Air Force Strategic Planning, Deputy Chief of Staff for Plans and Programs, in early 2002. His previous assignment was as Director, Quadrennial Defense Review and Defense Integration. The general began his career in the Nevada Air National Guard, and was the Air National Guard officer on the professional staff to the 1995 Commission on Roles and Missions of the Armed Forces. A veteran of Desert Storm, he is a command pilot with more than 3,500 flying hours in the RF-101 and RF-4. He has a B.S. and M.B.A. from the University of Nevada, and a Juris Doctor degree from McGeorge School of Law, University of the Pacific.

**LIEUTENANT GENERAL ROBERT MAGNUS, USMC,** reported as Deputy Commandant for Programs and Resources in August 2001. His career in the Marine Corps has included positions as Head, Aviation Plans, Programs, Doctrine, Joint Matters, and Budget Branch; and Assistant Deputy Chief of Staff for Aviation. In 1997, he became the Commander, Marine Corps Air Bases Western Area. In 1999, he reported as the Deputy Commander, Marine Forces Pacific, where he served until July 2000, when he was appointed as the Assistant Deputy Commandant for Plans, Policies, and Operations (Quadrennial Defense Review). LtGen Magnus has a B.A. from the University of Virginia, and an M.S. from Strayer College.

**VICE ADMIRAL MICHAEL G. MULLEN, USN,** is the Deputy Chief of Resources, Requirements and Assessments. He has held numerous commands and in 1987 was awarded the VADM James Bond Stockdale Award for Inspirational Leadership. He served on the CNO staff as Director of Surface Warfare before being assigned as Commander Second Fleet/Commander Striking Fleet Atlantic from October 2000 to August 2001. A graduate of the U.S. Naval Academy, VADM Mullen has an M.S. in operations research from the Naval Postgraduate School and attended the Harvard Business School Advanced Management Program.

**DR. CARLA TIGHE MURRAY** joined the Congressional Budget Office in June 2002 after serving as the Director of the Economic and Manpower Analysis Division in the Office of Program Analysis and Evaluation. Before entering the career federal service, Dr. Murray was a senior analyst and project director at CNA. In that position, she also served as the Scientific Advisor to the Assistant Secretary of the Navy for Research, Development, and Acquisition. Dr. Murray's published work includes studies on many aspects of defense economics. She has a bachelor's degree from Bradley University and master's and doctorate degrees from the University of Illinois.

**DAVID S.C. CHU** was sworn in as the Under Secretary of Defense for Personnel and Readiness in June 2001. He is the Secretary's senior policy advisor on recruitment, career development, pay, and benefits, and is responsible for overseeing the state of military readiness. Dr. Chu has also served as the Director and then Assistant Secretary of Defense (Program Analysis and Evaluation), and as the Assistant Director for National Security and International Affairs, Congressional Budget Office. Earlier, he held several senior executive positions with RAND. Dr. Chu has a B.A. in mathematics and economics and a doctorate in economics from Yale University.

**KEN KRIEG** joined the Department of Defense in July 2001 as the Executive Secretary of the Senior Executive Council (SEC). The SEC, which comprises the Secretary, Deputy Secretary, Service Secretaries, and Under Secretary of Defense for Acquisition, Technology and Logistics, leads initiatives to improve the management and organization of DoD, and is a senior decision-making and advisory group. Before joining DoD, Mr. Krieg was the Vice President and General Manager of the Office and Consumer Papers Division of International Paper. He has also held various defense and foreign policy positions. He has a B.A. from Davidson College and a master's from the Kennedy School of Government at Harvard University.

**ROBERT B. PIRIE, JR.,** retired from a 20-year Navy career in 1975, and joined the newly formed Congressional Budget Office as Deputy Assistant Director, National Security. He was Assistant Secretary of Defense (Manpower, Reserve Affairs, and Logistics) from 1978 to 1981. He then held numerous positions in the private sector, including vice president of CNA. Mr. Pirie was Assistant Secretary of the Navy

(Installations and Environment) from March 1994 to October 2000, then Under Secretary of the Navy until January 2001. He served as Acting Secretary of the Navy until 30 May 2001. He is now a Senior Fellow at The CNA Corporation. Mr. Pirie is a graduate of the U.S. Naval Academy and attended Oxford University.

**HANS BINNENDIJK** is the Theodore Roosevelt Chair in National Security Policy and Director of the Center for Technology and National Security Policy. He served on the National Security Council as Special Assistant to the President and Senior Director for Defense Policy and Arms Control. He was Director of the Institute for National Strategic Studies at the National Defense University, Principal Deputy Director of the State Department's Policy Planning Staff, and Deputy Staff Director of the Senate Foreign Relations Committee. He graduated from the University of Pennsylvania and has a Ph.D. in international relations from the Fletcher School of Law and Diplomacy, Tufts University.

**VICE-AMIRAL d'ESCADRE JEAN BETERMIER, FRENCH NAVY (RET.),** is Advisor to EADS CEOs, Advisor to the President of the Armament College in Paris, a professor of geopolitics at the Management College, and a visiting lecturer at the Sorbonne-Paris University. His Navy career included assignments as Commander of the French Atlantic Fleet and Commandant of the French Naval War College. In 1998, he was appointed a member of the Scientific Council of the French Minister of Defense. He has written many publications on security issues, and is a visiting lecturer at universities in Canada and in Southeast Asia. He is a graduate of the French Naval Academy and French Naval War College.

**REAR ADMIRAL RICHARD K. GALLAGHER, USN,** became the Deputy Assistant Chief of Staff for Policy, Supreme Allied Commander Atlantic, in December 2001. Before reporting to SACLANT, he commanded the award-winning USS *John C. Stennis* (CVN 74) and, earlier, commanded USS *Inchon* (MSC 12), the world's only mine countermeasures command and support ship. RADM Gallagher commanded the Navy Fighter Weapons School (TOPGUN) in 1993-94. He has logged over 4,000 flight hours, served in Desert Shield/Storm, and supported the Kosovar relief effort. He graduated from the U.S. Naval Academy and the Industrial College of the Armed Forces, and has a master's degree from George Washington University.

**MAJOR GENERAL NOBORU YAMAGUCHI, JGSDF,** is the Deputy Commandant of the Ground Self-Defense Force Aviation School. From 1999 to 2001, he was the Defense and Military Attaché at the Embassy of Japan in Washington, DC. Prior to that, he was Deputy Chief, Defense Planning Division, Ground Staff Office, Japan Defense Agency. His recent publications have focused on Japan's national security, and restructuring the U.S.-Japan alliance. MGEN Yamaguchi has a B.S. from the National Defense Academy and an M.A. from the Fletcher School of Law and Diplomacy. He also attended the GSDF Staff College and Harvard University, and was a National Security Fellow at the John M. Olin Institute for Strategic Studies.

**MICHAEL O'HANLON** is a Senior Fellow in Foreign Policy Studies at the Brookings Institution, where he specializes in U.S. defense strategy and budgeting, military technology, homeland security, Northeast Asian security, and humanitarian intervention. He is also an adjunct professor at Columbia University, a visiting lecturer at Princeton University, and a member of the International Institute for Strategic Studies and the Council on Foreign Relations. He has written numerous books and articles, and has appeared on news programs of all the major networks. Dr. O'Hanlon has bachelor's and master's degrees from Princeton in the physical sciences, and a Ph.D. from Princeton in public and international affairs.

**MAC THORNBERRY** represents the 13th District of Texas in the U.S. House of Representatives, where he serves on the Armed Services Committee, the Budget Committee, and the Committee on Resources. He has become known as an authority on homeland defense, nuclear security, and transforming the military to better prepare America for a terrorist threat. Six months before the September 11 attacks, he introduced legislation to establish a National Homeland Security Agency; the current bill to establish a Department of Homeland Security builds upon this legislation. In the meantime, Mr. Thornberry has worked with the Bush administration and leaders of Congress to craft a plan for reorganizing homeland defenses. Mr. Thornberry has a B.A. from Texas Tech University and is a graduate of the University of Texas Law School.

**GORDON ADAMS** is the Professor of the Practice of International Affairs and Director, Security Policy Studies Program at the Elliott School of International Affairs, George Washington University. Previously, was Deputy Director at the Institute for Strategic Studies in London. Before moving to London, Dr. Adams served as the Associate Director for National Security and International Affairs of the Office of Management and Budget in the White House. He was founder and director (1983-93) of the Defense Budget Project, which became one of Washington's leading analytical institutions working on the defense budget and defense policy issues. Dr. Adams has a Ph.D. from Columbia University.

**ADMIRAL STEVE ABBOT, USN (RET.),** was named Deputy Homeland Security Advisor in October 2001. Previously, he served as the Executive Director of the Vice President's National Preparedness Review. His last military assignment was Deputy Commander in Chief, U.S. European Command; prior to that, he was Commander of the U.S. Sixth Fleet. ADM Abbot graduated from the U.S. Naval Academy and studied at Oxford University as a Rhodes Scholar. He is a member of the Society of Experimental Test Pilots and the Council on Foreign Relations.

