SECURITY TRANSFORMATION

Report of the Belfer Center Conference on Military Transformation

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FOREWORD

The attacks of September 11, 2001, represented the beginning of what President Bush has called "a new kind of war." While terrorism itself has long been on our spectrum of real and immediate threats, the magnitude of the attacks and the administration's aggressive and expansive response have changed the definition of national security. Homeland security, the new first priority, needs to be integrated with more traditional national security concerns. The role of the Intelligence Community must strike a new balance in terms of foreign intelligence and domestic security. The military mission should be redefined. Meeting all of these challenges demands a fundamental transformation of American strategy, armed forces, and national security organization.

On November 22-23, 2002, the Strategic Studies Institute, Harvard University's Kennedy School of Government, and the Dwight D. Eisenhower National Security Series cosponsored a workshop on security transformation which brought together a number of the top thinkers in the field. The conference, which identified key issues and questions, was the inaugural event in a long-term project to assess defense transformation 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.

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SECURITY TRANSFORMATION

"Transformation is a journey, not a destination"

On November 22 and 23, 2002, the Belfer Center for Science and International Affairs brought together present and former defense officials and military commanders to assess the Department of Defense's (DoD) progress in achieving a "transformation" of U.S. military capabilities. The conference was held at the Belfer Center at Harvard University's John F. Kennedy School of Government, and it was cosponsored with the U.S. Army War College and the Dwight D. Eisenhower National Security Series.

The fundamental idea of transformation is that the United States must change its defense enterprise dramatically in order to meet the range of security challenges of the next several decades. These challenges will be global and substantially different from those of the recent past. Consequently, this transformation should affect every aspect of DoD activities, from determining new, joint strategy, doctrine, and operational concepts, to exploiting new technology in existing and new military systems, especially information technology, to reconfiguring the force structure, leveraging human skills, realigning intelligence, and adopting new, more efficient management practices.

The goal for transformation is to assure that the United States maintains its military advantage over any potential adversary in the coming decades. The *2001 Quadrennial Defense Review* (*QDR*) identified six specific goals for transformation:

> To defend the U.S. homeland and other bases of operation and defeat nuclear, biological, and chemical weapons and their means of delivery;

To deny enemies sanctuary, depriving them of the ability to run or hide, any time, anywhere;

To project and sustain forces in distant theaters, in the face of access denial threats;

To conduct effective operations in space;

To conduct effective information operations; and,

To leverage our information technology to give our joint forces a common operational picture.

Achieving transformation is by no means certain. First, the process is complex because it affects many different and fundamental aspects of the joint warfighting system. Second, change is always resisted in favor of the status quo. Pride in the past successes of our defense enterprise understandably leads to reluctance to accept the uncertainty of something new. For example, both the military leadership and the aerospace industry are reluctant to consider major trade-off opportunities between existing weapons platforms, e.g., high performance aircraft, heavy tanks, or aircraft carriers, and new aspects of network centric warfare that rely on information operations. Third, transformation competes for both attention and resources with other important, immediate demands on the department, notably counterterrorism, homeland defense, and the conflict with Iraq. Fourth, over the past decade, the department has deployed forces for a range of peacemaking/peacekeeping missions—in Somalia, Haiti, Bosnia, Kosovo, and Afghanistan—and to combat drug trafficking and global terrorism, all of which increase operational tempo and place an increasing demand on resources for current operations vs. investments in the future. Finally, transformation is a journey, not a destination. Decisionmaking will need to be tailored to this reality, i.e., more emphasis on the management of change versus traditional management of major new programs.

The following is a summary of the discussion on some of the topics that were raised at the conference.

The Geopolitical Environment.

A future defense posture must assess future threats and the circumstances under which U.S. forces will operate relative to an anticipated global geopolitical environment and take into account the capabilities that technology makes available to us and our adversaries. Inevitably, uncertainties about the geopolitical environment, future threats, available capabilities and technology increase as one goes further out in time. In our view, the distinction between "threat based" and "capabilities based" planning is therefore specious and should be avoided. These concepts should be used complementarily to obtain the best understanding of future needs.

Today a general consensus exists about the future geopolitical environment. The threat of catastrophic terrorism and the risk of the proliferation of weapons of mass destruction (WMD)—chemical, biological, and nuclear—are at the top of the list. Combating terrorism and the spread of WMD (both with regard to state and nonstate actors), while protecting the homeland, will command much of DoD's effort. In addition, it will require new uses of DoD programs and forces, operating in concert with other agencies of the U.S. Government, notably the new Department of Homeland Security (DHS).

