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The Post Oceanic Navy, the New Shadow Zones, and the U.S. Navy's Force Structure Challenge

Claude Berube

For the past century, the United States Navy has grown from an emergent force among traditional colonial powers able to compete on a world stage to one able to act as a counterbalance in a bipolar environment. After the fall of the Soviet Union, the U.S. became the naval hegemon, able to assert national power as needed through the traditional application of a large force with comparably large capital ships. The nation's investment in smaller platforms to combat smaller threats, such as the deployment of gunboats on the Asiatic station or of riverine craft during the Vietnam War, has ebbed and flowed, a condition that remains true in the early twenty-first century. But the traditional U.S. naval paradigm may need to change due to changing political and fiscal realities and emerging asymmetric maritime threats. This essay examines the domestic and foreign conditions challenges to tomorrow's navy and how a changing force structure may be required.

Our Navies Melt Away

In his poem "Recessional," Rudyard Kipling laments during Queen Victoria's Diamond Jubilee in 1897 the anticipated loss of empire as he observes "far-called, our navies melt away." A century later, global maritime stability and land support operations are at risk in the coming decades because of the decline of Western navies which are slowly melting away. Decline, though a popular description of a general trend, can also be an imprecise term. Historian Paul Kennedy rightly suggests decline of a state's navy coincides with the decline in that state's economic influence. But decline can take many forms – technological disadvantages, insufficient maintenance standards, fewer at-sea training days, diminishing qualifications of personnel, a general public disinterest in the maritime services. Some of these characteristics might be indicative of the decline in today's Western navies, but the broader issue is one of raw numbers as a sign of decline since quantity is a necessary capability in order to provide presence.

Consideration of the numbers of ships is important simply as a major factor in the ability of a navy to achieve global or regional coverage; a global navy cannot patrol or secure sealanes, concentrate sufficient forces for combat at sea, or conduct supporting operations ashore without an adequate number of ships to do the job. Navy ships, like police, can't provide constant widespread security coverage without enough assets. Figure 1¹ is a sampling of the size of some Western navies at ten-year intervals since the 1980s. Specifically, it demonstrates the tremendous decrease in the numbers of destroyers and frigates in their forces. Declines in numbers of submarines are similar. There are clear caveats.

First, aircraft carriers and amphibious ships provide tremendous power projection capability and the U.S. has the only navy which maintains double-digit carriers, but just barely. But these ships require the protection by surface combatants such as cruisers, destroyers, and frigates, as well as submarines. Destroyers and frigates are also the most common larger warships among other major navies and therefore provide a common basis on which to discuss how declining numbers of naval platforms lead to declining force capability and national will.

Second, the numbers do not indicate individual ship or networked capability. For example, a U.S. *Charles Adams*-class destroyer of the 1970s or 1980s is vastly different from a DDG-51 *Arleigh Burke*-class destroyer. Additionally, there are varying capabilities within ship classes. For example, DDG-51 Flight IIAs do have on-board helicopter detachments unlike earlier *Arleigh Burkes*. There are hardware and software differences as well. Nevertheless, the number of destroyers and frigates do provide a good baseline of the overall comparative health of major navies.

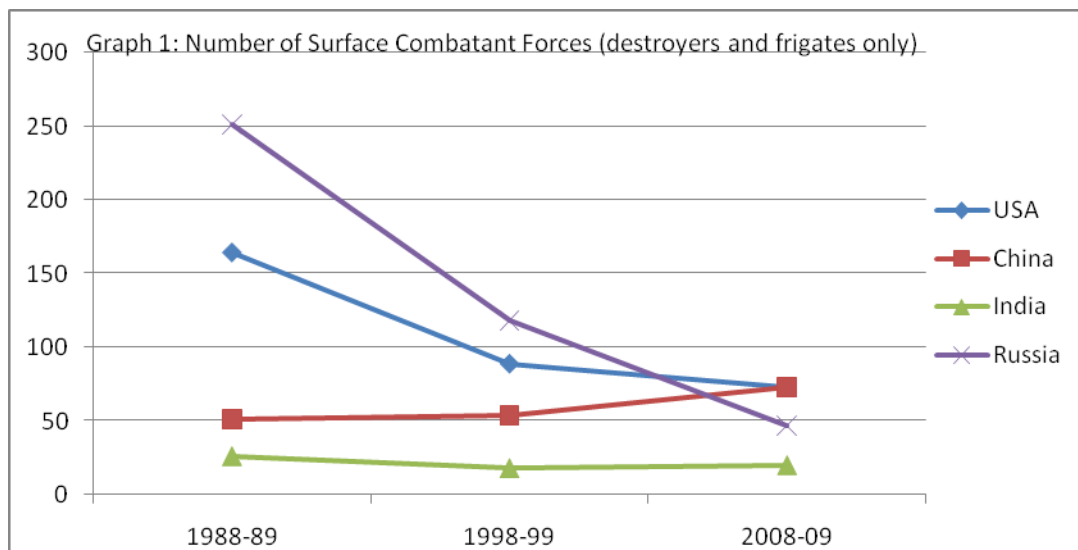
Figure 1	Number of Destroyers/Frigates		
	1988-	1998-	2008-
	89	99	09
USA	164	89	73
UK	48	35	25
France	41	39	31
Canada	23	17	15
Germany	24	15	15
Denmark	18	8	7
Netherlands	16	16	7
Italy	20	22	14
Spain	21	17	11

