

**BUILDING CAPABILITY  
FROM THE TECHNICAL REVOLUTION  
THAT HAS HAPPENED**

**Report of the Belfer Center Conference  
on National Security Transformation**

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## FOREWORD

For the past 5 years the United States has sought to transform its defense capabilities to reflect ongoing changes in technology, management techniques, the American political and economic landscapes, and the global security environment. The terrorist attacks of September 2001 and the ensuing Global War on Terrorism provided stark and tragic reminders of the need for the such an adjustment. With American military forces engaged around the world in both combat and stabilization operations, the need for rigorous and critical analysis of security transformation has never been greater. Toward this end, the Belfer Center for Science and International Affairs at Harvard University's Kennedy School of Government, U.S. Army War College Strategic Studies Institute, and the Eisenhower National Security Series cosponsored a conference on security transformation on November 14-15, 2003, which brought together top thinkers to assess this topic.

The experts at the conference agreed that sustaining and adjusting defense transformation will pose major challenges in coming years. Given the numerous challenges America faces around the world, it must find a way to transform "under fire." This report, by Dr. John Deutch and Dr. John White, former high-level defense officials, summarizes the discussions from that workshop. The Strategic Studies Institute is pleased to offer it as part of the ongoing assessment of the challenges and opportunities posed by defense transformation.

DOUGLAS C. LOVELACE, JR.  
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## **BUILDING CAPABILITY FROM THE TECHNICAL REVOLUTION THAT HAS HAPPENED**

### **Key Insights:**

- Operations in Iraq and Afghanistan and the war on terrorism have slowed the pace of the transformation programs.
- The level of budgetary resources available to DoD during the next several years is uncertain.
- An urgent need exists for a new alliance system that includes some capability for interoperable transformed military forces.
- Transformed military operational capability has proven valuable for offensive operations, but not for defensive or security and stabilization operations.
- Greater reliance should be placed on achieving incremental transformational improvement from field experiments than on more expansive new platforms.
- The long-term impact of military personnel on transformation and the new security environment deserves attention.
- Greater emphasis on transformation is needed for both the intelligence community and homeland security.

The second annual conference on defense transformation was held on November 14-15, 2003, at the Belfer Center for Science and International Affairs (BCSIA) at Harvard University's John F. Kennedy School of Government. The conference brought together present and former defense officials and military commanders to discuss progress in achieving transformation of U.S. national security; the conference was sponsored, in part, by the Army War College and BCSIA.

The fundamental idea of transformation is that changes in the geopolitical environment and in technology require the United States to change dramatically its defense enterprise to meet the range of new national security threats. This transformation requirement affects both the Department of Defense (DoD) and all other agencies involved in national security.

The discussion at last year's conference centered on the implication of transformation for defense programs and doctrine. The difficulty of achieving transformation was emphasized for five reasons. First, the process is complex because it affects many different and fundamental aspects of the joint warfighting system. Second, changes always are resisted in favor of the status quo. Third, transformation must compete for both attention and resources with other priorities. Fourth, increased operations tempo over the last decade have placed increasing demands on resources, forcing the U.S. military to shift to what is being called "in stride" transformation. Finally, transformation is a journey, not a destination.

This year's discussion was quite different even though the same concerns regarding the implementation of transformation were present. The principal difference was the recent experience of the war in Iraq. Experience from the war offers the opportunity to learn from operational success.

### **Implications of the IRAQI FREEDOM Experience.**

Our offensive military operations were astonishingly successful in Iraq, providing many examples of the effectiveness of transformational capability: consider the situation of an Army Special Operations enlisted man on the ground relaying global positioning system (GPS) coordinates to a B-52 flying at 30,000 feet, for launch of a precision-guided joint direct attack munition (JDAM) bomb. Forces on the ground operated in a distributed manner and took advantage of the network to share information. A key advance was use of "closed loop" operations that greatly improved the command and control of forces. In closed loop operations, there is feedback between the commander and field operations. Information on the network flows both ways: those in the field acquire command, control, communication and computers, intelligence, surveillance, and reconnaissance (C4ISR) information for battlefield awareness. The results of operations are passed back to the commander who *knows* what is happening and thus knows how to direct military maneuvers. Effective communications to the lowest echelons are essential to maintain the control of a widely spread force. These operations proceed in all weather conditions and 24 hours a day. The

campaign also demonstrated the ability of the forces to advance very quickly on the battlefield with both increased speed and enhanced combat effectiveness.

Importantly, these capabilities are manifest in joint operations between land and air components. Truly integrated, joint capabilities—interdependence—were the norm between the air and ground forces. It was noted during the conference that joint operations of this sort were a major goal of the National Security Reform Act of 1986 (Goldwater-Nichols).

