



Forward deployed naval forces will be the keystone of the United States' ability to project power rapidly in the new security environment, because naval forces are less vulnerable to the constraints on access faced by forces that rely on land bases, and because naval forces can be used to reduce or eliminate those constraints on access for land-based forces.

Conclusions

The forward deployed Navy is both a source of immediate power projection capability, and a means of enabling power projection by the other services. The Navy encounters its greatest access challenges when it is enabling power projection by others, not when it is projecting power alone. The programs described in the previous section are important not so much because the Navy needs them to project power itself, but because the Army, the Air Force, and the Marine Corps need the Navy to have them. The nature of the threats that animate these programs make them urgent, even in the near term. Left untended, these threats will make long range power projection by joint forces a protracted rather than a rapid enterprise, and in some cases will deter the projection of joint forces altogether.

Forward deployed Battle Groups, armed with Tomahawk cruise missiles and strike fighters refueled from organic tankers, can stand off more than 300-400 miles from an enemy's coastline and launch strikes when and where they choose. The number of targets struck daily under such circumstances would be less than the maximum possible, but on the other

hand, opponents will have a very difficult time finding and tracking the Battle Group when it is operating independently in this way. Forward deployed submarines can operate with even more impunity, launching surprise cruise missile attacks deep into an opponent's territory, and Trident SSGNs will provide five to ten times the payload for such strikes compared to today's attack submarines. If all the nation needed from the Navy was long range, precision strike from the sea capability, it would already have what it needed today.

Instead, it needs a Navy whose Battle Groups and submarines can close with the enemy, launching surprise cruise missile and TBM strikes and sustained, high volume air strikes large enough to take out key time urgent or mobile target sets such as WMD-armed ballistic missiles, and to destroy rather than merely suppress air defense assets, enabling high payload Air Force bombers such as the B-1 to halt or slow opposing ground forces early in a conflict. It needs a Navy whose surface combatants can close within 20-25 miles of a hostile coastline and provide the on call, precision fire support needed to enable ship-to-objective maneuver by Marine Corps expeditionary units. It needs a Navy whose aircraft, surface combatants, and submarines can quickly find and destroy opposing submarines and mine fields, enabling the rapid closure of pre-positioning and surge sealift vessels carrying the arm of decision - the Army's armored forces. It needs a Navy that can project defenses against ballistic missile attack ashore, so that sealift ports of debarkation can be kept open, air expeditionary force bases can be protected, and allies reassured. And it needs a Navy whose ships can survive in this challenging environment in the face of ASCM attacks that emerge with little warning out of the littoral clutter.

If the United States does not get the Navy it needs, relatively small numbers of opposing submarines and mines, mobile SAM batteries, and mobile ballistic missiles will, if wielded intelligently by an opponent, greatly reduce the speed and weight of the power that it can project. In the extreme case, an opponent can have this effect without even drawing blood.

One Argentine submarine operating in the shallow waters around the Falkland Islands caused the Royal Navy to expend nearly all of its ASW ordnance without lethal effect. The submarine sank no ships, though some claim it bounced a dud torpedo off the hull of one of Britain's precious aircraft carriers, but its presence imposed powerful constraints on the fleet's operations throughout the conflict. The mobile SAM-6 batteries deployed by the Serbs during Allied Force shot down few if any aircraft, but forced the allies to limit the tempo of their strike operations to what could be sustained by its scarce defense suppression assets. And even though over 1000 HARMs were expended, many against SAM-6s, most SAM-6 batteries survived the war intact. And finally, Iraq's wildly inaccurate SCUD attacks destroyed

no allied military targets during Desert Storm, but because of their potential political effects, thousands of allied strike sorties were diverted from other important missions in a largely futile attempt to stop those attacks at their source.

Furthermore, these are yesterday's threats. The Navy needs to take the steps described in the previous section to give it the ability both to project its own power in the littoral battlefield, and to ensure the timely and decisive access of the other services to that battlefield against these already existing threats. Taking these steps will not transform the way the Navy looks, nor increase its size, but they will transform the way it fights. Yet they will not be sufficient if the other services do not engage in the more radical transformations necessary to make them significantly less dependent on oversea bases than they are today. The military threats posed by asymmetric weapons to access by joint forces will grow significantly if and when opponents adopt more modern systems, such as mobile TBMs with reasonably precise GPS guidance and large, sub-munition payloads. As these new threats emerge, joint forces will need to transform, or the Navy will need to grow to fill the void.