In many cases, absent the threat of the old Soviet Navy, the size of Western navies' surface combatant forces has been reduced by approximately fifty percent. Those navies cannot, therefore, provide the same umbrella of global security or even parity with a potential competitor or competitive alliance like the former Warsaw Pact that it could several decades ago. If Argentina was to invade the Falklands/Maldives in 2009, could today's otherwise exceptional British Royal Navy muster enough ships to repel it as it did twenty-five years ago? The Canadian Navy likewise has a limited number of ships to contribute to coalition forces. Dr. Richard Gimblett, Canada's Navy Command Historian, recently stated at a conference that "what you have on paper is not the deployable fleet. "With other requirements including scheduled maintenance, it has only one ship on each coast free to conduct *ad hoc* operations. "Manning has become such an issue," he said, "that it is a challenge to fully crew its few frigates with trained sailors."ⁱⁱ

While these navies have contributed to ongoing piracy operations off Somalia through Combined Task Force 150 it unknown if they will be available for longer operational durations. While some may laud this newfound cooperation, the reasons for joining the coalition are varied, the individual capabilities are different, and the long-term sustainability or applications of coalition operations for other endeavors are arguable.

The number of ships has decreased for several reasons. First, as in any peacetime environment, there is no clear, competitive and immediate blue water maritime threat posed by comparable powers unless one considers a nascent China. This planning for potential symmetric threats and rising powers is a perennial issue. In the post-war environment, Samuel Huntington pointed out in a seminal 1954 *Naval Institute Proceedings* article that with fifteen battleships, one hundred aircraft carriers, three hundred fifty destroyers, etc, “it appeared impossible, if not ridiculous for the Navy to claim the title of the Nation’s ‘first line of defense’ when there was nothing for the Navy to defend the nation against.” Huntington also pointed out a 1949 Gallup Poll that showed 76 percent of Americans thought the Air Force would be the branch of a future war and only four percent thought the Navy would be so. In a 2004 Gallup Poll, only nine percent of Americans believed the Navy to be the most important branch of the armed services.

Today, despite minor recent deployments, Russia is no longer seen as a dominant maritime threat – although the Soviet Navy as recently as twenty years ago had over 250 destroyers and frigates and nearly two hundred ballistic missile, attack, and coastal submarines. The rising power today is China which recently achieved numerical parity with the United States in terms of destroyers and frigates, but even China’s force is only now emerging and getting its proverbial feet wet with extended deployments, specifically a small group assigned to anti-piracy operations in the Gulf of Aden whose relief force got underway in March.