U.S. conventional military capability is sufficiently dominant to provide high confidence that the United States would prevail over any state in a conventional military conflict for the foreseeable future. A small set of states of concern, notably North Korea, Iraq, Iran, and Libya, will command attention; over time, countries will be added or removed from this list. The Arab-Israeli conflict and the stability of the Indian subcontinent also demand our attention.

We will continue to deemphasize the role of U.S. nuclear weapons in conflict but at the same time continue to assure the credibility and effectiveness of our nuclear retaliatory forces because of their deterrent value.

Russia and China are especially important. Russia has an enormous stockpile of nuclear weapons and stocks of chemical agents that remain to be demilitarized. Assuring proper stewardship of these weapons and security of the industrial complex that produces them remains a critical objective of American policy. Russia continues its progress toward democracy and a market economy; accordingly, although we must remain vigilant, we do not expect a return to the hostile relations of the Cold War.

Future relations with China are more uncertain. China and the United States can move over time to peaceful relations or to a period of strategic competition. The outcome will be formed by events and the actions of both countries. So while China's conventional military capability does not now threaten the United States or permit power projection in the region, the growth of China's military capabilities and intentions should be one of our principal concerns.

In sum, the geopolitical outlook highlights a broad and challenging agenda of security matters the U.S. military must address over the next two decades. This agenda is different from those of the past. The transformation architecture must guide the allocation of available resources within this geopolitical context.

Coalition Warfare.

U.S. counterterrorism, counterproliferation, and peacekeeping efforts benefit greatly from participation by our allies. The benefit is primarily political, in legitimizing U.S. actions and marshalling world opinion. The gap between the military capabilities of the United States and even our closest allies, as exhibited in Kosovo and Afghan-

istan, makes the reality of interoperable military operations progressively less credible. The transformation of U.S. military forces is likely to make this disparity worse, because even our allies in NATO, for example, will not have the command, control, communications, computer systems, intelligence, surveillance, and reconnaissance (C4ISR) capability required to operate in an integrated air/land/sea military environment.

Several reasons exist for this gap in military capabilities. Most importantly, NATO countries are spending much less on defense than the United States, and even more of their defense dollar goes to maintaining current force structure and supporting industrial base programs. Their national security strategies do not naturally complement ours. NATO countries are also trying simultaneously to build an independent European force and to modernize and transform their NATO forces to better operate with U.S. forces. There is little prospect that these efforts will be fully successful, despite several sensible initiatives designed to encourage transformation of the military of NATO countries. These initiatives include: exercises to show the value of C4ISR; creation of a transformation command element in NATO headquarters; and, creation of a 20,000 person combined arms NATO force that will possess the capabilities of military transformation.

The military aspect of the Atlantic Alliance is based on interoperable, equally capable military units. To the extent this assumption is no longer true, we will have to seek other principles for our military cooperation, such as splitting military missions into those requiring high capability, e.g., air superiority, done by the United States; and those missions requiring low capability, done by our allies. Such specialization is not a formula for long-term political cooperation and a strong trans-Atlantic alliance. In developing transformation programs, we must consider their implications for our allies. In some cases we may be able to select approaches that enhance coalition warfare.

We should not neglect our responsibility to make coalition operations an important goal of military transformation.

Greater cooperation between the defense/aerospace industries on both sides of the Atlantic could improve this outlook. A policy to "transform" trans-Atlantic defense industry relationships would encourage the integration and merging of U.S. and European defense firms and the transfer of U.S. technology to fewer, competitive, trans-Atlantic enterprises. Such a change is difficult to achieve because of the local interest in preserving defense jobs, but this problem is no different than the one that we and all other nations face in determining the regional distribution of defense effort.

Resources.

The United States shortchanged defense investment accounts—research and procurement, development, test, and evaluation (RDT&E)—during the early and mid 1990s in order to meet the readiness and operations and maintenance (O&M) needs in a time of declining budgets. In the last years of the Clinton administration and during the Bush administration, the defense budget has increased substantially (over 48 percent from FY95 to FY03), and total budget authority is projected to increase 76 percent from FY95 to FY07. But, even with the renewed interest in transformation, investment accounts have not fared as well—increasing 30 percent from FY95 to FY03—although they are projected to increase by 98 percent over the entire period FY95 to FY07. O&M budget authority is projected to increase by 64 percent from FY95 to FY03, but by only 5 percent from FY05 to FY07. (See Figure 1.)

