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President's Forum

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PRESIDENT'S FORUM

This issue's President's Forum is based on remarks by Vice Admiral Cebrowski to the "Required Naval Capabilities" panel of the College's Current Strategy Forum, convened 13–15 June 2000 with the theme, "The Future of U.S. Naval Forces in the Pacific Region."

I WILL START BY LOOKING at the Navy's competitive space broadly, and at concepts of how the future Navy will fight in it. Next I will examine some alternative mental models of Asia, and then focus on several specific capabilities and platforms.

First, the policy sector. In the national security "hierarchy of needs," homeland defense occupies the broad base. Above that is economic well-being, including the security of global systems and their operations. Finally, at the top are concerns about a favorable world order and the nation's values—where such issues as genocide and the exporting of democracy appear. As one moves up this hierarchy, the nation has more discretion whether or not to act; at the bottom, however, there is more pressure to spend. That is why people are willing to entertain spending, for example, sixty billion dollars for national missile defense. The U.S. Navy, of course, participates in homeland defense: the strategic SSBN deterrent is a major piece of that, but now there is talk about the Navy participating in such things as interception in the boost phase of ICBMs launched at the United States.

From its birth, however, the Navy has worked most steadily at the center of this pyramid, to help secure global stability and the nation's economic well-being. We are very closely coupled with the commerce of the world. What are the rules by which the Navy should play in this policy domain? There are at least three. First, we should cede no maritime areas that are of importance to the nation. That means we should grant no sanctuary. Warfare is very path dependent—great changes in outcomes arise from small changes in initial conditions. To grant sanctuary to a foe is to surrender the initiative, the ability to alter the initial

conditions. In other words, the enemy will have essentially the prime control over the outcome; this must not be allowed.

Second, we must ensure that the littoral is not a barrier. That implies—though I am in favor of being very "joint," and of course I am keen on interoperability—that there are things the Navy–Marine Corps team simply must be able to do autonomously and quickly. The most obvious of these is to bring to bear combined-arms, sea-based, self-deployed forces.

Third, we must be able to do—if not all equally well—every kind of task that the nation expects. The traditional tasks are mastery of the seas, projecting and protecting long lines of communications, landing and supporting armies, rescuing armies and governments, conducting blockades and enforcing sanctions, and exerting forceful diplomacy. All of these, by virtue of the information age, are characterized today by rapid change and often instantaneous awareness. Thus we see, for example, increased emphasis on surveillance, information warfare, the landing of special operations forces and great attention to media coverage. What naval forces can—or cannot—do anywhere in the world is likely to be known everywhere in the world.

COMPETITIVE ATTRIBUTES

What competitive attributes are required of our Navy if it is to be successful in doing these tasks? Consider the choice between maintaining forces forward versus "strategic response from home"; it is central to the design of navies and how they operate. There is a view in America today that favors bringing forces home, as well as a presumption that if a view is new it is also superior. Hence, some pundits embrace the idea that we should bring forces home rather than make difficult specific judgments whether that is the right thing to do, especially for particular locations in the Asia-Pacific region.

Our war games here at the College over the last two years have indicated very strongly that speed of response to a regional crisis is important. If it is, then having forces close to the scene of action matters a great deal, because they can alter initial conditions. Naval forces are meant to dominate the "front end" of a problem. To do that, they must have a large body of tacit knowledge—knowledge that cannot be conveyed on a network but can be gained only by immersion in an area, through experience, judgments, feedback, and assessment. Such background knowledge is a real powerhouse; this is why one hears recommendations to reinvigorate the Foreign Area Officer Program, for example, and why there are military exchanges and bilateral and multilateral exercises among militaries. It is also, of course, one of the key reasons why the Naval War College has its international students program—we learn from them, and they learn from us.

In building a national-security system, we speak of strategy, operations, and policy. At the strategic level, from a military perspective a nation generally has only three ways to secure its global interests: deploy forces forward, rely on strategic deployment from home, or have friends or allies who will look out for those interests. In fact, this nation generally takes a balanced approach to looking after its far-flung interests, using all three means. Sometimes there is no choice. Consider, for example, the Persian Gulf and Indian Ocean, where it is difficult and expensive to maintain forces forward but where our friends and allies—as good friends and allies as they might be—simply do not have the means to support all of the U.S. interests, and whose own interests sometimes diverge. Further, the opposite side of the planet is one of the most difficult places to surge meaningful forces from home. We know—we have done it.