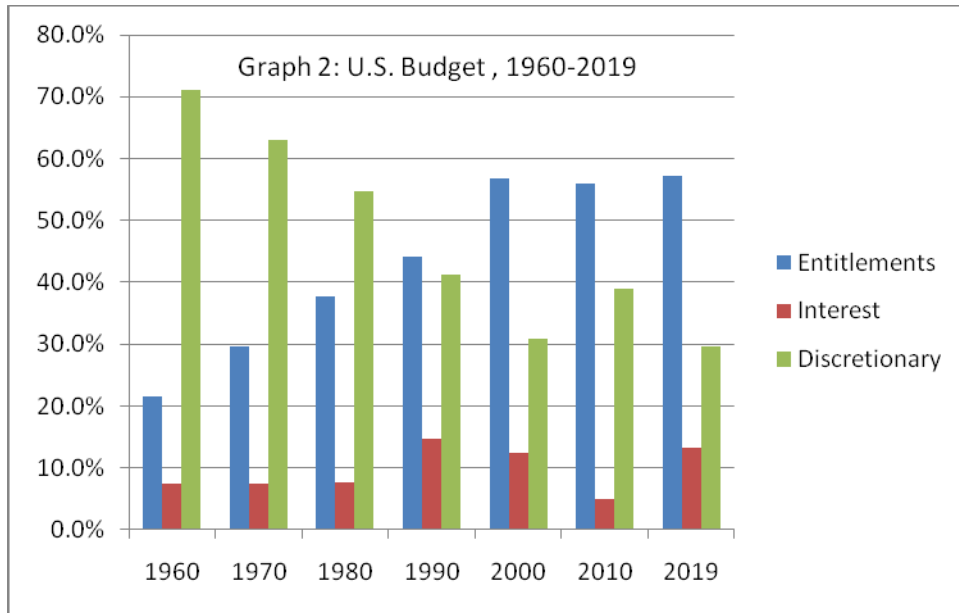


The second reason is that while seaborne trade continues to be enormously important to Western nations, the logistics of seaborne trade itself, is no longer conducted to any significant degree by Western nations – specifically ships are constructed elsewhere, often manned by non-Westerners, and their cargoes indicative of the growing trade deficit between the U.S. and Europe as net importers and China and other Asian nations as net exporters. Although western

nations remain dependent on trade as a whole, absent the direct and tangible risk posed to a nation's ships, crews, and cargoes, the perceived public need for a blue water force may diminish. While the Somali attack on the *Maersk Alabama* was a U.S.-flagged and crewed ship it's important to note it was a rarity for the simple reason that the U.S. merchant fleet comprises less than one percent of the world's fleet compared to 17 percent fifty years ago.ⁱⁱⁱ When U.S. ships and crews were taken captive by the Barbary powers in the early decades of the U.S. Republic or pirates threatened commerce in the Caribbean in the 1820s or attacked a merchant ship off Sumatra in 1832, there were concrete threats to the general public since those ships were manned largely by U.S. citizens. Today, the issue of piracy in the Gulf of Aden, the Gulf of Guinea, or elsewhere has held comparatively little interest to average Americans because U.S. lives are not generally at risk, the recent attack on the *Maersk Alabama* being a notable exception.

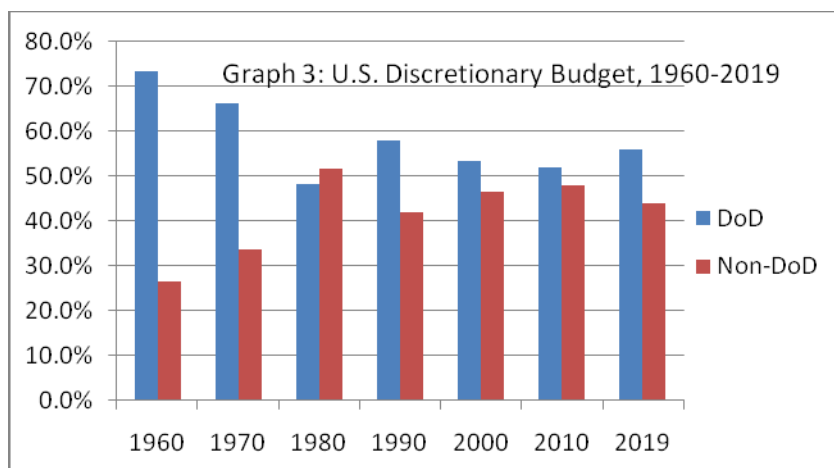
The third reason is a reprioritization of national funding. Most western European nations, reaping the windfall of a post-war or post-Cold War environment, have focused in recent decades on infrastructure and social programs at the expense of what they traditionally invested in powerful competing military forces. Their goal of two percent of gross domestic product on defense programs is rarely achieved. Today, spending about one percent of gross domestic product on the military is the norm rather than the rarity for European nations, such as Italy, German, and Spain.^{iv} The focus instead is on peacekeeping operations rather than direct military interventions and their requisite platforms appears more palatable to the European populace and fiscal situations in the near-, and possibly long-, term. But even peacekeeping or stability operations such as in Iraq or Afghanistan find little popular support among the European populace.