Veteran observers of defense budgets doubt whether the anticipated increase in procurement and RDT&E outlays will materialize. In the past, outside of wartime, the defense budget has never enjoyed the pace of increases currently planned. As always, factors, both within and without the defense budget, will place pressure on the investment



Budget Authority	$255	$291	$379	$409	$451
Procurement	44	55	61	79	99
RDT&E	35	39	42	60	58
O&M	94	109	150	147	155
Personnel	72	74	94	108	117

accounts. Outside pressures include an anticipated sharp increase in the federal budget deficit, increases in health care and other domestic spending, and the administration's desire for additional tax cuts. Inside, the pressure on the investment account comes from increased O&M expenditures attributable to increased expenses for operations and from personnel programs (notably health care and retirement benefits).

The group noted that DoD's operating costs (O&M) have been growing inexorably at at least 3 percent per year, and often higher, for many years. Savings achieved from past base closure and realignment commissions (BRAC) and outsourcing initiatives have been exceeded by the costs of added medical and retirement benefits and infrastructure expenses. As a result, the modernization account targets are reduced year after year to pay O&M costs that regularly exceed their budgets. Operating adjustments via the transformation process must be found that can check O&M cost growth or innovation will continue to be underfunded.

It is unlikely that future pressure on O&M will be less. The President continues to ask DoD to take on additional

missions—such as homeland defense—that will incur new costs. The strong emphasis on worldwide engagement continues. There is little will on either side of the aisle in Congress to deny benefits to military service personnel or retirees. Meanwhile, the DoD financial plan assumes there will be sufficient investment resources to fund upgrades to legacy systems and to re-capitalize and modernize the forces and the systems on which these forces depend in the transformation process.

DoD's ability to make internal decisions to buy its way out of this dilemma are not likely. No evidence suggests that DoD is willing to make other painful choices that might alleviate this problem, e.g., give up force structure, abandon some of the higher cost investment programs, or adopt a high-low force capability mix. Past efforts at institutional cost cutting to fund higher priority programs have proven disappointing. No signs indicate that this pattern will change.

Two implications of this pessimistic, but realistic, view about the constraint on the availability of investment resources for the transformation process are: first, lack of funds will delay and interrupt planned modernization programs. This means a less efficient acquisition process that simply worsens the resource availability problem. Second, inevitably there will be a call to measure the benefits of transformation by future cost reductions made possible by fewer, more capable systems and hence, a smaller force structure. But the history of innovation tells us that any efficiencies from these investments will be realized only in the long term. When one asks, "What is the pay-off of the transformation process?" the answer must be that it permits the United States to have needed military capability at lower cost in the future but, more importantly, improves our capability to meet current and emerging threats.

Changing PPBS could be beneficial in addressing these problems. Its cumbersome nature makes the decision-

making process long, resource allocation too incremental, and major tradeoffs difficult conceptually as well as practically. The fact that transformation is a journey and not a destination places a premium on management visibility and flexibility to assure real progress over time. For example, the consensus at the conference was that one of the highest barriers to innovation is the overly restrictive rules that stifle the reallocation of program funds in the modernization accounts.

It would seem helpful in this regard to create a special transformation program under PPBS. This would both emphasize the strategic importance of the issue and put in bold relief its well-being vis-à-vis traditional PPBS programs.

Technological Innovation.

A central part of transformation is the exploitation of new technology. We generally agree that the United States must continue to dominate in the vital activity of technology creation. But, for the military, just as for private firms, the key aspects of innovation are choosing what technology to develop and deploy, and successfully completing an acquisition process that leads to deployment.

Perhaps the most important transforming technology is near real time intelligence combined with precision delivered weapons. This technology provides a joint force military commander with the capability to have battlefield awareness of the number, disposition, and movement of enemy forces and to destroy fixed and moving targets in day or night with a minimum application of force. The experience in the Gulf War, in Kosovo, Afghanistan, and in war games demonstrates the enormous leverage of this technology in achieving military objectives more quickly, and therefore with fewer casualties, than traditional forces.

Another transforming technology is information operations—the clandestine penetration of the communi-

cation and computer systems that contain information or direct the activities (both civil and military) of an opponent. A former senior defense official remarked that "the electron is the ultimate precision weapon," suggesting that information operations can deceive and disrupt an opponent's defense as well as an explosive munition can.

These two examples are sufficient to indicate that the new transforming technologies are substantially different from the traditional technology advances that have focused on major platforms, e.g., airborne radar and stealth. Accordingly, the developers and advocates for transforming technologies will not be found within traditional service acquisition organizations. These new technologies are largely C4ISR in character and based on advances in civilian information technology. Therefore, they require a different acquisition approach.