Endnotes

- ¹. See, for example, William C. Wohlforth, "The Stability of a Unipolar World," and Michael Mastanduno, "Preserving the Unipolar Moment: Realist Theories and U.S. Grand Strategy after the Cold War," in Michael E. Brown, Owen R. Cote Jr., Sean M. Lynn-Jones, and Steven E. Miller (eds) *America's Strategic Choices*, Revised Edition (Cambridge, MA: MIT University Press, 2000) pp. 273-349; Mark S. Sheetz, "Correspondence: Debating the Unipolar Moment," *International Security*, Vol. 22, No. 3 (Winter 1997/1998) pp. 168-175; and Samuel P. Huntington, "The Lonely Superpower," *Foreign Affairs*, Vol. 78, No. 2 (March/April 1999) pp. 35-50.
- ². This is not to say that there will be peace along these borders, or that the United States will not have interests at stake should conflict occur along them, just that it will be unnecessary for the United States to provide the main source of balance on the ground among the competing powers in the form of a large, forward deployed Army. For a strong statement of this view regarding Germany and Russia, see John J. Mearsheimer, "Back to the Future: Instability in Europe After the Cold War," *International Security*, Vol. 15, No. 1 (Summer 1990). I make the same assumption here regarding China and Russia for similar reasons.
- ³. For a summary of this debate, see Harvey M. Sapolsky and Jeremy Shapiro, "Casualties, Technology, and America's Future Wars," *Parameters*, Vol. 26, No. 2 (Summer 1996), pp. 119-127.
- ⁴. The best account of those events is Mark Bowden's masterful *Black Hawk Down: A Story of Modern War* (New York: Atlantic Monthly Press, 1999).
- ⁵. Stephen Walt, "Muscle-bound: The Limits of U.S. Power," *Bulletin of Atomic Scientists*, March-April 1999, p. 44.
- ⁶. On this threat, see John Stillion and David Orletsky, *Airbase Vulnerability to Conventional Cruise Missile and Ballistic Missile Attacks: Technology, Scenarios, and U.S. Air Force Responses* (Santa Monica, CA: Project Air Force, RAND, 1999).
- ⁷. Prepared Statement of Lt. General Marvin Esmond, DCS, USAF, House Armed Services Committee, October 19, 1999, p.1.
- ⁸. General John Jumper, CINC USAFE during Allied Force, in David Fulghum, "Security Leaks and the Unknown Bedeviled Kosovo Commanders," *Aviation Week and Space Technology*, November 1, 1999, p. 33.
- ⁹. For more on the defense suppression problem and alternative approaches to solving it, see Owen Coté, *Mobile Targets From Under the Sea*, MIT Security Studies Conference Series, December 1999, pp. 25-31 at <<http://web.mit.edu/ssp/>>.

10. On the antisubmarine warfare challenges posed by modern non-nuclear submarines and antiship guided missiles, see Owen Coté, *Antisubmarine Warfare After the Cold War*, MIT Security Studies Conference Series, June 1997, <<http://web.mit.edu/ssp/>>.
11. *Conduct of the Persian Gulf War* (Washington, D.C.: U.S. Department of Defense, April 1992), p. 35.
12. Peter Grier, "Pentagon Speeds Forces to Hot Spots," *Christian Science Monitor*, October 18, 1994, p. 1.
13. Douglas Jehl, "Saudis Admit Restricting U.S. Warplanes in Iraq," *New York Times*, March 22, 1999, p. 6.
14. The U.S. Commission on National Security, *New World Coming* (Washington, D.C. August 1999) p. 7 <<http://www.nssg.gov/Reports/>>.
15. Report of the National Defense Panel, December 1997, pp. 12-13 <www.dtic.mil/ndp/>.
16. Current U.S. ground force deployments in Europe do have the additional benefit of being partially subsidized by their host nations; as long as these subsidies continue, these deployments may make sense for budgetary rather than strategic reasons.
17. On the United States being an offshore balancer of last resort, see Christopher Layne, "From Preponderance to Offshore Balancing: America's Future Grand Strategy," *International Security*, Vol. 22, No. 1 (Summer 1997), pp. 112-123. I am predicting that the United States will adopt that broad role for reasons quite different from those proposed by Layne, but his description of how such strategy might work in practice is useful. On Britain's historic role as an offshore balancer in Europe, see Daniel A. Baugh, "British Strategy during the First World War in the Context of Four Centuries: Blue-Water versus Continental Commitment," in Daniel Masterson, ed., *Naval History: The Sixth Symposium of the U.S. Naval Academy* (Wilmington, Del.: Scholarly Resources Inc., 1987), pp. 85-110.
18. The most comprehensive treatment of the technology underlying this statement is Naval Studies Board, National Research Council, *Technology for the United States Navy and Marine Corps, 2000-2035, Vol. 5: Weapons* (Washington, D.C.: National Academy Press, 1997), especially pp. 106-120.
19. For an excellent analysis of the prospects for using long-range fires to halt an armored/mechanized force attack, see David A. Ochmanek, Edward R. Harshberger, David E. Thaler, and Glenn A. Kent, *To Find and Not to Yield: How Advances in Information and Firepower Can Transform Theater Warfare*, Project Air Force, The Rand Corporation, 1988.
20. Douglas Barrie, "India Begins To Receive Russian Missiles for Subs," *Defense News*, October 23, 2000, p. 60.
21. Of course, nuclear war plans did envision defense suppression strikes by ICBMs and SLBMs, but the Air Force sought bombers which were not dependent on such strikes in order to assure their ability to penetrate under all circumstances.
22. For a vivid description of these early LGB operations, see Jeffrey Ethell and Alfred Price, *One Day In A Long War* (New York: Random House, 1989).
23. Only F-111Fs, A-6Es, F-117s, and a small number of F-15Es combined a FLIR with a self-lasing capability.
24. Cruise missiles, though largely dependent on INS/GPS, rely on a terminal seeker which compares what it sees during the last phase of the missile's attack with a pre-stored image of what it should be seeing.
25. There will always be exceptions to this rule when the target demands a weapon whose characteristics prevent standoff delivery, as will perhaps some deeply buried targets that require weapons of such size that their launch platform will need to overfly the target.
26. NATO expended more than 1000 HARMs in Allied Force. Philip Klass, "New AGM-88 Missile Will Be Smarter," *Aviation Week & Space Technology*, November 15, 1999, pp. 90-92.
27. Four other allied aircraft without direct Wild Weasel escort were lost to radar-guided SAMS, and 33 other allied aircraft were lost to other air defense assets for a total of 38 aircraft lost out of about 70,000 combat sorties. Thomas A. Keaney and Eliot A. Cohen, *Gulf War Air Power Summary Report*, Washington, D.C., 1993, pp. 229-230.
28. DOD News Briefing, Thursday, 10 June 1999, Air Defense BDA slide. Available in archives at <http://www.defenselink.mil/news/>.
29. In Desert Storm, the Allies flew about 70,000 strike sorties and expended a little over 1900 HARMs, while in Allied Force, the numbers were 35,000 sorties and a little over 1000 HARMs. In the latter case, the cost of the HARMs expended was at least \$250 million.
30. A critique of this decision is one of the main themes of Michael Gordon and Bernard Trainor, *The General's War: The Inside Story of the Conflict in the Gulf* (Boston: Little Brown, 1995).
31. On the origins of SAR and MTI radars, see Charles A. Fowler, "The Standoff Observation of Enemy Ground Forces: From Project Peek to JointSTARS", *Aerospace and Electronic Systems Society Magazine*, June 1997. Also, see the discussion with John Entzminger in