The United States is not immune to European funding trends as post-conflict war-weariness from Iraq and Afghanistan likely will have an impact on future military spending, especially with regard to the Navy. If not already in the midst of it, the U.S. faces a looming irreversible budgetary crisis in the short run. Historically, until the 1930s, the most significant portion of the federal budget was the discretionary portion which funds day-to-day operations of the governmental agencies. With the New Deal of the 1930s and the Great Society programs of the 1960s, discretionary funds as a percentage of the overall budget began to decrease (see Graph 2) and entitlements (called "mandatory spending") rose, as did interest on the national debt. As the nation has now entered the era of the "baby boomers" retirement and dependence on mandatory programs such as Social Security, the size of entitlements will continue to grow. Consequently, although the discretionary funding appears stabilized in the President's FY2010 budget in the out-years, it is far more likely it will decrease as a percentage of the budget.



Following the Money

This leads to the next challenge and that is military funding as part of discretionary spending. Department of Defense funding - which was, in reality, the majority of the federal budget for most years since the creation of the republic -- has diminished steadily as a portion of the discretionary budget since 1960 (see Graph 3) with the exception of the military buildup under President Ronald Reagan. President Obama's FY2010 budget makes it appear that DoD funding compared to non-DoD funding will rise by 2019 but that is unlikely given the number of social program and infrastructure proposals in recent years.



Department of Defense funding, whether it in reality marginally increases or decreases, must be considered in terms of where the funding is allocated. The President's FY2010 budget entitled "A New Era of Responsibility" provides some highlights, most of which are focused on overseas operations and much-needed healthcare for wounded service members and veterans. It includes

the anticipated increase in the size of Army and Marine Corps personnel totals. It does not address procurement of major acquisition programs especially shipbuilding programs, with the exception of a mention of acquisition reform. But with Army and Marine Corps personnel budgets likely to rise along with benefits for all service members, a smaller portion of the DoD budget will be available to the Navy and for large Navy platforms. On April 6, Secretary of Defense Robert Gates amplified the President's budget and announced the themes of the FY2010 budget request. This included a delay to the next generation cruiser program ((CG(X)), a delay in seabasing programs, a permanent reduction in the carriers to ten after 2040, and caveats to the DDG1000 shipbuilding program. Gates' stated that "the healthy margin of dominance at sea provided by America's existing battle fleet makes it possible and prudent to slow production of several major surface combatants and other maritime programs." While today's U.S. Navy may have dominance, this will not continue in the long term based on the current course.

Ronald O'Rourke of the Congressional Research Service noted in testimony before Congress that the U.S. has built, on average, 5.4 ships per year for the past seventeen years, an inadequate number to attain the previous goal of a 313-ship navy; nor is the future outlook favorable given that the country would have to build 12.2 ships per year for the next eighteen years to reach 313. It is unlikely that given current political and budget realities that the U.S. will see sufficient numbers of aircraft carriers, nuclear submarines, surface combatants (such as DDG1000, LCS, and CG(X)), or air platforms – as well as force limitations of potential allies - to meet all the challenges set force in the 2007 maritime strategy articulated in "A Cooperative Strategy for 21st Century Seapower" – or rely on coalitions to make up for its shortfalls, given the force limitations of potential coalition partners. The Navy, therefore, will continue to face more acute challenges in balancing between what it must do, what it would like to do, and what it can do.

Competing domestic factions will continue to debate what should be procured and in what numbers and advocacy groups will advance their particular programs as they have throughout the nation's history. Today's debates on force structures are no different from those of the past as individuals or groups support the programs with which they are affiliated or in which they have a personal or political interest. Consider the case of long-time military writer Norman Polmar who challenged the status quo on aircraft carriers in a 2007 issue of *Naval Institute Proceedings*. In the following two issues, he was soundly and at times personally attacked by a retired U.S. Navy admiral who was president of the Association of Naval Aviation, a representative of Northrop-Grumman (which builds the carriers), and the active-duty Navy manager of the aircraft carrier program itself. While they each had a particular expertise and authority on the issues, they each also had significant vested interest in the program.