Although these capabilities yield tremendous advantages in offensive operations, the situation in defensive operations is not the same. IRAQI FREEDOM demonstrated the great difficulty the U.S. military has in carrying out stabilization and support operations (SASO). Moreover, most of the senior military officers present thought that, regardless of the political party and its announced policy on peacekeeping, it was likely that the United States would continue to be involved in difficult peacekeeping operations similar to those of the past: Somalia, Haiti, Bosnia, and Kosovo. Thus, there is an urgent need to improve our capability for stabilization and support operations.

A great deal of discussion occurred about current deficiencies and ways to improve stabilization and support operations. All agreed that SASO should be an integral part of any combat and peacekeeping operations, and that it is a serious mistake to focus only on the offensive military phase of such operations. All acknowledged that no clear agreement exists about how responsibility for the stabilization and support (S&S) phase of a peacekeeping operation (which can last much longer than offensive military operations) should be split between the DoD and other government agencies responsible for public safety, health, infrastructure, and civil government. One participant noted that S&S is not an assigned mission and is without a concept of operations. Therefore, this individual suggested the creation of specially configured and trained military units for S&S. The group agreed that an interagency mechanism is urgently needed that puts together the resource requirements from the various agencies that are required for timely, effective, and integrated S&S operations.

In sum, the success of the offensive military phase and the

difficulties of the S&S phase of the Iraqi operation have caused a shift in attitude about transformation. How capable the U.S. military and security establishment is at dealing with peacekeeping operations and combating terrorism and weapons of mass destruction (WMD) is of much greater concern than future capability for conventional military combat is. The emphasis shifts from “defense” transformation (meaning transformation that affects the military and DoD) to a broad “security” transformation. This change in emphasis highlights the need to create a vision of future U.S. capabilities that is broadly based and includes an understanding of the strategic intent of potential adversaries.

### **Security Transformation Issues.**

Three issues were discussed: the nature of future alliances, intelligence, and homeland security.

*The Trans-Atlantic Alliance Problem.* By now all agree that serious problems exist with the Atlantic Alliance. Europe is divided into three different parts. First, the United Kingdom has a special relationship with the United States and was an active supporter of IRAQI FREEDOM. Second, France and Germany did not support IRAQI FREEDOM but are the two countries in Europe that have the economic strength to be major military powers. Third, the other countries, most relatively small, span the spectrum from negative to positive with respect to U.S. Iraqi policy.

The central question is how to build an enduring coalition with the Europeans—mainly France and Germany and similar to that achieved with NATO and the Atlantic Charter—that assures an alliance structure that will meet future contingencies. Ad hoc “coalitions of the willing” are a poor substitute for an alliance structure leading to common action. Certainly France, and maybe Germany and other European countries, seem to be ambivalent about whether a trans-Atlantic alliance or an independent European capability is the more important objective. For its part, the United States is not making a great effort to achieve a stable new alliance. So, in sum, it is not clear if an effective alliance structure will be available in the future to meet serious security threats, e.g., from North Korea.

One formulation that will not be an effective basis for creating a new alliance is “the United States fights, Europe pays and provides police, and the United Nations feeds and rebuilds.” Such an admitted structural imbalance is certain not to be politically acceptable. An effective alliance between the United States and Europe requires an ability for them to conduct military operations together, including combat. But this in turn requires major improvement in European *capability* for interoperable military operations.

European military budgets—primarily in France and Germany—are simply not sufficient to provide forces as militarily capable as U.S. forces. The European approach appears to be an attempt to achieve some degree of parity by relying on a force structure with graded capability with only the most capable force elements enhanced to be fully interoperable with U.S. units, and without increasing military budgets. Whether this will be a successful strategy remains to be seen.

The burden of ensuring an effective alliance does not fall solely on the Europeans. The United States must plan a positive and active role in creating intra-alliance capabilities. This means extending the transformation process to allies through active participation in multilateral transformation programs.

In this regard, the planned NATO Corps is an important initiative. The NATO Corps is intended to demonstrate the integration of fully capable (for example, with respect to C4ISR, network-centric operations, precision strike, mobility) operations of joint air and ground European and U.S. military units.

*Intelligence Transformation.* Significantly improved capability is needed for intelligence about counterterrorism, counterproliferation, and support to military operations, especially during the S&S phase of a peacekeeping operation.

- The 9/11 terrorist attacks demonstrated the shortcomings of intelligence cooperation between the Central Intelligence Agency (CIA) and the Federal Bureau of Investigation, and the absence of a coordinated intelligence effort involving foreign and domestic sources of information.
- The apparent great discrepancy about estimates of the WMD capability of Iraq immediately before the 2003 Iraqi war

suggests that much greater attention is needed to enhance WMD intelligence.

- The military experience in Iraq indicates the tremendous improvements that have been made in providing near real-time intelligence on enemy force disposition and movements for military commanders. On the other hand, the mixed success in locating the senior al Qaeda leadership in Afghanistan and the senior Baathist leadership in Iraq, as well as the inability of intelligence to assure security in Iraq, indicates that improvement is needed to support the S&S phase of a military operation.