**RICHARD DANZIG** was the Secretary of the Navy from 1998 to 2001, and the Under Secretary of the Navy between 1993 and 1997. He is now director of the National Semiconductor Corporation (NYSE) and of Human Genome Sciences (NASDAQ). He serves as Chairman of the Board of the Center for Strategic and

Budgetary Assessments, a member of the Board of Directors of Public Agenda and the Partnership for Public Service, a member of the NASA Advisory Council, a consultant to the Department of Defense, and a Senior Fellow at The CNA Corporation. Mr. Danzig has a B.A. from Reed College, a J.D. degree from Yale Law School, and Bachelor of Philosophy and Doctor of Philosophy degrees from Oxford University.

**MAJOR GENERAL RICHARD L. COMER, USAF**, is the Director, Policy and Planning, Headquarters U.S. Northern Command. He is responsible for developing strategy and policy, and conducting deliberate and crisis action planning for the Commander, U.S. Northern Command and national civil authorities. Brig Gen Comer served as Director of Plans and Policy for the Joint Special Operations Command in 1993, and was Deputy Commanding General of the JSOC in 1999. A command pilot with over 3,400 flying hours, he has commanded the 16th Operations Group and 16th Special Operations Wing. He is a graduate of the U.S. Air Force Academy and has a master's degree from the University of North Carolina at Chapel Hill.

**PETER F. VERGA,** Special Assistant for Homeland Security, directs the Department of Defense Homeland Security Task Force, and manages complex studies to focus and upgrade DoD's preparation for, and response to, acts of terror. Previously, Mr. Verga served as the Deputy Under Secretary of Defense (Policy Integration). His experience includes positions as Deputy Director for Emergency Planning in OSD, and Deputy Director of the Office of Emergency Operations of the White House Military Office. Mr. Verga, a retired U.S. Army officer, also served in the Operations Directorate of the Joint Chiefs of Staff. He holds a B.S. from the University of La Verne in La Verne, CA, and an M.S. from Troy State University in Troy, AL.

**DAVID J. BERTEAU** is the Director of National Security Studies, Syracuse University Maxwell School of Public Affairs. He is also on the public administration faculty of that school and lectures at the Defense Department's APEX training seminars. He serves on the NASA Advisory Council, and on several public and private boards, including the Procurement Round Table. He has been on four Defense Science Board task forces and has worked extensively with federal, state, and local agencies. Mr. Berteau has over 30 years of management experience and has testified before Congress more than 100 times. He is a consultant on defense matters and a frequent speaker on public policy topics. He has a B.A. from Tulane University and an M.P.A. from the University of Texas.

# Post-Cold War transformation and its objectives

## The political context of transformation

Congressman Mac Thornberry of Texas, one of the leading proponents of defense transformation in the Congress, said that there is no argument in Congress about the need to transform but that "inertia of the human brain" has made it a difficult and slow process. Napoleon believed that the most dangerous thing for a military commander to do is "form a picture" of where he is on the battlefield and where he is going. By doing so, commanders do not see the larger context—what's happening around them—and therefore cannot react to changes in their environment. We need transformation because we want to avoid getting "etched into a picture." Thornberry highlighted important political and institutional challenges and obstacles to transformation, and suggested a set of policies that could lead to greater understanding, discussion, and acceptance of transformation throughout the military and Congress.

Thornberry said that establishing a "culture of innovation" is of overriding importance in that effort. He also stressed the importance of accountability and responsibility. He was optimistic about the ability of Congress to put into place policies that will help the military's transformative efforts while "doing no harm."

Dr. Gordon M. Adams, of George Washington University, noted that one of the most significant transformations in national security has been the recognition that this country is vulnerable to asymmetrical attack. The biggest underlying change has come in the politics of defense; the November 2002 election proved that defense is now a domestic political issue. Dimensions of this issue include the international war on terrorism and terrorists, and its transforming effect on military operations; nation-building, which underlines the importance of being engaged forward; and domestic recognition of new threats, homeland security strategy, and challenges of implementation. The transformative role that homeland security will have on the military as well as domestic agencies is only now beginning to be appreciated. The government was reorganized on an almost unprecedented scale in order to address homeland security, and we do not yet know how the changes will impact on the military or on society at large. What is clear is that the creation of the Transportation Security Agency (TSA), the Northern Command (NORTHCOM), the Office of Homeland Security, and, most recently, the Department of Homeland Security, along with the Patriot Act, will have a transformative impact.

## The case for transformation

Dr. Andrew Krepinevich, Executive Director of the Center for Strategic and Budgetary Assessments, asserted that the government should want to transform defense because the competition is changing, and transformation may be the key tool to improving strategic leverage. It can lead to more favorable conditions against elusive enemy forces in remote or urban sanctuaries. It can develop new tools of deterrence, such as deterrence through denial, making it difficult for an enemy to get to us. Finally, it can bring the capability to build up forces more quickly and achieve surprise.

## The transformation of strategy

Retired Vice Admiral Arthur Cebrowski, the Director of the Office of Force Transformation in OSD, spoke of a new relationship between operations abroad and homeland security, in the context of globalization and information age phenomena. These themes were well explored in panel discussions. While deterring forward remains a "constant" in U.S. military strategy, it is not the only answer. New strategies of prevention and preemption of undeterrable enemies have been developed to complement our more traditional presence in Europe, the Persian Gulf, and East Asia.

## The need for new thinking

Dr. Richard Danzig, former Secretary of the Navy and an expert on biological threats, said that in preparing for new threats, the bureaucracy has a tendency to reduce homeland security issues to second-order questions (e.g., budgets, organizations), and thus may not see what the real, fundamental transformative issue actually is. "This issue," said Danzig, "is not weapons systems, technology, and mode of defense, culture, or organization—but rather is how we think."

## The wide compass of transformation

Transformation is much more than high-technology and precision weapons, and certainly more than just a higher level of spending on defense. The conferees examined many topics, including operational art, military culture, personnel recruitment and promotion policies, intelligence reform, training and education, and programming and budgeting issues.

Debates on transformation increasingly use the lexicon of modern corporate strategy. Our keynote speaker, VADM Cebrowski, said that transformation is found

"at the intersection of national strategy, corporate strategy, and risk management strategy." (Later in the conference, a panel explored this point in depth as it examined the "unglamorous" transformation of DoD processes.)

## The importance of transformation

VADM Cebrowski provided scene-setting context from his perspective as the Secretary of Defense's point man on transformation. The goal of defense transformation is to build a broad and sustained competitive advantage over potential adversaries, by transforming the role of defense in national security, transforming management of defense, and transforming the force.

It is important to transform, because DoD exists in three overlapping contexts. The first is *a new strategic context*, defined by Information Age principles and phenomena that are changing the character of competition and globalization, and are creating a new closely linked relationship between operations abroad and homeland security. The second is *a broadened threat context*, characterized by uncertainty, rapidly evolving threats, the involvement of state/non-state actors and nodal/non-nodal forces, the presence of both asymmetric and conventional threats, and the emergence of the undeterrable enemy. The third is *a new technological context* in which adversaries have wide access to highly capable, low-cost information technology and where the barriers have been lowered for those who wish to competitively enter complex operations and inherently hostile domains such as sea, space, and cyberspace. Our enemies know our strengths. They realize that if we can "see" them, we can kill them. Therefore they are operating with reduced signatures and in cluttered environments, forcing our sensors to move closer and to discriminate more finely.

## DoD transformation strategy

VADM Cebrowski explained that DoD's transformation strategy should progress along three concurrent paths: continuous small steps; many medium jumps; and a few big bets. Each path would offer a different scale of progress, risk, and reward. This hedging strategy permits modernization (which implies that evolutionary development is part of transformation), allows for exploration on the boundaries of capabilities (such as the U.S. Navy pursuing unmanned approaches to mine countermeasures), and permits the occasional exploration of truly new concepts that can create new realities and change the world of warfare. Such big-bet transformations have taken place fairly regularly in modern defense—examples are the widespread use of GPS, the decision to put sensors in space, the development of stealth aircraft, and the Army's decision to "own the night." The "bigness" of the bet is rightly measured by the payoff, not by the cost of development.

To sustain meaningful transformation, we must:

- Make it a continuing process.
- Create / anticipate the future.
- Ensure co-evolution of concepts, processes, organizations, and technology.
- Form new competitive areas / competencies; reevaluate attributes.
- Ensure that there are fundamental shifts in underlying principles.
- Have new sources of motive power, to reduce dependence on internal combustion engines.
- Broaden the capability base.

According to VADM Cebrowski, a "transformed" U.S. military will have these attributes:

- It will be a more expeditionary force---one that is based in the United States but can project useful military power across the oceans that separate the U.S. from many of its interests and most of its allies. It will be a force that can deter forward.
- It will be a more thoroughly networked force that will seamlessly interoperate at the JTF level.
- It will exploit the fact that the U.S. is likely to have to fight in exterior positions and turn this historical military disadvantage into leverage, combining close-in unmanned sensors and distant manned precision firepower.
- It will exploit increasingly persistent ISR systems that can "stare" continuously at targets.
- It will have much tighter sensor-shooter timelines, in order to exploit persistent ISR and the exterior position. (In other words, it will shorten the time between target detection and weapon-on-target.)
- It will be committed to information superiority and information operations.