David Fulghum, "Future UAV Sensors to Scan Vast Areas," Aviation Week and Space Technology, February 7, 2000, pp.58-61.

³². There are two excellent histories of the Navy and space during the Cold War: Gary Federici, *From the Sea to the Stars*, Center for Naval Analysis, June 1997 and Norman Friedman, *Seapower and Space: From the Dawn of the Missile Age to Net-Centric Warfare* (Annapolis, MD: U.S. Naval Institute Press, 2000).

³³. Though much has been written recently about the threat to U.S. satellites and the need for space control, little analysis has been done since the last Cold War debate about ASATs in 1986. For the satellite-antisatellite balance then, see Ashton B. Carter, "Satellites and Anti-Satellites," *International Security*, Vol. 10, No. 4 (Spring 1986), pp. 46-98.

³⁴. On the decision to concentrate aviation in the Royal Air Force, see Norman Friedman, Thomas C. Hone, and Mark David Mandeles, *American and British Carrier Development, 1991-1941* (Annapolis, MD: U.S. Naval Institute, 1999). For an excellent comparison of the wartime consequences of the U.S. and British approaches to naval aviation development, see J. L. Moulton, *A Study of Warfare in Three Dimensions: The Norwegian Campaign of 1940* (Athens, OH: Ohio University Press, 1967).

³⁵. For one view of how the Army and the Air Force will need to be transformed, see Owen R. Cote Jr., "Buying '...From the Sea': A Defense Budget for a Maritime Strategy," in Cindy Williams (ed), *Holding The Line: U.S. Defense Alternatives for the Early 21st Century* (Cambridge, MA: M.I.T. University Press, 2001) pp. 141-179.

³⁶. On the mismatch between current spending and the long term cost of today's naval force structure, see Ronald O'Rourke, Statement Before the Senate Armed Services Committee, Subcommittee on Seapower, March 2, 2000.

³⁷. See, for example, Stephen Green, "Battle Rages Over Warplane of the Future," *San Diego Union-Tribune*, December 27, 2000, pg. A-1 and Loren B. Thompson, "Navy Shipbuilding Faces Funding Crisis," *Defense Week*, February 20, 2001, pg. 1.

³⁸. On the benefits that flow from improved accuracy, see Committee on Technology for Future Naval Forces, Naval Studies Board, *Technology for the United States Navy*, Volume 5, p. 117.

³⁹. The current plan to fill SSGN tubes with only 7 Tomahawks only uses half the tube's volume and is a measure to avoid the cost of developing a double stacking technique. It reflects a desire to minimize the cost of the initial SSGN conversion rather than a concern about the technical feasibility of double stacking.