One congressional case study of factionalized approaches to the force structure debate is that of the March 26, 2009 House Armed Services Seapower and Expeditionary Forces Subcommittee which heard testimony from Ronald O'Rourke (CRS), Loren Thompson (Lexington Institute), retired Rear Admiral William Houley, and Thomas Barnett (author of *The Pentagon's New Map*). The hearing was ostensibly for "Future Capabilities of Maritime Forces;" however, the hearing quickly devolved into a series of questions that were far more parochial in nature; the member from Connecticut asked about adequate numbers of submarines (i.e., the state of their builder, the Electric Boat Company), the member from Maine asked about destroyers (ie., the state of their builder, Bath Iron Works), the member from Virginia asked about a carrier's

homeport being changed from that state to Florida. This is to be expected because most hearings involve representatives understandably asking questions about their particular state's or district's interest. The nature of representative government necessitates regionally-focused advocacy. Debates on the floor of the House in the 1830s, for example, recall a Philadelphia congressman's fervent support for a soon to be outdated ship-of-the-line to be constructed because it was to be built in his district.^v

Just as factions must support their own interests and products (as in the Polmar example), members of congress have a responsibility to their respective constituencies. Both cases must be understood in the context of discussing the limitations of simply a long-term strategic framework. They must be considered along with potential threats just as these factors have contributed to historic phases of power.

The Post-Oceanic Era and the New Shadow Zones

Over five decades ago, Samuel Huntington offered his own view of the U.S. Navy's role in the world historically and provided a framework of specific periods of need and growth. If his taxonomy of naval power within the various historical phases of Continental, Oceanic, Eurasian, and Transoceanic is to be followed, then the realities discussed above may be forming a new phase in the coming decades.^{vi} Robert Kaplan suggests that the nation is in a period of "elegant decline"^{vii} in which it will have a long, slow transition from superpower to something less - not unlike that of the United Kingdom in the twentieth century - during which time the U.S. might have the opportunity to shape the world by influencing strategic partners. A "melting" decline, say of an iceberg, indicates a slow rather than abrupt change slowing or quickening depending on atmospheric conditions and ocean temperatures as it plods its way. And so Kipling's "melting away" metaphor might be a reflection of Kaplan's thesis. If this is true, then in the twenty-first century the U.S. Navy may enter a Post-Oceanic era in which direct application of U.S. sea power to address issues may be greatly limited by U.S. and allied political will, the cost of force structure and operations, and the availability of sufficient forces to achieve goals in littoral areas without suffering significant losses.

In a global period of disharmonic convergence where declining Western navies can no longer operate in great numbers and other navies lack the strength and/or experience to replace them, expanding maritime security gaps will provide opportunities for asymmetric threats and operations by criminal and hostile belligerent forces.

The Post-Oceanic Era could focus in part on maritime security gaps or "shadow zones." The term "shadow zone" traditionally has been used to describe a set of environmental conditions in underwater acoustics in which sound cannot - or can only minimally - penetrate and area thereby providing a safe operating area for submarines. The term could also apply these modern maritime security gaps - littorals near a failed, failing, or belligerent state that no navy has the strength, experience, or authority to patrol.

William Lind states^{viii} in "*America's Defense Meltdown*" that in fourth-generation warfare applied to the maritime environment, ambiguity is a constant in coastal and inland waters. For example, the same types of commercially available boats used for legitimate purposes such as

fishing can also be used for drug smuggling, human smuggling, illegal arms smuggling, piracy, terrorism and support to special forces operations. Such was the case when a skiff was used to attack the USS COLE in Aden. CTF 150 and 151 anti-piracy operations in the Gulf of Aden demonstrate the difficulty in distinguishing between pirates and legitimate fishermen. Commonly clad fishermen have become pirates, their skiffs morphed into attack boats and their larger fishing vessels mutated into motherships in a largely lawless sea. Another example is the use of small commercial craft used by the Iranian Revolutionary Guard's Navy (IRGCN) used to harass and threaten capital ships in the Strait of Hormuz.

This ambiguity in an era of near-zero public and governmental tolerance for targeting error and the endangerment of civilian casualties means that identifying and acting against non-state actors presents one of the greatest challenges to the United States. If belligerent states, criminals, and terrorists perceived that this ambiguity and intolerance of targeting error will allow them to operate in relative safety – especially in the shadow zones – they may adopt the low-cost method of using platforms indistinguishable from legitimate civilian inshore and river-going vessels to conduct their activities and operations. Operationally, this method appeared to have been used by the terrorists of the 2008 attacks in Mumbai, India, when their primary method of seaborne transports was reportedly a fishing boat and cargo ship.^{ix}

The Gulf of Guinea, no stranger to piracy, is another shadow zone. Yet another is the eastern Pacific and Caribbean where narco-traffickers have in the past used go-fast surface boats but have more recently creatively turned to self-manufactured semi-submersibles^x, difficult to detect due to the size of the ocean, the lack of sufficient U.S. forces, and the lack of indigenous patrol boats that are unable to stray beyond local waters.