- It will dramatically increase its use of and dependence on unmanned capabilities (UAV, UCAV, UUV, robotics). This will enable many other of the attributes mentioned above.

- It will have an officer corps that is prepared to deal with important new trends in warfare, such as networking components, precision effects, sensor reach, networked forces, a full-spectrum maneuver force, and assurance of access.

## Historical lessons of transformation

A historical perspective is important because it provides context and models of success and failure. This theme recurred during the conference. The central points include the following:

- It is important for key leaders in pivotal positions related to transformational concepts (e.g., Rickover and Navy nuclear power) to have long tenures. This means that the service leadership must be willing to empower and tolerate individuals who have a "vision" that could yield transformational capability.

- Transformation did not just start in the past few years. The U.S. military has been transforming itself gradually. It has been an ongoing process, which accelerated at the end of the Cold War.

- History suggests that any successful transition must be accomplished from the top down. Attempting to transform from the bottom up in hierarchical institutions, such as the military services, is almost certain to fail.

- Successful transformation will often involve changes in operational concepts and processes that will result in using existing systems in new and different ways. Frequently, this sort of transformation will first be demonstrated on the battlefield at the tactical level of war and then be adopted more widely. Post-Cold War battlefields have been "test-beds" for many transformational capabilities.

- Transformation has to be relevant to the sorts of enemies we might face and the nature of the war we will fight. For example, between the two world wars the French military transformed itself from a force that historically emphasized offensive operations in which it had the initiative, to one that was focused on defense and response to the opponent. But it failed to transform its cumbersome command and control to reflect the agility it needed in order to defend itself when the opponent had the initiative.

## Transformation in the post-Cold War epoch

Panelists agreed that the period between Operation Just Cause (Panama, 1989) and Operation Enduring Freedom (Afghanistan, 2001) was a transformational epoch equaling or surpassing other recognized periods of revolutionary development in military operational affairs. With no threat of global war or a nuclear exchange, and with no more inhibitions about revealing unique capabilities to the Soviet Union, the post-Cold War security environment provided a series of real-world battle labs in which to test new technologies, capabilities, equipment, and concepts across the full spectrum of operations from Operations Other Than War (OOTW) to Corps-level air-land battle.

As retired General Wesley Clark, USA, pointed out, the post-Cold War era also illustrated shortcomings that transformation must address. One is air/ground defense coordination. Commanders would like to be able to depend on airpower to hold or command ground from the air, or to deny ground from the air. This involves using airpower to attack small mobile fleeting targets, and sustain an airborne presence around the clock. General Clark used the expression "plinking tanks" to characterize the concept. Another issue is urban military operations. The military still does not have full capability when the enemy goes into urban areas. We need equipment to deal with this. He said that the Israeli solution, which involves bulldozing buildings, is not an acceptable model for U.S. forces. As we learned in Afghanistan, we need to try to devise better ways to deal with enemies who go deep underground or into caves, rather than having infantry root them out.

Retired Rear Admiral Michael McDevitt, USN, from The CNA Corporation, reviewed the frequent and diverse post-Cold War operations since 1989: Panama, Desert Storm, Somalia, Bosnia, Desert Fox, Kosovo, and Afghanistan. He argued that the wide diversity of those military experiences gives us a reasonable template for predicting what the future will hold for the U.S. military. In this sense, the recent past is prologue for the next 20 to 30 years. This analysis highlighted the diversity of these operations in terms of geography, forces involved, duration, and magnitude. It also identified common themes:

- In all the operations, the U.S. focused on removing obnoxious leaders. U.S. post-Cold War military policy has tended to focus on removing or containing leaders such as Noriega, Saddam Hussein, Cedras in Haiti, Aideed, Milosevich, Mullah Omar, and Bin Laden.

- In each of the operations except Panama, the U.S. acted in a coalition.

- The U.S. had access to the theater of operations in all cases. The American mix of land- and sea-based forces was robust enough to work around constraints or restrictions on access that some countries imposed.

- The operations were joint from the beginning. The services cooperated, and in all successful operations (Somalia was the exception) there was enough capability available for the joint theater commander to be able to call for, and receive, all the forces he needed; these generally turned out to be "overwhelming."

- The U.S. accomplished its warfighting missions efficiently. The conflicts were short, but in most cases post-conflict operations persisted for years. The most dramatic example is the aftermath of Desert Storm: the U.S. military has continued enforcing UN sanctions and "no-fly" zones for 12 years.

- The number of casualties was kept low. This was made possible by the combination of overwhelming force, superior capability, smart tactics that avoided wasteful loss of life, and an artful blend of diplomacy and military force focused on limited objectives.

Over the 12 years since the end of the Cold War, the U.S. military has demonstrated a new facet of transformation in each of its combat experiences. These real-world operations have been de facto "battle-labs" for experimentation and transformation on the fly. For example:

- Owning the night. This concept was first demonstrated in Panama and then steadily enhanced during the decade. The U.S. military's ability to conduct a full range of combat operations at night was, and is, remarkably transformational—especially when contrasted to the Vietnam War, in which the NVA and Viet Cong "owned the night."

- The ability to neutralize even the most sophisticated air defenses. The artful integration of stealth aircraft, airborne jamming, decoys, cruise missiles, anti-radiation missiles, and weapons that can be delivered from above AAA range is perhaps one of the most remarkable transformational capabilities that has matured since 1991. The United States is now able to negate or neuter sophisticated air defense systems, and to fly at will over enemy territory delivering accurate weapons whenever an enemy reveals himself.

- The evolving ability to routinely coordinate, integrate, and manage thousands of tactical aircraft, RPVs, cruise missiles, tankers, and electronic warfare and logistics aircraft sorties every day, day in and day out, over a sustained period of time. This is a transformational miracle that involved a

firm belief in the correctness of doctrinal vision, and a focus on developing the command and control systems and networks that enabled that vision.

- The routine use of unmanned flying weapons and surveillance systems. Both RPVs and cruise missiles débuted in Desert Storm. They both have matured dramatically over the ensuing years. This is a transformational capability that will continue to develop.

- The growing importance of unmanned air vehicles when married with miniaturized surveillance systems, and now smart weapons. This combination has filled the huge gap that always existed in airborne or spaced-based surveillance: the lack of ability to be more or less "permanently on station," never losing sight of the area of interest. The ability to persistently "stare" at a patch of terrain from the air is transformational.

- Thanks to GPS, the capability to accurately bomb or conduct unspotted indirect fires in all weather. In theory, no one need be lost anymore, or in doubt about one's own position. GPS may turn out to have the most transformational impact on war since the airplane or the internal combustion engine.

- The ability to predictably plan on engaging more than one aim-point per aircraft sortie. This transformational capability was first suggested by Desert Storm, and has now shown convincing application in Afghanistan. This is tremendously transformational as it permits more targets or aim-points to be addressed simultaneously and, conversely, allows commanders to achieve the desired effects with fewer sorties.

- The ability to network and rapidly integrate data, pictures, and voice communications and use web-based command processes. It is important to point out that this is all remarkably transformational. Much of this work, however, started long before the end of the Cold War.

## How to transform

After serving more than two years at Joint Forces Command, where he had responsibility for experimentation, Major General Dean Cash, USA, challenged conferees with the questions, "What are the current problems of warfare and how do we solve them?" and "How do we accomplish change that will solve problems and result in a more effective military?" Retired Marine Corps Lieutenant General Paul Van Riper offered thoughts on these very points. There are two ways to accomplish change: by slow, evolutionary process, or by rapid, revolutionary process. The U.S. military has generally favored evolutionary change, which is very powerful but requires focus and organization.

Revolutionary change is only achieved from the top down. The key to success in revolutionary change is the leader. When a top-down change is successful, it is very successful, but when it fails, it really fails. Transformation is based primarily on operational concepts. If we were to conceptualize a triangle formed by operational concepts, technology, and force structure, operational concept should always be at the apex. We need to transform to a joint force that thinks in terms of how to manage against enemy capabilities.

General Clark underscored the importance of top-down transformation and emphasized the need for focus on operations. Transformation is not valid if it does not allow us to fight better. There also needs to be a focus on cultural change. Competitive service attitudes make it difficult to solve cross-cultural, cross-operational problems.

## Post conflict—a neglected transformational area?

One of the apparently neglected areas of America's post-Cold War military experience has been the persistent requirement for post-conflict reconstruction or deterrence operations that occupy large numbers of U.S. forces for very long periods of time. While the need for U.S. presence for deterrence is nothing new (we have been in South Korea for over 50 years with no end in sight), the use of the military for peacekeeping and so-called "nation building" became an issue during the 1990s. Then, the issue of tailoring some U.S. forces for peacekeeping was debated and rejected by the Department of Defense. This was seen as a mission that Allies could and should perform. Yet, the reality has been that U.S. forces remain involved in this mission despite the contributions of Allies and friends. Almost invariably, U.S. command and control and airlift capabilities are required even if no ground forces are involved.