Operationally, we deter enemies, and we reassure allies; if we fail to deter the enemies, we must seek to compel them with military force to adopt more appropriate behavior. As for policy, we frequently see our challenge as a process of balancing—between shaping the environment, preparing for the future, and responding to crisis.

What happens when we pull back our forward forces? We find that support from allies becomes tenuous, entailing an increased reliance on strategic deployment from home. This is difficult, and it is expensive; think of the hundreds of millions of dollars we spent to reposition forces in 1994 to respond to Iraq's movement of forces to the south, even though we already had significant forces in the theater. The support of allies becomes tenuous because we are essentially withdrawing from the theater; so our operational reassurance of allies goes down. Further, because our forces are no longer close to a potential enemy, their deterrent power diminishes, which means our reliance on "compellance" increases. Similarly, we are not shaping the environment as well as we had been, and so we must posture ourselves to respond to many more contingencies. That degrades our ability to prepare for the future—our planning horizon moves in. Next, our discretion goes down with regard to supporting values, as we have to focus more on homeland defense, which means spending goes up. Finally, the debate between "selective engagement" and "cooperative engagement" essentially goes away; we must adopt a posture that is not always congenial to our friends around the world, let alone to potential enemies.

The fact of the matter is that this would not be an America we want to have. It essentially describes the Roman Empire shortly before the fall. Remember what triggered that fall—withdrawing from forward areas of vital interests. Another interesting historical case occurred early in the twentieth century, when Sir John Fisher, as First Sea Lord of the Royal Navy, asked for fast battle cruisers with accurate gunnery to deploy around the world and secure the interests of the

empire. Instead, for political reasons, he got dreadnoughts—which were then stationed near home. The first competitive attribute of U.S. naval forces, then, is that they must be forward. If there were only one ship in the fleet, it could not be alongside a pier in San Diego.

The second competitive attribute the Navy must have is "full-spectrum" combat capability. To visualize strike warfare is easy, particularly if we assume that we can find the target and then put a weapon precisely on it. Indeed, at least in the United States, many now think that dropping a bomb using clever techniques is the sum and substance of warfare—which simply could not be farther from the truth. Weapon delivery is an element of warfare, a part of it, but only that. There are many reasons why the U.S. Navy and Marine Corps constitute a maneuver force. Counting the bombs or assessing the damage they do is really an input measure; we need to be more interested in output.

The third competitive attribute is that we must be a "full-service" navy. If we become very good at the "high end" and spend all our money there, enemies will threaten at the bottom, and we will have a difficult time. We need "low-end" capabilities to do those things that navies have traditionally been asked to do, which include working in the highly contested, dense, dynamic, dangerous, close-in littoral. We must truly own the littoral—to be able to get in, stay there, support ourselves, not be intimidated or pushed out, and perform every function of naval power. Monitoring refugee movements, controlling coastal shipping, and enforcing economic sanctions with ships best suited for the high seas has historically been shown to lead to failure. All the more, fighting in the narrow seas calls for unique capabilities. We must be thinking about measures of output and the full range of required capabilities. These are important considerations about what tomorrow's U.S. Navy must have.

NETWORK-CENTRIC OPERATIONS AND WARFARE

How will that force operate? Over the last year and a half we have developed the "Capstone Concept for the Navy after Next," a concept based, not surprisingly, on network-centric operations and network-centric warfare. A theory of war identifies sources of power and their relationships, to include the value structures and how those sources of power couple with outcomes and political objectives. Network-centric warfare develops and enables information superiority, stresses operations in multiple domains including space and cyberspace, accepts the highly complex and chaotic environment, and assumes that there will be a great diversity of players (friends, foes, and neutrals or noncombatants). Network-centric warfare translates an information advantage into a competitive advantage; it derives its power from robust networking of well informed, geographically dispersed forces. Commentators are inclined to focus on the

technology aspect, but the important word is "warfare"—and warfare, of course, is a human undertaking, a behavioral matter.

The four primary supporting pillars of the Capstone Concept are information and knowledge superiority, assured access, speed of effects, and sea basing. Information and knowledge superiority is not an issue only of bits and bytes, or volume of information; it has to do with the relevance, timeliness, and accuracy of the information, and of course what one does with it. It is a two-sided game: each side satisfies (and tries to reduce) its own needs, while the other side attacks its opponent's ability to do so. One of our major failings these days is that no war plan, body of knowledge, or doctrine takes a holistic view of this. If we are going to fight first for information superiority—if the primary value-adding processes have to do with information—then surely leaders must focus on this, not leave it to junior staff officers or technologists. We hear that in the Kosovo campaign, Nato had very poor operational security, which is an element of information superiority. What judgments were made about operational security? Did a commander consciously trade it off? For what? What would be the logic of doing so? Information superiority should become the main thrust of joint doctrinal development.