As discussed at last year's conference, the intelligence community structure has evolved from a period when there were clear distinctions between security and law enforcement, foreign and domestic threats, and peacetime and wartime. The new threats blur these distinctions and raise questions about the need for realignment of intelligence responsibilities and authorities that will facilitate acquiring improved intelligence capability. Successful intelligence requires capability to collect information, to analyze objectively the information available, and to disseminate effective and timely intelligence and warning to decisionmakers.

At this year's conference, participants generally agreed that some realignment in intelligence operations was needed, but little consensus evolved on the best way forward. There was agreement that the modest steps that have been put into place to improve the integration of domestic and foreign intelligence, e.g., the creation of the Terrorist Threat Integration Center (TTIC), are insufficient. Even this security conscious group was concerned about how best to manage domestic surveillance while maintaining individual rights, and whether the congressional process was sufficiently robust to provide the legislative action and oversight for the needed intelligence transformation.

Intelligence related activities also deserve attention. One concerns the planning and management of information operations; a second the coordination between the CIA and DoD of covert action and paramilitary operations.

As discussed above, the military operations in Iraq reflect an important transformation success: greatly improved military intelligence and integration of intelligence with other information supplied to combat commanders at all levels. Unfortunately the deficiencies in S&S include a lack of current, actionable intelligence. Thus intelligence support for S&S operations requires increased emphasis.

*Homeland Security.* The establishment of the Department of Homeland Security (DHS) is the single most important step the government has taken to meet the threat of catastrophic terrorism. On the one hand, it is important to acknowledge how much progress has been made. Major new legislation has been passed, for example, the Patriot Act (despite its deficiencies), in addition to the legislation creating the DHS. However, as the new executive branch department is composed of existing agencies taken from other departments with multiple missions, one cannot expect to have a smoothly operating bureaucracy immediately.

The DHS still has a long way to go to achieve its basic objective: to protect the nation against further terrorist attacks through better threat analysis and warning, protection of borders, and emergency response. The working relationships between the DHS and other agencies—on the one side, the DoD; on the other side, civil agencies, such as Health and Human Services (HHS) and local police, fire, and medical agencies, have yet to be fully defined. Indeed, the establishment of DHS has meant that DoD has been able to reduce attention to homeland defense. We should also recognize that DHS has less freedom of action than DoD, because the DHS's work is so intertwined with other agencies, state and local governments, and the private sector. Our objective should be to assure that the *capability* for homeland defense is systematically improved over time. In other words, the transformation of DHS' numerous organizations is urgently needed. Future counterterrorism activities should be fully integrated across the department, akin to DoD's joint operations.

At present, DHS does not have the structure that is necessary to build these capabilities. It lacks an independent studies and analysis organization, the analytic foundation for determining a multiyear program, and a systematic decisionmaking process to match needs and available resources in a long-term plan. Achieving this planning

and program execution ability will take a long time. Until then, the United States will not have in place a process to adopt a long-term resource plan for the many agencies involved in homeland security that will achieve the higher level of desired capability.

## **Defense Transformation Issues.**

Conference participants noted that DoD can and should do more to support the transformation of DHS. Three issues were emphasized: the DoD budget, fielding new transformation capability and technology, and personnel.

*The DoD Budget Outlook.* Participants discussed at length the outlook for the DoD budget. One suggested that recent increases in the DoD budget have allowed reductions in the backlogs of the readiness and maintenance accounts. This should allow more support for transformation programs if the budget growth is maintained. But the prevailing view was that, despite the recent, significant growth in top line budget authority, there is significant risk that resources available for transformation—the procurement and research and development (R&D) investment accounts—could decline. First, pressure for resources to support the extensive deployments in Iraq and elsewhere continues. This means operations and maintenance accounts will remain at high levels, and possibly grow. Second, these military deployments lead to considerable costs for the replacement and reconstitution of equipment that has experienced high utilization. These costs have yet to be recognized in the DoD financial plan. Third, at the same time, the procurement budget continues to emphasize large, new platforms that will have a strong call on future resources. Fourth, the Congress continues to support other expensive programs in the DoD budget that compete with transformation programs, including health care and retirement benefits. Fifth, it is likely that if there is another terrorist attack on this country, DoD resources will be diverted to homeland security.

A senior military officer noted that the resource allocation process is not only too slow but drives decisions and actions on its timetable as opposed to supporting timely transformation actions that need to be taken.