Because so many of the skills required for post-combat missions are found in the Reserve component, there has been a dramatic increase in the use of the Reserve force, in ways that greatly expand the traditional notions of Reserve missions. Whether this will be sustainable in the future remains to be seen. Broad-based coalitions of the willing must include willingness to share post-combat missions. But our experiences in 1990s suggest that the U.S. military will often be involved in several simultaneous post-combat operations. Therefore, this entire mission area needs to be reexamined through the optic of transformation.

## There is no joint operational concept and one is needed

Without a top-level joint operational concept to provide context, notions of joint transformation are debated in what is, in effect, an intellectual vacuum. Each service has an operational concept, but the joint force does not have a corresponding

joint operational concept. How does each of the services actually integrate with the others on the battlefield to achieve a genuine joint force? Fortunately, this shortcoming is generally recognized. Many of the speakers made this point, and remarked that the staffwork to produce a joint operational concept is in progress. This concept will have major implications for service roles and missions—thus, its development is bureaucratically contentious. The Joint Staff's current Capstone Concept program and recent efforts at JFCOM, including Millennium Challenge '02 (MC 02), have begun to address this deficiency. Closure will require the involvement of talented, broadly experienced officers who appreciate the capabilities of sister services. The Secretary of Defense will need to provide a sense of urgency and firm support to keep the concept development moving smartly ahead and not languishing in mid-level in-boxes.

## Millennium Challenge 2002: an "experiment in experimentation"

JFCOM's Millennium Challenge 2002 (MC 02) was controversial and very expensive. But, it was an effort to come to grips with a future joint operational concept. Neither the individual services nor the joint community has much experience in experimentation. MC 02 was therefore "an experiment in experimentation." MC 02 participants were pleased with the "collaborative information environment" (CIE), and several commanders subsequently asked JFCOM for assistance in employing the CIE capability in support of current operations. The exercise provided insight into the emerging science of infomatics—a new way of managing, processing, and drawing relevant information from very large data sets. Increasingly used by industry, it allows users to integrate subjective data into otherwise objective databases. JFCOM's hope is that infomatics will lend itself to the development of a tool that can provide a joint force commander with a predictive technology—a way to do dynamic "what if" analysis and to test and weigh various courses of action.

MC 02 also experimented with a new joint commander staff arrangement that was based on non-traditional staff organization, with such new entities as boards, centers, and cells. Reportedly, this new organization made decision-making quicker. The CIE and the cellular staff structure challenged traditional staff communication routines. It also apparently highlighted the need for commanders to be personally aware of the capabilities, limitations, and status of the forces under their command, because the staff will have less time available to brief the commander.

Another new concept that JFCOM has high hopes for is known as "operational net assessment" or ONA. ONA did not succeed during MC 02. The exercise revealed shortcomings in the ONA database. ONA is intended to help commanders and staffs consider the potential for future enemy action. JFCOM is working to develop a better ONA for the future. Despite criticism and controversy, JFCOM believes that MC 02 successfully promoted dialogue and founded a culture of experimentation in the joint force and in the services. Now the services appear almost ready to

embrace joint experimentation in training and organization, and have begun to ask JFCOM to help supply a “joint context” for service experiments and exercises.

# Views of transformation from outside of DoD

## Obstacles

Ms. Michèle Flournoy, a former Defense official, now with the Center for Strategic and International Studies (CSIS), analyzed persistent obstacles to transformation. Although these by definition form a "list of problems," she made the point at the outset that all of them could be overcome. They are not insurmountable.

Complacency may be the most pernicious obstacle. A sense of urgency is lacking both in DoD and on the Hill—even today, after 9/11 and during the war on terror. Unless there is a significant military failure or a serious decline in the defense budget, a sense of urgency is going to be hard to create.

The day-to-day operations tempo is very high, and seems likely to continue at that level. Historically, innovation has taken place during periods of low operations tempo, such as the inter-war period, which are more conducive to innovation. The DoD, services, and unified commanders cannot ignore other programs, such as personnel programs, current operations, and health care, or the rising costs of O&M activities. Therefore, DoD senior leadership will have to fence or protect parts of the force to enable them to focus on experimentation and concept development. A good example is the AEGIS-class cruiser that has been dedicated to missile defense tests and experiments. "Real" near-term priorities compete for limited defense resources.

Actors in transformation do not have a common roadmap, or vision, of how to get there, and the Department has not provided one. A common vision is needed, to ensure that the efforts of all those concerned—the R&D community, services, CINCs, JFCOM, and so on—are unified and complementary. Clear priorities, strategic concepts, and key capabilities need to be articulated, and a roadmap to outcomes needs to be developed.

There are no metrics to guide budget decisions, or to use to establish priorities or measure success. Concept development and experimentation are inadequate. We tend to showcase new systems (give demonstrations) rather than conduct "real experimentation" in the spirit of discovery and high tolerance for failure.

Joint concept development is driven by consensus-based decision-making. Efforts focus on stitching seams between the services, not on fostering new concepts for the joint force. Competition is the real engine of innovation, yet the DoD transformation effort has stripped out anything suggesting competition for fear it will unleash inter-service rivalries. Ms. Flournoy suggested that DoD establish a forum in which operational concepts can compete to meet operational objectives. Ideas

would be solicited throughout DoD, and the most promising would be given to CINCs, JFCOM, or the services to develop.

Operational prototyping needs greater focus. More emphasis should be put on getting experimental equipment and systems into the hands of operators earlier. Ultimately, transformation is going to depend not on concepts of new technology but on development and implementation of these concepts. Thus, development and implementation should be given a higher priority and a more thoughtful design and approach.

Converting results of military experimentation to programs is not institutionalized in DoD. There is no clear, reliable process to translate results of experimentation (transformational ideas/systems) into new defense programs, due to competition for scarce dollars and lack of institutional and political backing. Conversely, once a program is in the budget, there is no reassessment through experimentation as to the value of the program. Notwithstanding progress in MC 02, this is at best a work in progress. Much of the burden falls squarely on the shoulders of COMJFCOM.

Excess infrastructure, inefficient business practices, and duplication in training, logistics, and C4I hinder transformation. They soak up funds that could be applied to transformation.

Transformation is a leadership issue. Without leadership, it will not be able to compete with "real" priorities. The culture of risk aversion, and the lack of incentive to take risk, works against transformation. This may be the most important obstacle to transformation. We should re-examine promotion criteria and incentives regarding transformation. One way might be to revisit the assignment and promotion rules put in place to enforce compliance with Goldwater-Nichols jointness objectives, to see whether we need to reform administrative processes in order to foster transformation.

## Pace is a key issue

Dr. Larry Korb, former Defense official now with the Council on Foreign Relations, noted that the debate is about the *pace* of transformation, not transformation itself. Everyone supports transformation. The debate is about how quickly we should embrace concepts that argue that the later part of the 20th century was a dawning of another revolution in military affairs. Such arguments were popularized by now retired Admiral Bill Owens, former Vice Chairman of the Joint Staff, and Mr. Andrew Marshall of OSD Net Assessment. These arguments have been widely embraced and in fact illustrated in recent combat operations. Now defense policy makers are trying to balance risk with wholeheartedly embracing RMA.

Korb referred listeners to candidate Bush's Citadel speech. He said its main messages were to skip a generation of weapons, increase R&D, and not get involved in nation building. But skipping a generation meant accepting the risk associated with such a course of action. This implied that many of the programs already under development could be cancelled. SECDEF Rumsfeld came to office with the view that the services and Joint Staff had gained too much bureaucratic clout under the Clinton administration and an important task was to correct this perceived imbalance in civil-military relations. Korb asserted that before 9/11 Rumsfeld's management style was a problem in achieving transformation, because he had not created the political alliances necessary to successfully cut programs. Korb suggested looking back at successful secretaries. Their success was in their ability to co-opt the services, which were ready to be co-opted. Rumsfeld, however, "ignored them completely": he did not work with Congress and the military defense industry. The Bush administration's priorities at the outset were on things other than defense. The money that was needed to fix the defense problem was not there. Bush suggested $45 billion over 10 years; Gore, $100 billion.

In Korb's analysis, transformation became an excuse not to fund defense, except for missile defense. The attacks of 9/11 changed the calculus and funds became available. Korb suggested that Rumsfeld, as "Secretary of War," now has a second chance: he has the stature to effect change, and he can do it if he makes hard choices, such as scaling back. Congress will not fight him.

Admiral Owens underscored how urgently important it is for leadership to act now. He was clearly impatient with the focus on testing, trials, and ACTDs (Advanced Concept Technology Demonstrations). He judged that defense officials already know what needs to be done. "We know what [transformation] should be—it will be about dramatic reorganization in what we need to protect the country and how we organize to do it." The key focus areas are the budget and promotions, both of which are controlled by the services, but ought to be controlled by OSD and the Joint Staff.

## Technology's role in transformation

The great strength of the United States is its commercial information and telecommunication technology. Admiral Owens asserted that it is the core of transformation, yet no one in DoD understands it or knows what direction it is going. By extension, we will not be able to integrate knowledge, disseminate knowledge of sensor technology and weapons, or distribute information if we don't understand commercial IT.