Because these technologies are based on attacking command and control targets, as well as the destruction of hard targets, it is critical to pay attention to how an adversary might take advantage of these same techniques to attack our forces and systems. Transforming information technologies will be in the reach of many adversaries because they are based on available commercial technology and are relatively inexpensive to deploy selectively. A future enemy may be able to offset large quantity and quality disadvantages on the battlefield with sophisticated counter-technologies.

We identified three issues in our discussion of transforming technologies that we believe would enhance our progress. The first concerns the balance between introducing advanced C4ISR technology on new systems versus upgrading existing systems with existing technology. Upgrades will typically be cheaper and quicker and achieve greater incremental capability per dollar expended. The upgrades typically will depend upon improving tactical connectivity and interoperability at the seams between traditional service responsibilities.

Examples include use of B-52s in conjunction with Army Special Forces units in Afghanistan, Navy EP-3s, and JSTARS working with regular Army units, greater use of RPVs such as PREDATOR and GLOBAL HAWK for tactical reconnaissance, and installation of LINK 23 to assure common air/ground communications.

The second issue concerns the process for deployment and fielding of new technology. The conventional process involves a service carrying the deployment to successful completion and then transferring the capability to a CINC for use in joint operations. We believe great improvement would result from placement of projects in a joint field context at an earlier phase of development and sharing the responsibility for development between the sponsoring service and CINC. This approach would permit much greater learning from exercises and training in an operational environment as to how new technology will best work in the field as part of the commander's current forces. Today, the CINCs' incentive for innovation to meet operational needs is under utilized.

Thirdly, we point to the absence of an organization with responsibility to develop, acquire, and field some of the most important transforming technologies. Platform-related technologies are the responsibility of the services. However, the more critical technologies such as C4ISR, that essentially involve joint operations and require harmonized secure communications, do not have an advocate with resources and responsibility for a disciplined acquisition program. This deficiency is readily apparent when dealing with unconventional threats such as biological attack. The DoD must develop a new organizational capability that includes nontraditional skills and approaches.

Several options for remedying this deficiency come to mind: (1) The command, control, and intelligence (C3I) function in the Office of the Secretary of Defense might be strengthened by creating an Undersecretary for C3I; (2) authority for C4ISR technology acquisition could be given to

a CINC; for example Joint Forces Command. (There is some precedent for this option. Special Operations Force has some independent acquisition authority and CINC STRIKE has been assigned responsibility for information operations), and (3) a new organization modeled after the Ballistic Missile Defense Office (BMDO) might be established. Each option has advantages and disadvantages, but some organizational change is required, if the most important transforming technologies are to be adopted relatively quickly. Adjustments in the Joint Staff and the Joint Requirements Oversight Committee (JROC) requirements process were viewed as an inadequate approach to the problem.

Intelligence.

Support to military operations is one of the most important missions of the Intelligence Community. Much of this effort is concerned with providing joint military commanders tactical intelligence on the deployment and movement of enemy forces as well as targeting. This information is provided by technical intelligence collection using signal intelligence and imagery sensors that are often space or airborne based. Technology has shifted the emphasis in exploiting technical intelligence from collection to tasking, processing, exploitation, and distribution of sensor data. So intelligence support to military operations is another example of an area where transformation is occurring. Here, too, various organizational alternatives need to be explored to identify the best approach to supporting the field commander. The active participation of the CINCs will be critical to success in this endeavor.

Split responsibility between the Secretary of Defense and the Director of Central Intelligence is slowing the process of achieving this intelligence transformation. Three program budgets for the resources are devoted to military intelligence—the National Foreign Intelligence Program (NFIP), the Joint Military Intelligence Program (JMIP),

and the Tactical Intelligence and Related Activities (TIARA). They are put together largely independently and then reviewed multiple times without any significant reshaping. The current system insures the status quo for the various stakeholders and thus an inability to make tradeoffs across the three program budgets. Consequently, change will require a reordering of responsibilities, incentives, and procedures. Only with real process change will the outcomes change. Yes, that means bureaucratic winners and losers.

The Goldwater-Nichols Act of 1986 may be instructive in this regard because the changes required outside intervention (in that case the Congress) and were largely procedural rather than organizational. Real choices were made and power shifted, e.g., from the Service chiefs to the CINCs. Now, as then, change is necessary. Transformation cannot be fully realized without the Intelligence Community being an integral part of the process. Capacity for change is essential because intelligence is so vital to the transformation of military capabilities.