One of the many elements of information superiority could be expeditionary sensors, a complex network of sensors ranging from space down to the sea floor. Being netted, they must be tactically agile and fully responsive to the on-scene commander. This is a matter of making information accessible, not managing information for someone else. We learned a long time ago that operators want to be able to create their own information domain, not have someone remote from the scene of action decide what they should know.

Another important element is space. The Navy has a proud history in space: we formed the original cadre for NASA; space-based sensing, space-based navigation, space-based communications, and space-based meteorology all have roots in the U.S. Navy. Many of those things have migrated elsewhere, but the Navy still has unique capabilities that should allow it to reenter that domain. We use all of these things in our operations, but in the future we should expect an enemy to do so as well. The Navy should capitalize on its advantages in proximity, mobility, endurance, and stealth to assist in controlling space by focusing on commercial and military optical imagers, radar imagers, weather and communications satellites, Global Positioning System downlinks, and terrestrial delivery and distribution systems.

A key concern of the information/knowledge-superiority pillar is mobile targets. For fixed targets, an information-update rate of days is acceptable. We do that very well, because we practice it a lot. But moving targets are the heart of the problem. The update rate has to be in minutes or seconds. Much work remains to be done. In Kosovo in 1999, 6 percent of the targets given to Carrier Air Wing

8 were fixed; the rest were moving. The solution to this problem lies in networking tactically responsive sensors.

The next pillar of the Capstone Concept is assured access—not just base structure but access to domains of competition, in peace and in war, to do whatever the nation needs done. That brings us to the collection of concepts called STREETFIGHTER, which addresses the requirement to assure access. Utility to the nation is a function of combat power multiplied by access. With no credible access potential, there is no utility in a force, no matter what its combat power may be. Access capability, in turn, is a function of several force and platform characteristics, the principal of which is survivability, for which new technologies are available.

One emerging technological area that captures my imagination is in naval architecture—new designs and materials that allow ships greater performance and sharply increased payload fraction, adaptability, and survivability. Increasingly, U.S. forces are characterized by tactical instability—an enemy with surprisingly small capabilities can hold at risk something very much larger. U.S. forces have unwisely caused combat power to grow while allowing survivability to remain constant or go down. The result is a risk-averse force. This is why one worries about sanctuaries for maritime prepositioning shipping and why tactical aircraft will not challenge defenses at low altitude. They are tactically unstable. That is not how the United States should go to war.

Another threat to assured access is the antiship cruise missile. It is not new to us; we have known this phenomenon since Okinawa, when more ships were sunk or damaged than we have in the U.S. Navy today. Hundreds of missiles have been fired at ships over the intervening years, and we have a lot of information on the results. Tankers do very well, but their only mission is to survive and move. Surface combatants have proven to be quite brittle. It matters little how big the ship or how much firepower it has. In general, below twenty thousand tons the survival curve goes flat. That means as we dress up a ship with combat power, all we do is put more combat power at risk. Saying that we can substitute quality for quantity simply does not hold water any more.

Initially, few countries had antiship cruise missiles, but now seventy-five states have cruise missiles of some eighty different types, in large inventories. This exacerbates the issue of tactical instability, and clearly the force must change to come to grips with it. There are in general two types of cruise missiles: subsonic missiles tend to have longer range, rely on stealth, and have more maneuverability; supersonic missiles confront defenders with the time-compression phenomenon. Also, there is a new hybrid weapon, which flies at subsonic speeds, quite stealthily, for long distances until it gets close to the target, when the

slow-speed airframe falls away, and a hypersonic terminal missile appears—a quarter-ton warhead moving at Mach 3. This is a growing concern.

How can we redress this tactical instability? Many things can be done today. For example, ships can be made to draw less water; the less hull below the waterline, the less subject the ship is to underwater blast damage. Composite materials can be used for fragmentation protection. Ships can be made far more maneuverable, with looser or more open interior designs. Densely packed, extensively integrated ships incur enormous vulnerabilities. Modular adaptivity for specific missions can be designed in. We can increase speeds greatly—well in excess of forty knots—which enables the ship to convert a direct hit to a near miss. Also, numbers by themselves are helpful; numbers do indeed count. The U.S. Pacific Fleet does not have overwhelming size with respect to other navies in the region. Are there ways to increase the numbers? to increase the strength? to have a more robust, tactically stable force? Undoubtedly, yes.