Mr. William O'Neil, Chief Scientist of The CNA Corporation elaborated on the role of technology in transformation. While acknowledging that operational concepts and organization are important, historically, relatively few transformations

have taken place without technological underpinnings. The dynamics of technology are important. Much technology comes about because of the love of research for itself and not because a requirement was placed on the researcher. Technology, however, often gains attention late in the game. One can't rush technology; many of the concepts that hold transformative promise will take many years to mature to the point that they can find a place in militarily useful systems. Mr. O'Neil underscored the point by reminding the conference that the fuel cell, first invented in 1839, is only now coming into its own.

## Encouraging innovation

Admiral Owens said, "The most innovative organizations are those who are starved enough." His theory is that "squeeze" forces innovation. He also said that reorganization is not necessarily required but process innovation is necessary, which SECDEF has the required Title X authority to effect. Only when budgets are tight, forcing difficult trade-off decisions, is innovation likely to go forward. He pointed out that during the 1920s and 1930s when budgets were tight, many transformative concepts were pursued but they were also starved for resources because the services put most of their resources into traditionally favored kinds of equipment such as battleships and horse cavalry.

Ms. Flournoy asserted that operational failure drives innovation. The next operational failure will result in catastrophic terrorism, such as bioterrorism. We are unprepared. This failure will motivate innovation. Ms. Flournoy also noted that budget increases were unsustainable, and, like Admiral Owens, she thought this would also drive innovation.

There was speculation that perhaps it is the right time to consider updating DOPMA (the Defense Officer Planning Management Act) and Goldwater Nichols legislation. We have created a professional force with the one and a joint force with the other. Now it's time to see whether new legislation or regulations are necessary to make certain that the right sorts of forward-thinking military leaders can be promoted and put into positions of responsibility to ensure that the current momentum toward transformation does not dissipate. This is an obviously controversial notion, but many of the conferees felt that there were too many examples of innovative individuals who were not promoted but shunted aside, and too few examples of innovators who rose to positions of responsibility and were given the opportunity to fulfill their vision.

# Service transformation in a joint culture

SECDEF directed each service to develop transformation roadmaps. These roadmaps represent the services' best efforts to cope with the initially ill defined guidance to "transform," and to develop corporate strategies linking service acquisition programs to the evolving definition of transformation. Of the four services, the Army is faced with the most difficult transformational challenge: to turn an army optimized for war with a peer competitor on a global scale, into an army that is more agile and responsive to emerging missions distant from its primary support structure. This is a formidable task. The Army is proceeding in two steps: As a first step, it will field an "interim force," which will consist of at least six maneuver brigades equipped and trained with commercially available equipment and enhanced light armored vehicles. Then, as the second step, it will become a "transformed" army, known as the Objective Force.

The other three services' approaches to transformation have much in common with one another. They are different from the Army's approach—mainly because their tasks are not so daunting, but also because they have been involved in transformative activities *that are relevant to the post-Cold War era* longer than the Army. The Navy, Marine Corps, and Air Force are thinking about how best to blend soon-to-be-introduced new systems with legacy forces in new and unique operational formations that are increasingly netted together by high-capacity data and communication links. Each of them is also focused on creating service-unique niches that will allow them to provide a new capability for the nation. The Air Force is organizing a series of task forces, which are formed as the need arises. For example, its Global Strike Task Force is envisioned as a long-range stealth precision strike capability that can "kick open the door" from the air. The Marines are considering how capabilities such as the V-22 would allow them to project ground combat power 400 to 700 miles in-land from a sea base. The Navy is reorganizing its operating forces in order to multiply the number of self-contained task groups that have a precision strike capability, while adding new capabilities, such as missile defense, to existing forces.

Panelists from each service briefed their transformation concepts and goals. Each emphasized the importance of jointness, while pointing out that because DoD has not yet articulated a measurable set of joint operational concepts, it is difficult for the services to assess their success in integrating with one another. One panelist admitted that there was still little synergy between the services, and another described the difficulty of establishing the necessary conceptual foundations.

All insisted that the services have been transformational throughout history. They agreed that it is a long-term process. There was little mention of budgets, although the panelists concurred that DoD needed to streamline the acquisition process in support of transformation. This point was a recurring theme throughout. Admirals

Cebrowski and Owens, among many others, were outspoken about the need to transform acquisition.

## Army: a focus on joint interdependence

Lieutenant General John Riggs, USA, Director of the Objective Force Task Force, explained that the Army was actively working to change processes, and outlined its concepts for a future force (the Objective Force) and future platforms (Future Combat Systems, or FCS). The main effort of transformation is the Objective Force. This force will be fielded by the end of the decade and is designed to be more strategically responsive and deployable. To bridge the gap between today's legacy force and the Objective Force, the Army will field an interim force centered around six maneuver brigades equipped and trained with currently available technology.

Obviously this transition will require the blending of capabilities. The Army took more than three years to establish conceptual foundations for transformation, such as operational and organizational designs and operational requirement documentation.

The Army recognizes that it is still optimized for the Cold War: it has only a few light forces that are maneuverable and easy to transport, and many heavy forces that are not. In any case, the key to keeping either light or heavy forces in the field far from permanent bases is sustainment. Today the Army depends upon vast quantities of air and sealift to accomplish this. It is working hard on how to reconceptualize the way it sustains forces. It is also working hard at developing future forces that will not require the logistics (sustainment) tail that today's forces require.

This will be the key to making the Army genuinely expeditionary, in the sense of being able to respond promptly. To realize this vision, it will need transformative capabilities that in some cases still depend on inventions. It may be possible for fuel cells to replace the internal combustion engine that the Army depends on for mobility, freeing the force from the need for huge quantities of gasoline and diesel fuel. The Army also wants to capture the essence of both heavy and light forces in building a new force capable not only of high-end operations but operations across the entire spectrum.

The Army will begin fielding Objective Force capabilities this decade, but the Army of the future will never be totally fielded, because it is forever evolving and changing its force. Equipment and organizational design are pieces of the picture but not the whole picture of Objective Force or transformation. A key change is modifying the structure and names of units based on their function. Organization,

doctrine, training, materiel, and leadership development are to be linked through common information architecture.

The power of information has increased the quality of decision-making and become a combat multiplier. FCS is to be a networked system of systems, harnessing the power of all current systems, built around the soldier. It does not replace existing entities (such as tanks), but creates a new organizational concept and vision. It will feature unmanned ground and aerial systems and multiple-entry capability to get around the no-access problem. Production decision timing for new systems will be very critical.

## Navy: Net-centric warfare and Seapower 21

Vice Admiral Michael Mullen, USN, the Navy's Deputy Chief of Resources, Requirements and Assessments, described the Navy's concept. Its transformation roadmap is Chief of Naval Operations Admiral Vern Clark's "Sea Power 21" Vision Statement, released in the fall of 2002. The Navy is most interested in optimizing existing transformational capabilities that have already entered the fleet over the past decade and a half, such as tactical data links, space-based ISR, cruise missiles, and precision strike. The goal is to create a jointly integrated, networked, sea-based power projection force, transforming from platform-centric to net-centric, from service-specific operations to joint interoperability, and from being a blue-water maritime power to being an expeditionary power that is uniquely able to strike quickly and effectively.

The Navy's ambition is to transition from being a force that enables decisive results on the land to one that can decisively achieve the missions the country assigns by using surprise, precision, and lethality from the sea. Improved C4ISR and intelligence links are critical to ongoing efforts to improve naval contributions to joint awareness of the battlefield.

The core capabilities of the transformed Navy are: (1) sea strike, attacking land targets from bases at sea, (2) sea shield, providing air defense and missile defense from AEGIS ships at sea for forces ashore and in littoral areas, and (3) sea-basing, which aims toward the day when joint forces, especially the Marine Corps and Army, can be supported fully from the sea. The information backbone of these ambitions is ForceNet, which will integrate operators, sensors, and weapons with ships, aircraft, and submarines to make net-centric warfare an operational reality. Naval Special Operations Forces (the Seals) will play a critical role. So will the Maritime Prepositioning Force (MPF).

The Navy envisions a more flexible organization of its operating forces than in the recent past. It is now moving to create more task groups with offensive power, through innovation operational combination of ships. Perhaps the most novel new

operational concept, one that uses existing ships and submarines in a new way, is known as the Expeditionary Strike Group (ESG). It will combine the core warfighting capabilities of cruisers, destroyers, and submarines with existing amphibious ready groups with their embarked Marines.

ESGs will function in lower-threat environments as independent strike groups. The combination of cruise missiles from ships and submarines, small numbers of USMC fixed-wing tactical aircraft, USMC attack helicopters, and a battalion-sized ground combat element, all operating under an AEGIS air-defense umbrella, will provide the country with offensive power that can respond in more areas than before. The Navy plans to field 12 ESGs.

Information operations have been designated a primary warfare area. The Navy has created a new career force to sustain professionals in information operations, and has established a new three-star command, NETWARCOM, to oversee related efforts, such as concept refinement testing for sea-based computer network attacks and defense and psychological warfare capabilities, and smart systems for electronic jamming and reconnaissance.

## Marine Corps: Creative adaptation

Lieutenant General Robert Magnus, USMC, the Deputy Commandant for Programs and Resources, discussed the Marine Corps concept. In many ways it is similar to the Navy's approach. The Marines see transformation as: (1) changing today's organizational structure, and (2) changing operating concepts—in particular, to move from amphibious warfare to a broader characterization of expeditionary warfare. This will of course include the key mission area of amphibious assault, but will be not be limited to that mission.