Finally, knowledgeable observers note that the DoD budget is

subject to political forces that push it down as well as up. Concern with the budget deficit, the size of the U.S. military budget compared to all adversaries, and growing opposition to the Iraq war suggests that, after the election, the DoD budget direction may be down. On the other hand, one participant noted that DoD expenditures, as a percent of gross national product, remains at relatively low levels (although well above our European allies), and that there is ample room for DoD budget growth should the nation decide to increase its defense effort. The consensus was that DoD investment accounts were unlikely to be as high as currently programmed in the 5-year plan. The implication is that resources for new transformational military systems are likely to be limited. This raises new challenges for pursuing an aggressive transformation program.

The budget outlook presented by DoD with its FY04 budget request is summarized in the following table:

| <b>BA \$ billion</b> | <b>FY02</b> | <b>FY03</b> | <b>FY04</b> | <b>FY05</b> | <b>FY06</b> | <b>FY07</b> | <b>FY08</b> |
|----------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| DoD Total            | 362.1       | 382.7       | 399.7       | 420.2       | 440.0       | 460.3       | 480.5       |
| Procurement          | 61.6        | 70.0        | 72.2        | 77.2        | 84.3        | 94.7        | 104.0       |
| RDT&E                | 48.7        | 56.8        | 61.8        | 67.1        | 64.3        | 64.6        | 67.0        |
| Total Investment     | 110.3       | 126.8       | 134.0       | 144.3       | 148.6       | 159.3       | 171.0       |

*Fielding Transformational Capability and Technology.* The conversation about transformation programs continued the themes of last year. First was a belief that the association of transformation with modernization, i.e., new systems, rather than recapitalization, i.e., incremental improvements to existing systems, may have been a mistake. Transformation does not necessarily require the so-called “big T” action of adopting an entirely new system or platform. Great improvements can be realized by “little t” transformation, where improvements are made by adapting and modifying existing systems. The advantages of “little t” transformation are lower cost, faster time to fielding, reliance on the ingenuity of field units, and avoiding big bureaucratic programs.

An important implication of the “little t” approach is that improvements can come through innovation from joint units or service units that are in the field trying new equipment and procedures. Experiments in the field are important and should be encouraged (and supported) by Joint Forces Command (JFCOM). Innovation in the field has the advantage that it is accompanied by training and concept development. This approach is entirely different from the Joint Requirements Operations Council (JROC) process that mirrors the interests of its Services and favors new platforms at the expense of incremental improvements.

The acquisition process established in the mid-1980s was designed to deal with the procurement of platforms and not to stimulate incremental improvements to legacy systems. *In a very real sense, the existing DoD acquisition structure limits change.*

*The Importance of New Technology.* The military transformation we seek is made possible by advances in technology that have already occurred. DoD’s task is to move from technical possibility to military capability. The best example is exploitation of advances in information technology to provide greatly improved C4ISR capabilities through better business practices and reliance on cheaper commercial products and services. Many assume the technology will best be “inserted” in military forces by a top down approach. This may be true for some large systems, such as satellite collectors, but it is not universally true. For example, the DoD labs, created for the purpose of technology transition, are widely judged to be incapable.

Experience suggests that much can be gained from an approach that relies on “demand pull” from a joint commander who has a mission need. Today’s all volunteer personnel are likely to be more at ease with new technology than their seniors, and their increased technical facility should be leveraged.

A few technologies stand out as especially needed for today’s new missions:

- UAVs and space based radar for persistent surveillance;
- Information operations, both offense and defense;
- Storage and retrieval of information — data mining;
- Tagging for tracking, identification, and forensics;
- Space control;
- Biochemical defense.

*The Importance of People.* The effectiveness of the U.S. military in combat operations depends on the competence of the all-volunteer, professional U.S. military force. The experience, training, and readiness of enlisted personnel and noncommissioned officers enable military operations that exploit technology and rely on agility. All senior military commanders and defense officials believe that the all-volunteer force should be retained. It has been a great success over the last 30 years and is essential to military transformation.

Presently, no evidence suggests weakness in the all-volunteer system. In Iraq, military personnel performed superbly. Recruitment and enlistment rates have been at high levels ever since the September 11 terrorist attacks.

But managing military personnel is an essential element of transformation, and some reason for concern exists. First, the long troop rotation times and continued casualties in Iraq may affect reenlistment rates and indirectly push the military to a garrison strategy. Second, the dependence on reserve forces for many S&S functions means that reserve units will experience longer call-ups than previously, and this may in turn reduce retention in reserve units. Third, the cost of military personnel continues to escalate, due to congressional action on both military pay and benefits. Fourth, as the economy improves, the increased difficulty of maintaining high quality accessions that was experienced in the 1990s may reappear. Finally, innovations in personnel management such as pay for performance and flexible retirement options have not been adopted.

## **Conclusion.**

The second annual conference on national security transformation confirms the usefulness of an annual appraisal by knowledgeable security specialists of progress on achieving different elements of transformation. But the conference also demonstrated that changing geopolitical circumstances and consequent national security concerns shape which aspects of transformation capture the most attention.