One analogy to these shadow zones is the inner-cities of the United States where, absent sufficient police personnel, gangs have taken control of large swaths of the city. The gang MS-13, for example, reportedly exerts its influence over several miles of Los Angeles. No private groups are able to counter gangs. The Guardian Angels, founded thirty years ago, had little ability to deter crime other than reporting a crime in process, but they had no force available nor legal power to actually stop a crime. And just as trans-national gangs learn from one another through the prison system, non-state actors and belligerent states will have the opportunity to learn by observing one another and U.S. reactions to one another's activities what works against U.S. forces at sea.

When all of the above points are considered, the signs do not point to future decisive Mahanian conflicts and requisite fleets of capital ships. From threats to what is achievable under the current budget parameters, the signs point to the littoral shadowzones.

Options

But how should components to support littoral warfare operations manifest themselves?

One counterbalance to seaborne non-state actors (NSAs) might be found through ironically similar asymmetric non-governmental organizations (NGOs). On the ocean, two non-governmental organizations (NGOs) have attempted to provide a deterrent. Sea Shepherd,

through its ship *M/V Steve Irwin*, has operated in southern waters to deter what it believes to be illegal whaling ships through various tactics including ramming, boarding, and public exposure. Its actions, while not openly condoned, appear to have either a level of tacit tolerance or states' inability to enforce potential illegal fishing activities and the NGOs seeking to talk the law into their own hands. Xe, (formerly Blackwater Worldwide), and other firms to varying degrees, developed a business model of deterring piracy by providing escort or security patrols under contract to companies rather than under direct contract to nation states. To date, however, shipping companies seem to have dismissed the offer and the use of private security companies for maritime security in this environment of political toxicity might be an untenable business model unless companies reach an economic loss threshold that finds PSCs as the last but best option. While allowing or working with seaborne NGOs as an asymmetric force may be creatively enticing, the appropriate response to asymmetric forces must, consequently, reside within the power of states.

Dr. Thomas Barnett suggested the most likely answer to the coming force structure debate during testimony before the HASC Seapower and Expeditionary Warfare Subcommittee: the capital-ship industrial base should be minimally maintained so as not to lose vital shipbuilding knowledge, but the focus of investments should be on "brown-" and "green-water" platforms.^{xi} While investment in this area likely will face significant opposition by major contractors and some members of Congress responsible to their constituent shipyards, the impact might be mitigated by identifying new sources of ships. Conversion from commercial to military shipbuilding during times of war was a part of American military capacity and economic capability; the U.S. could today identify smaller commercial yards throughout the United States that have basic infrastructure in place.

One example, but by no means the only example, would be a northeastern boatbuilding firm, Hodgdon Yachts, which for over a century built commercial craft including luxury sailboats. An affiliate was created, Hodgdon Defense Composites LLC, to focus on the potential for military applications of its skills and capabilities. The firm and its partners used their knowledge of carbon composite materials, in part, for high-end sailboats and applied it to the technology demonstration project MARK V.1 MAKO Special Operations Craft. Based on the MAKO, Hodgdon has now designed larger patrol craft as well as a 150-foot medium range endurance craft.^{xii} Boat builders more accustomed to larger craft such as off-shore support vessels could also build a new augmenting fleet particularly if personnel downsized from large shipyards due to reductions in capital shipbuilding programs are offered relocation opportunities to augment the small boat builders' knowledge of naval craft.

Another option could be acquiring corvette-sized ships from foreign shipyards. The U.S. is no stranger to building small ships such as the Israeli SA'AR V built by Ingalls Shipbuilding in the 1990s, but it is politically averse to using naval ships built elsewhere and often prevented by long-standing regulations. Representational Washington DC-based organizations like the American Shipbuilding Association, for example, vehemently opposed exploring the use of an Australian high-speed vessel and adapting it to U.S. use; it would likely oppose purchasing ships from beyond U.S. borders. Large shipyards would also oppose efforts by the U.S. government to deny job possibilities in their own shipyards by foreign ones. Such efforts would also face in-place regulations. Debates about leveraging more successfully-produced Coast Guard platforms

might be one means of achieving a new class of smaller ships and adhering to U.S.-built requirements or demands.