The Marines have a number of new capabilities: the V-22 aircraft, and Advanced Amphibious Assault Vehicle (AAAV), and a new class of amphibious warship, all on the verge of being introduced. They must focus on mainstreaming these new technologies and put older capabilities to better use. The goal is to create more ready, agile, lethal, and expeditionary force packages that will be sustainable from the sea. These packages will consist of Combined Arms Teams routinely deployed forward that are well enough trained and equipped that they will be able to deal with both traditional problems and unexpected ones.

The Marines are anxiously awaiting the introduction of the Joint Strike Fighter in its VSTOL mode, as that will truly transform the capabilities of the Marine Corps air-land team. Finally, building on the successful projection of Marine Corps infantry into Afghanistan, from a sea base several hundred miles away, the Marines are looking beyond the littoral area traditionally associated with amphibious operations, to the possibility of jumping far over the littoral to ranges of 400 to 700 miles

inland from a sea base. This concept is truly transformational. Finally, the Marines are actively involved in becoming more closely integrated with America's Special Operations Forces.

## Air Force: From garrison force to expeditionary force

Major General Ronald Bath, USAF, Director of Air Force Strategic Planning, discussed the Air Force's transformation strategy. Its top priority is a Task Force Concept of Operations that will guide appropriate organizational changes to institutionalize its transformational strategy, pursue innovation, and lay the groundwork for further changes.

The Air Force will transform its role as a service, from a forward-deployed garrison force, into a flexible expeditionary force capable of deploying rapidly worldwide—one in which task force operations will become the norm. To oversee the transformation effort, new offices, including the Deputy Chief of Staff for Warfighting Integration, will oversee manned, unmanned, and space platforms. An important objective is to improve joint and coalition warfighting by enhancing speed and fidelity of target-quality data to commanders.

Because the Air Force plays a key role in homeland security, the AF Directorate of Homeland Security (XOH) will develop and implement homeland security responsibilities and concepts of operation in support of NORTHCOM. Homeland security will be incorporated into policy, procedure, and doctrine. The top priority is called "Task Force ConOps," which establishes a force presentation plan (task forces) that describes how the warfighter will use air and space power to counter capabilities of potential adversaries.

To execute the missions envisioned for its task forces, the Air Force will need multi-mission systems with multi-spectral fused air and space sensors, robust all-weather weapons with increased standoff capability, a reduced logistics tail, an improved 24-7 attack ability (i.e., improved range, payload, speed, maneuverability, all-weather capability, minimum collateral damage), and the ability to find, fix, track, target, and engage targets, while assessing damage in a timely way. It will need persistent ISR capabilities to share jointly; and air superiority to maintain air dominance against improved enemy air defenses, and to allow follow-on joint forces. Also necessary will be capabilities to defeat airborne ballistic and cruise missiles, to protect information and space systems, and to affect targets short of destroying them (effects-based ops).

There will be no standing task forces. Rather, the required forces will be extracted from other units as necessary, to form a global strike task force, a space task force, a C4ISR task force, a global terrorism task force, a homeland defense task force, a

nuclear forces task force, a rapid global mobility task force, and an expeditionary air force.

## Skepticism about service "transformational roadmaps"

All of these service roadmaps were developed by SECDEF direction, over the last year. These roadmaps represent the services' best efforts to cope with the initially ill defined guidance to "transform," and to develop corporate strategies linking service acquisition programs to the evolving definition of transformation. Much good work was done, but some held that service-specific roadmaps were more interesting than relevant since the U.S. fights "joint." This is too harsh, in the judgment of many, because these roadmaps are key building blocks on the way to joint transformational strategies. They show what capabilities will be available for the joint commander to employ. Once joint concepts are complete, these service-specific visions will help reveal duplicative capabilities and capability gaps. As discussed earlier in this report, this work on a joint vision, or Capstone Concept as it is called, is in progress—again at the direction of SECDEF.

# Unglamorous transformation/process improvement

## The importance of processes to defense transformation

Since transformation became a key objective for the Defense Department, the vast majority of the discussion has revolved around new weapons systems and operational concepts—the exciting and more fascinating side of transformation. But as transformation cognoscenti realize, it is the mundane, "unglamorous" portion of defense, which has to do with how capabilities are fielded and supported, that will determine whether the U.S. military is able to fulfill its transformational aspirations. As Dr. Carla Tighe Murray, from the Congressional Budget Office, said, "DoD needs to transform the 'business' side as well as the 'operational' side."

This is critical because current processes put DoD's transformation initiatives at risk. Critical changes need to be made in four areas: requirements, budgeting, acquisition, and personnel management. Requirements should be more entrepreneurial, and should focus on top-level concepts and decision logic. Budgeting should shift the executive focus of PPBS from programming to planning. Acquisition efforts should seek to sharply decrease cycle time so it does not take decades to field new capability. The goal should be to match commercial experience.

A key question for the current administration is, Can the current process in total—R&D, acquisition, operations, and culture—produce the necessary transformational effect, as in earlier eras? There is nothing more common than calls for reforming the PPBS and Acquisition System. Yet, if the world has changed, a really fresh look here is needed. Fixing the program side will require strong, experienced leadership with extended tenure.

## Key Enabler: business structure transformation

Mr. Ken Krieg, the Executive Secretary of DoD's Senior Executive Council, indicated that Secretary Rumsfeld was clearly aware of the need to transform business processes. He pointed out that transforming DoD's outdated support structure is a key step in achieving a more capable fighting force. The current situation serves as an impediment to change, perpetuates inefficiency, and wastes scarce resources. For example, DoD's financial systems are decades old and not properly interconnected. Accounting and auditing processes cannot meet the standards of accepted accounting principles. Business processes are engineered to prevent mistakes, not solve problems. Regulations often discourage taking risks or significantly improving efficiency.

Consequently OSD focuses on meeting the following goals:

- Reducing the cycle time for decisions on weapons development and logistics support
- Shortening and bringing realism into the program and budgeting process
- Developing metrics to track and assess how well the Department is performing.

Mr. Robert Pirie, a former Under Secretary of the Navy who has many years of experience in the DoD, discussed perennial problems in the military budgetary and accounting system. He focused particular attention on crucial support accounts that support readiness, maintenance, operations, and facilities. These go through "boom and bust" cycles. For example, in the FY-03 budget submission, U.S. Navy reprogrammed $6.5 billion from other programs to address readiness shortfalls. These cycles are wasteful and contribute to major problems. Because of administration changes and account cycles, problems with these accounts often do not show up for years, but when they do they have a dire impact on operational capabilities. Spare parts shortages, improperly trained personnel, and shoddy facilities, all contribute to a "rob Peter to pay Paul" process that consumes the time of mid-level commanders in the operating forces. So much time can be invested in just making existing equipment work that it saps intellectual energy. Often little time or enthusiasm is left for exploring new concepts and ways of doing business that might have a transformational impact.

## "People problems" that inhibit transformation

Dr. David Chu, the Under Secretary of Defense for Personnel and Readiness, described the principal personnel challenges facing DoD in the active military, in the Reserve components, and with civilian professionals. The military cannot always rely on its current structure and laws: what was successful before is not necessarily successful now. One big challenge in the past decade has been the shift in aspirations of teenagers. Recruitment has been focused on teenagers graduating from high school. Now, more high school graduates are choosing to enter college instead. Therefore, recruiting strategy must shift to a different market. Some policies, such as having to leave the services to take advantage of education benefits, may need reassessment. The greatest challenge for the Reserve is to change its concept of "service." The Air Force, for example, has spearheaded this type of policy change in its volunteer system: it allows people to serve when they can rather than for pre-set periods of time. This type of flexibility allows the Air Force to fully use its talent pool. This is something the other services need to look at.

DoD is still in the 19th century when it comes to civilian policy. The excellence of the people is the heart of the Department, which is why it is important to transform civilian personnel policy into something cost-effective and efficient. Transformation would increase personnel costs in the short term, but these costs would be offset by savings in the long run.

While there is no panacea that can instantly solve these business issues, there are things that can be done. We must begin to take a systems approach to budgeting in the military. Currently, one of the largest problems is that budgeting is all done in a piecemeal manner. Costs must be better assessed. That may mean we have fewer weapons and a smaller force but with much higher readiness and in-hand capability. Since this is an area that is often perceived to be mundane, there have to be long-term leaders who want to achieve transformation in how these accounts are managed. Changes in administration and short-term postings are detrimental. This is one area that cries out for long-term sustained management.

# International and allied transformation

## The continuing importance of friends, Allies, and overseas bases

Conferees addressed the often-neglected international aspects of transformation. SACLANT has recently been assigned by NATO to lead transformational efforts, as "Allied Command for Transformation," becoming the Alliance counterpart to JFCOM. Surprisingly, panelists were optimistic that requisite capabilities and contributions could be developed internationally, and that the U.S. lead in transformation did not permanently foreclose others from keeping up either in appropriate niche capabilities or specially developed elite formations. However, if Allies are to have any chance of keeping pace, disclosure and technology transfer issues must be solved. Otherwise, barriers to transformative interoperability with Allies and friendly forces will be insurmountable. In fact, overcoming these issues may require a transformational paradigm shift by the United States. As Dr. Hans Binnendijk, of National Defense University, observed, this panel discussion showed that:

- Transformation has the attention of the Allies.
- Answers and solutions are not necessarily expensive.
- C4ISR, training, and experimentation are key.
- The United States needs to change its laws, especially the Arms Export Control Act.