The third pillar of network-centric warfare is "speed of effects." It used to be that nations mobilized their citizenries into mass armies. The whole concept of mass is now defunct for the purposes of foreign wars; even the nation that gave us modern conscription no longer does it. Yet much of our thinking in the military has to do with the annihilation of armies. We, of course, have been pursuing precision weapons, and we do a good job with them. But we are finding that physical destruction in itself is not always closely coupled with success in attaining political objectives. All the students of warfare know that battles are won and lost in the minds of the commanders. It is in the domains of belief and reason, not in the physical domain, that decisions are made. When we look at history, we see that most of the reasons for which forces have abandoned a strategy had to do with elements of maneuver, very few with attrition. The quest, then, must be for precision effects, not precision weapons.

The fourth supporting pillar of network-centric warfare is sea basing—not just logistics but basing broadly from the sea, so that forces are self-contained and self-sustained. This concept sharply increases the survivability of all elements of the force, especially traditional land-based forces.

THE ASIA-PACIFIC REGION: MENTAL MODELS

The task now is to put these future naval capabilities into the context of the Asia-Pacific region. As Professor Stephen Rosen notes, the current military conventional wisdom with regard to Asia is that nuclear weapons do not matter; offense dominates defense, and we can do whatever needs to be done; the allies are great, and they will always be there, at least to provide bases; and though it is a long way to Asia, we know how to get there, and it is not difficult. However, the reality is quite different.

All the potential enemies and even some of the friends in the theater have nuclear weapons, or could have them, and that fact raises questions everywhere from policy to tactics. The balance between offense and defense is shifting; the offense is good, but only when one can fight from a sanctuary. Also, there are some adverse trends with regard to basing structure, and the reason it is so easy to deploy to and operate in Asia now is that nations there allow it to be easy. When their interests are at great risk, they may not.

Another mental model is based on Asian geography. Asia is all islands, even where there are land borders. The terrain across those borders is treacherous. There is no road structure; instead there are cultural barriers, social barriers, religious barriers, legal barriers, and—most notably—the barrier of vast distances. Asia is a domain of real and virtual islands, ideally suited for navies, air forces, missiles, information operations, and special operations forces. It is in these areas that Asian nations are increasing their spending for research and procurement. Internally, however, armies are generally favored in Asia—not for foreign wars but for such things as nation building at home, civil affairs, keeping the peace, and keeping governments in power. This indicates the military capabilities that must be pursued.

WHAT KINDS OF CAPABILITIES ARE REQUIRED?

Clearly, nuclear deterrence is important; all weapons of mass destruction matter a great deal. Defense against an attack using weapons of mass destruction is dominated by intelligence and surveillance. If we are going to do that well, we will have to ratchet up our intelligence and surveillance capability significantly.

In tomorrow's conflicts, maneuver and sensors will dominate, not attrition. To exploit their potential, the U.S. Navy is going to need, first of all, numbers. It will need the STREETFIGHTER capabilities that I described, the expeditionary sensor program, and sea-based tactical air assets.

Defense of allies matters, in Asia no less than elsewhere. If that means ensuring that our friends and allies can stay in the battle and reassuring them that we will be there too, then we are talking about projecting defense in a broad way—which means more than just theater ballistic missile defense. But cruise missile defense is a tough problem, and in addition we will have to be able to counter the emerging threats in information operations and information warfare, while still being able to resist air attack, submarine warfare, and incursions by special operations forces.

Finally, actually being there is vital, more valuable than simply being able to *get* there. Forward presence is so profoundly important that alternative ways of keeping the forces forward need to be found. The U.S. Navy needs to revisit its thinking about our interdeployment training cycle, and we have to look at new

ways of incorporating the strengths of our allies. It is a matter of speed, speed of response, in a theater dominated by vast distances.

These are complex requirements, and many things will be required to fulfill them. First, we should pursue with great vigor the concept of network-centric operations and warfare, with its emphasis on information (or knowledge) superiority, assured access, speed of effects, and sea-basing. In addition, our "Capstone Concept for the Navy after Next" points to a set of programs and initiatives that would be quite disruptive to an enemy—unmanned vehicles; the whole STREETFIGHTER approach; cruise missiles that will cost no more than sophisticated gunnery; submarines that can be bought in great numbers; high-speed amphibious ships and armed lighters; numerous, inexpensive expeditionary sensors; and command and control systems that facilitate destruction of moving targets.

The rebalanced fleet of the future will require these kinds of characteristics. If we produce them, the U.S. Navy can expect to operate effectively not just in Asia and the Pacific but around the world.

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