Other types of intelligence are also important. For example, longer-term weapons intelligence will give us warning of the plans and progress of potential adversaries. However, the greatest new requirement is for intelligence to help combat terrorism and proliferation of WMD. Intelligence for these purposes requires skills very different from the technical intelligence that supports military operations. First, collection depends much more on human sources, and human source collection is most successful when it is the product of a close cooperation with intelligence analysis and communications intelligence. Second, since the threat has both foreign and domestic aspects, the DoD and the Intelligence Community will need to work much more cooperatively with the Department of Justice (DoJ) and the new Department of Homeland Security (DHS). How best to do this is yet to be determined.

Homeland Security.

Combating terrorism and countering the proliferation of WMD do not fit into the historical principles on which our national security organization is based. In meeting these threats, the traditional distinctions between peacetime and wartime, domestic and foreign, and law enforcement and national security, are blurred. The consequence is that the DoD needs to develop new policies and procedures for working with many more agencies, especially DHS and DoJ, in carrying out a range of new functions. Important examples include: (1) rules for collection and dissemination of intelligence from both domestic and foreign sources to provide for warning; (2) defense of the United States from terrorist penetration or attack by land, sea, or air; (3) coordinated intelligence assessment and response planning; (4) the role of DoD and especially the National Guard in catastrophic response; and (5) developing vaccines and therapeutics to protect against biological agent attack.

Each of these areas calls for an integrated government-wide multi-year plan to build the necessary capability to defend the country. DoD has the greatest capacity to develop such plans but appears to want to avoid taking the initiative to do so. The reluctance is based on an understandable preference to keep clean lines of responsibility and to avoid loss of budget and/or authority to DHS. But, addressing the threat of catastrophic terrorism requires a joint effort by DHS and DoD. For example, DoD's preeminent capability to acquire advanced technological capabilities should be made available to address DHS' urgent needs. Transformation must deal with the necessary restructuring of roles and missions across the government.

Business Practices.

There is a tremendous pay-off from transforming (some prefer the term re-engineering) the business practices and "back office" of DoD; estimates of savings go as high as 25 percent of outlay. But the issue runs much deeper than cost

savings. Transformation requires DoD to focus on its core missions and competencies. Consequently, support issues that distract focus reduce transformation.

DoD should aggressively pursue base realignment and closure programs to both save money and reshape the base structure to meet new needs, especially joint activities.

Competitive sourcing programs of large, noncore support functions, e.g., management information systems, accounting and disbursement, civilian skills training, administrative communications and data processing, etc., should be initiated at the enterprise level. Fortunately, today's commercial economy offers numerous outsourcing services of this kind in competitive environments. DoD needs to develop both the skills necessary to define the competitively sourced functions properly and then oversee them effectively after the sourcing decision.

Concluding Remarks.

The concept of military transformation is a powerful one. Historically, a new threat resulting from geopolitical changes has driven innovations in military doctrine, force composition, and technology and systems. We surely have the necessary conditions today: a turn from the Cold War to counterterrorism, along with the increased possibility of the use of WMD and the emergence of enabling information technology. We do not lack for a vision of what transformation can accomplish. For example, the Joint Chiefs of Staff publication, *Joint Vision 2020*, recognizes the importance of information superiority and precision engagement, as does the *QDR* and the *National Security Strategy*. A more comprehensive vision of DoD's overall transformation goals would be valuable.

But because transformation is treated as a process rather than an end, it is easy to have the impression that transformation of our military is a slogan that is both everything and nothing. Because it is a process, there is an

absence of a coherent framework for developing and implementing it. No clear definition of what is and what is not transformation exists. Accordingly, no metrics have been adopted, and hence there is no way to establish a schedule for accomplishing set milestones. Nor is there a PPBS category devoted to transformation to track the required resources over time. Furthermore, the JROC process remains much more responsive to traditional service needs, e.g., platforms, than to those of the CINCs who are more likely to reflect joint military operations needs.

Why has a sharper focus on transformation not been forthcoming? An important reason is the resistance of entrenched interests of many stakeholders—uniformed services, congressional committees, the defense industry—to change the status quo that is judged to have been extremely successful, although expensive, in maintaining our military superiority. Secretary of Defense Donald Rumsfeld sees clearly the potential of transformation but has his attention drawn to many immediate problems, leaving only limited time and political capital to expend on transformation. There is, however, an essential unanswered question: "Does successful transformation mean inevitable reduction in force structure and end strength?" The answer is undoubtedly yes, for two reasons: transformation can yield much greater military capability at a given level of resource expenditure, and the current desired military capability is unaffordable, in political not economic terms. The bureaucracy may well believe these propositions and accordingly choose to delay aggressively adopting transformation, preferring rather to play musical chairs with ever shrinking resources. If so, that would be a tragic mistake.

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