Binnendijk emphatically added, "We need to get this right."

## The transatlantic disconnect

Binnendijk noted that while the United States is transforming and increasing its defense budget, most Allies are not. If this situation continues, the NATO Alliance could be at risk. The fundamental problems are not budget or "buy America" issues. Rather they are the lack of common technology (especially information technology), operational procedures, training, and doctrine. The United States is adopting a closed system of systems—sensor to shooter. If Allies are not part of this "closed system," they are not useful. "Plug and play" is not a viable option—the Allies have to be part of the whole process. If this divergence is not fixed, we are headed for a division of labor: the United States will do the high-intensity fighting, and the Allies will do peacekeeping and "clean up." Such a division of duties will

not sustain the NATO alliance. There will be a lack of common purpose, which over the long run will be corrosive.

## Fixing the transformation gap

Rear Admiral Richard Gallagher, USN, from SACLANT, observed that technology alone seldom brings revolutionary change, but it does increase the realm of the possible. He spoke of having a "transformation gap, not a capabilities gap," because the gap involves cultural and intellectual issues as well as equipment and capabilities. The gap cannot be bridged by new technology alone, but rather calls for a philosophical buy-in to a new process for change. To keep pace with the thinking enabled by new technology, NATO partners will have to acquire technology and learn how to use it. Otherwise, SACLANT fears, U.S. commanders and staffs will find it increasingly difficult to discuss operational issues with many of their Allied counterparts, because the two will no longer be able to look at a problem from the same perspective.

Among Western industrialized nations, only the United States seems likely to make the investment necessary to create a transformed military by 2015. Otherwise, only an assembly of nations committed to long-term, as well as short-term, mutual benefit will have the wherewithal to invest in a combined future. A cohesive effort between NATO members that avoids duplication of effort and waste of resources is an advantage that a long-term Alliance partnership brings.

NATO needs to adapt, and it has begun to do so. Examples are the establishment of the NATO Response Force and Allied Command for Transformation, as well as the Prague capabilities commitment, wherein countries pledge niche capabilities to meet current requirements.

## A key development: Allied Command for Transformation

Gallagher noted that no entity in NATO covers such issues as capabilities generation, concepts, and training. This is why NATO is establishing the Allied Command for Transformation (formerly SACLANT), a "revolutionary change" in command structure. This new command will align with JFCOM. It will provide a mechanism for NATO to chart its transformation course, and will be a vehicle by which European ideas can infiltrate U.S. thinking. NATO has an advantage in starting its transformation efforts late in that it can "borrow, plagiarize, and exploit" U.S. efforts. While this change in command structure is potentially a win-win situation, it will take time and money.

## France's view of transformation

Transformation is a challenge for Europe, as it is for the United States. With a few exceptions (France, the United Kingdom), European forces are structured to protect their homeland and have little out-of-area capability. France gave up conscription and created its own all-volunteer force; this may be the most important transformational step it has taken. It is spending heavily on new procurement—$1 billion—a very large sum for France. It is integrating more closely with NATO and consequently is better able to integrate with the United States. It is emphasizing C4ISR, mobility, force projection, and strike, and is obtaining force protection capabilities, including tactical missile defense.

Retired Vice-Amiral-d'Escadre Betermier, of the French Navy, warned that the division of labor concept, with the United States doing the fighting and Europe doing peacekeeping and reconstruction (soft power), will undermine the Atlantic Alliance by causing frustration on both sides. He discussed a transatlantic communications and comprehension gap. If European Allies want to be interoperable with U.S. forces, they need to understand what transformation is and isn't, and be able to track the process. Key challenges for NATO Allies include dealing with the U.S. tendency to "decide alone" to field new information technology without consultation. Betermier noted the U.S. tendency to provide "black boxes" to Allies to make them interoperable. This leads to "black box trauma": Allies need to know what the box does and does not do, and how it works. Echoing other panelists, Betermier said that the United States has a responsibility to maintain equipment interoperability.

France still considers NATO to be the fabric of interoperability; however, maintaining interoperability is a greater challenge today than it was during the Cold War, because of the need to interoperate not only with NATO, but also with EU and with other nations sometimes under the aegis of the UN. The French are concerned about focusing NATO interoperability efforts in Norfolk, because they wonder whether it will be possible to maintain European influence. Betermier reiterated the common theme that reform of transatlantic defense industrial cooperation is needed. He suggested streamlining U.S. export control practices.

## A view from East Asia

Major General Noboru Yamaguchi, of Japan's Ground Self-Defense Force noted that even the least modernized military could still cooperate with the United States. He cited the Northern Alliance cavalry forces as an example. Gaps in C4ISR do not prevent Japan and the United States from fighting together. There are increasing opportunities to cooperate for mutual benefit. One promising area is maritime low-intensity conflict, where navies could work together to combat international terrorism at sea. Allies are taking a transformational course similar to that

of the United States, but at a slower pace. C4ISR is key to solving much of the problem, and Allies need a protocol for communications.

Japan's goal is to maintain network-centric C4I that is, as he put it, interconnectable with the United States. To enable this goal, he recommended the United States do the following: share information on the direction it is heading; allow access to technology; suggest ways for Japan (and other Allies) to proceed; be mindful of the gap between itself and the Allies, and consciously promote interoperability; and appreciate that the Allies rely on U.S. systems such as GPS, which must remain accessible.

## Allied transformation is a realistic goal

Dr. Michael O'Hanlon, from the Brookings Institution, said he was an optimist. He believes that there are a lot of good things about the current system; that the Allies are willing to help, like they were in Enduring Freedom; and that if the Allies selectively spend, they can "be there" in transformation—but we need to be careful that we don't set the bar so high that they are discouraged.

We may not need as much "radical change" as proponents of transformation assert. DoD should be looking for breakthrough concepts, not remaking everything from scratch. What is needed is "rapid evolution," not "radical remaking." O'Hanlon believes that interoperability issues can be limited to a finite set—command and control, information technology, and precision strike—on which the Allies can focus investment. This should be reassuring to the Allies, as they can make targeted, selected, changes. Further, much that is transformational is not very expensive. The United States has deployed relatively inexpensive transformational systems, such as JDAMs, LGBs, and UAVs. Rather than investing in new aircraft and other platforms, we can and do transform current platforms by modernizing sensors, using targeting pods, etc. Often transformation is about clever thinking more than about high technology. Sealift and pre-positioning, for example, do not demand high technology.

O'Hanlon noted that France, many NATO countries, and Japan have large force structures, and that their size impedes transformation. If the Allies cut force structure a bit more, they can afford to transform their forces.

The U.S. Marine Corps can provide a good model for Allies' transformation. It is at the forefront of transformation, yet it has a relatively small budget. Several European countries and Japan have defense budgets comparable to that of the Marine Corps. Another good example of making effective yet affordable changes is the U.K. 1998 Defense Plan, in which the British made strategic choices about defense that make good sense. The British and the U.S. Marines can show the way to the Allies.

# Homeland Security: getting organized

## Transformational thinking needed—dealing with bioterrorism

Dr. Richard Danzig discussed bioterrorism and how best to develop the government's response to a bioterror attack. In preparing for this threat, he said, the fundamental transformative issue is how we think. We need to think together in a common way because we have no relevant experience, other than the anthrax incidents of fall 2001.

Danzig said that the anthrax attacks represent a threat more dangerous than the attacks of September 11, 2001: In the 9/11 attacks, the hijackers used up their resources by committing suicide. Also, the government has put into place security measures that make the further use of airliners as a weapons of mass destruction only a remote possibility. With bioterrorism, however, "reload" is very easy. Producing anthrax is technically very challenging, but it gets easier as larger amounts are produced, and dispersion methods are simple. Security and military implications are very different from those of scenarios where reload is more difficult.

Danzig considered four bioterrorism scenarios possible: aerosol release of anthrax, aerosol release of smallpox, introduction of botulism into consumable liquids, and release of hoof and mouth disease. The forensic and defensive demands would differ, depending on how each of these threats developed.

The only indication of a bioterrorism attack may be the presence of the resulting illness—and one must assume that more attacks will follow the first. Thus, the imperative is not just to treat all those affected by the first attack, but also to prevent a second attack.

Danzig struck both alarming and hopeful notes in his discussion of bioterrorism. He said that by responding in a positive way and instilling confidence of the citizenry in the government's ability to respond, we can save lives and diminish the incentives to attack. Detectors to warn and reassure the population are critical. There also will be an overwhelming demand for vaccines and antibiotics, some of which can be effective only if administered before a bioterror attack.