Part of the solution may also reside in building non-traditional support ships. Maersk Line Limited (MLL), for example, has proposed conversion of an S-Class container ship. According to MLL the Afloat Forward Staging Base (AFSB) is a low-cost solution to a sea basing requirement that would provide cargo, aviation and small boat support.^{xiii} The political advantage of this option is that it offers more opportunities for support among members of congress who might not otherwise represent traditional naval shipbuilding districts or states. The operational advantage would be the availability of more ships to support proposed smaller craft on station.

Proponents of a primarily large-craft Navy might do well to remember the Barbary War when one of the largest U.S. Navy ships at the time, the frigate USS *Philadelphia*, attempted to chase its smaller opponents into shallow waters. The ignominious result was the *Philadelphia* ran aground, her crew was captured, and she eventually had to be destroyed by U.S. raiding forces. It took the small supporting ships of the squadron as well as additional gunboats to eventually deal directly with the threat of the Barbary forces. The question, however, will be if the country and its leaders will accept any risk to smaller craft. Congressman Gene Taylor (D-MS), during the HASC Subcommittee hearing, interrupted a key moment of testimony by interpreting that dispensable ships translated into dispensable people – something he would not tolerate as a father or member of congress. If the concept of taking the fight directly to a potential enemy becomes so intolerant that the U.S. shifts from “Into Harm’s Way” to “Out of Harm’s Way” then the Navy will be relegated to a toothless tiger and, therefore, ever more vulnerable to the attacks from those non-state actors or belligerent states wishing to make their mark.

There should be no question that the U.S. needs carriers, cruisers, and advanced aircraft and destroyers, but there are coming realities unless there are unexpected shifts in policy and funding. Without an investment in modern smaller craft en masse, the federal budget will continue to constrict the Navy’s size, limit its abilities in the littorals, and allow non-state actors to rise, hone and possibly share their skills with other actors. A well-balanced force structure is necessary for the U.S. to respond to a variety of threats, but there must be that balance.

Claude Berube teaches at the U.S. Naval Academy. He has worked on Capitol Hill for two Senators, as a civil servant for the Department of the Navy, and as a naval officer. The views expressed are his alone.

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ⁱ Ship numbers are from Jane's annual reference books, 1988-89, 1998-99, and 2008-09. Any errors in calculations are the author's alone and not those of Jane's.

ⁱⁱ Dr. Richard Gimblett, The Gulf and the Globe Conference, U.S. Naval Academy, January 2009

ⁱⁱⁱ Research and Innovative Technology Administration, Bureau of Transportation Statistics
[www.bts.gov/publications/national_transportation_statistics/html/table_01_23.html]

^{iv} Dan Darling, "A Frugal Pax Europa," Forecast International, 12 November 2008.
[<http://www.forecastinternational.com/press/release.cfm?article=163>]

^v Claude Berube, "Budget Battles, Interest Groups, and Relevancy in a New Era: The Ship of the Line USS Pennsylvania," U.S. Naval Institute Proceedings, January 2008

^{vi} Samuel Huntington, "National Policy and the Transoceanic Navy," U.S. Naval Institute Proceedings, May 1954

^{vii} Robert Kaplan, "America's Elegant Decline," The Atlantic, November 2007; see also by Kaplan "A Gentler Hegemony," Washington Post, 17 December 2008

^{viii} William S. Lind, Chapter 6: The Navy, America's Defense Meltdown: Pentagon Reform for President Obama and the New Congress, Stanford Security Studies, 2009. Edited by Winslow Wheeler.

^{ix} Bill Roggio, "Analysis: Mumbai attacks differs from past terror strikes," The Long War Journal, 28 November 2008 [www.longwarjournal.org/archives/2008/11/analysis_mumbai_atta.jpg accessed 8 April 2009]

^x The term "semi-submersible" has been a subject of technical debate itself.

^{xi} For other possible force structures supporting Navy Irregular Warfare, see Bob Work's To Take and Keep the Lead: A Naval Fleet Platform Architecture for Enduring Maritime Supremacy.

^{xii} Author interview with Hodgdon Defense Composites LLC President and CEO Dave Packhem, 6 April 2009

^{xiii} Author meeting with Maersk Line Limited, 20 February 2009