Danzig defined two types of terrorists. The first is the "expressive" terrorist, who expresses anger and fanatical vision. The act is the end in itself. The second is the "instrumental" terrorist, who has constituencies and seeks to accomplish a political agenda through terrorism. Both types of terrorists are extremely difficult to deter, but there are potentially effective measures of doing so. These could include (for example): smallpox vaccinations; better coordination between intelligence, law enforcement, and military organizations; and quick reaction to terrorist situations

that demonstrate a capability to mitigate consequences as much as possible. Most of all, we need to carefully think about the possibility of various new threats and how to respond if they come about.

Notably, after Danzig's remarks, no one attending our conference questioned the need for transformational efforts in homeland security and defense.

## The view of homeland security from OSD

Mr. Peter Verga, the Special Assistant for Homeland Security, DoD Homeland Security Task Force, said that the only way to deter terrorists is to prevent them from succeeding. For example, vaccination programs, consequence mitigation to reduce impact, and out-of-the-box thinking to help identify possible threats, are all ways of making failure more likely for terrorists. Of course, the biggest deterrent of all is the ability to kill or arrest them before they have a chance to act.

The key to this form of deterrence is to take a capabilities-based approach, rather than a threat-based approach. This will help in cataloging capabilities for unanticipated scenarios. Verga also described how homeland security missions are transforming the relationships between military and civilian agencies in fulfilling the homeland defense mission. There will be a division of labor between DoD and other agencies: For example, if the homeland security threat is from the air, or from submarines, DoD will have the lead. On the other hand, if the threat is surface ships and the smuggling of WMD into the U.S., the Coast Guard (in the new Department of Homeland Security) would have the lead. In effect, DoD doesn't have the mission of homeland "security," but most certainly has the mission of homeland "defense" and will support civilian authorities in the effort to build homeland security.

## Standing up the Department of Homeland Security

Retired Admiral Steve Abbot, Deputy Homeland Security Advisor, Office of Homeland Security, the White House, described issues facing the new Department of Homeland Security:

- Resources. Major transformations require increases or reallocation.

- Process. The homeland security advisory system creates a vocabulary for discussing threats. This vocabulary will take years to seep into the public consciousness.

- Culture. Making changes in this area will be the greatest challenge for DHS. An example is the FBI's need to refocus on counter-terrorism.

- Organization. The new Department of Homeland Security comprises disparate agencies, which must be reorganized.

Efforts to integrate these agencies into a cohesive department bear some similarity to the efforts to create a truly joint military. It took the Goldwater-Nichols legislation to eventually "force" a genuinely joint approach on the uniformed services. This legislation and the concepts that it embodied probably provide as good a template of guiding principles as any for DHS to use. The new Secretary must have managerial flexibility and reorganization authority.

## Newest Unified Command: the U.S. Northern Command

While a great deal of information about DHS has been in the press, and there was little new to be learned about it at the conference, far less was known about NORTHCOM, which came into existence on October 1, 2002. Like DHS, it is very much a work in progress. Less than a third of the new unified commander's staff was in place at the time of the conference.

The establishment of NORTHCOM is transformation in action. Its new J-5, Major General Richard Comer, USAF, described the mission as the military defense of the United States, and military assistance to civilian authorities. NORTHCOM's view is that our vulnerability as a nation is the gap that exists between crime fighting and war fighting. The enemy will commit an act of war using the methods of crime. NORTHCOM intends to establish a seamless relationship with law enforcement, and strong connections to FEMA for consequence management. General Comer was most concerned with the intersection between civilian and military authorities, and how to strengthen their ties within the bounds of U.S. legal code. There will be no military usurpation of civilian agencies and no surveillance of U.S. citizens.

No forces will be in the field. NORTHCOM's challenge is complicated by the fact that most military organizations don't have homeland defense/consequence management as their primary mission.

NORTHCOM envisions a "defense in depth" approach as a concept of operations with lines of defense established well beyond our national borders. The NORTHCOM area adjoins Southern Command in Central America and the Caribbean, and overlaps with Pacific Command in Alaska. Its area of responsibility includes Mexico. This is a big change, because up to this time Mexico has not been included in any regional commander's area of responsibility; rather, it has been a Joint Staff "account." Fortunately, NORTHCOM has a strong relationship with

Canada through long-established NORAD links, and the Canadians will establish a joint planning group to work with NORTHCOM.

The conferees appreciated the monumental task faced by the newly minted Department of Homeland Security (DHS) and its military counterpart, Northern Command (NORTHCOM), of creating vibrant, effective organizations that will actually transform the nature of homeland security. Clearly, the simple fact that these two organizations are established and beginning to function is transformational. Neither existed two years ago. The fact that we now have a four-star unified commander expressly charged with the military defense of the United States reflects the transformational impact that 9/11 has had on the U.S. military.

# Concluding observations

In summary, the conference, "Transforming Defense: A Current Assessment and the Road Ahead," produced the following observations:

- In the wake of the September 11th attacks, the transformation of the military has been "transformed" from a contentious issue to a consensus issue within DoD. The increase in the defense budget that followed 9/11 meant that there were enough resources to proceed with most service modernization plans, which in fairness included transformational systems, as well as with experimentation and the pursuit of transformational capabilities. As a result, it was no longer necessary to argue that a wholesale cancellation of planned improvements was needed in order to fund the "next" generation.

- The successful demonstration of many "transformational" capabilities in Afghanistan convinced many skeptics that the U.S. military was in fact transforming itself. In fact, it had been transforming itself throughout the 1990s. Afghanistan also illustrated how many older, frequently disparaged "Cold War" systems could be used in new ways, or with new weapons, and produce dramatic effects. (The blend of an even older military resource, the horse cavalry, with U.S. special operations forces to direct air strikes is frequently cited to illustrate this point.)

- Afghanistan also illustrated transformation in operational concepts. Many thoughtful military experts believe that this is the area of transformation that is the most important. As LtGen Paul Van Riper put it, in the imaginary transformation triangle of force structure, technology, and operational concepts, operational concepts should always be at the apex.

- Progress in transforming DoD's operating portion appears to be outpacing efforts to transform its business and acquisition processes. But, as many participants noted, if this unglamorous transformation does not actually take hold, it will be virtually impossible for the operational military to achieve and sustain the agility that transformational seers believe is necessary for the 21st century.

- The most glaring shortcoming in military transformation is the absence of a transformational vision or roadmap for the way the U.S. actually fights—that is, jointly. Each service has its own transformational vision, but as yet there is no "capstone document," as the Joint Staff terms it, which would seek to meld the four independent visions into one. This work is underway. It may be a very contentious effort, because it is certain to raise issues regarding traditional service roles and missions. It also will be contentious

because some hold that "joint structures" should not be limited to the operational level of war but should extend down to the tactical level of the warfighters, who have "trigger authority," to use VADM Cebrowski's words.

- VADM Cebrowski's description of a "transformed" military is rational and appears to be within the realm of the possible. Still, the attributes he listed are breathtakingly ambitious, and there are many questions as to how such attributes will be "distributed" among the four services. The capstone document will need to address these questions.

- During the 12 years since the end of the Cold War, the U.S. military has demonstrated a new facet of transformation in each of its combat experiences. These real-world operations have acted as de facto "battle-labs" for experimentation and testing. These experiences also apparently have revealed a new "American Way of War" in the post-Cold War era. This new American way of war includes a real commitment to fielding transformational systems, often in very small numbers, as soon as they are available. This is a phenomenon that demands further study.

- Because of this phenomenon, it is a challenge for Allies who are inclined to remain interoperable with the United States to do so. The conference illustrated that this challenge is not an insuperable task for Allies with the will, but the United States has to become more forthcoming in its ability, and willingness, to share both technology and operating concepts.

- Homeland security and the military defense of the United States—here at home, as opposed to forward overseas—is a work in progress. Both the Department of Homeland Security and Northern Command face many challenges on their way to becoming effective and valued contributors to national security. It is too soon to tell when they will reach that point, or whether this experiment in dealing with terrorism in our country will be successful. We pray that it will succeed.

- A neglected area of America's post-Cold War military experience has been the persistent requirement for post-conflict reconstruction or deterrence operations that occupy large numbers of U.S. forces for very long periods of time. While the need for U.S. presence for deterrence is nothing new, the perceived widespread use of the military for peacekeeping and so-called "nation building" became an issue during the 1990s, when the issue of tailoring some U.S. forces for "peacekeeping" was debated and rejected by the Department of Defense. This was seen as a mission that Allies could and should perform. Yet the reality has been that U.S. forces remain involved in this mission despite the contributions of Allies and friends. DoD should take another hard look to determine the appropriate active/Reserve mix for high-demand peacekeeping forces.

- Transformation is a leadership issue. Without leadership, it will not be able to compete with "real" priorities. The culture of risk aversion, and lack of incentive to take risk, works against transformation. This may be the most important obstacle to transformation. We should re-examine promotion criteria and incentives regarding transformation. One way might be to re-visit the assignment and promotion rules put in place to enforce compliance with Goldwater-Nichols jointness objectives, to see whether we need to reform administrative processes in order to foster transformation.

- Discussions reinforced the new reality of the changing nature of deterrence. Classic concepts of deterrence will not provide effective security for many aspects of the 21st-century threat environment. Deterrence cannot be based on the threat of retaliation if the enemy is not a nation state. The only deterrent for terrorists is failure.

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