A Ship the Marines Need

An unusual ship for changing times

by William L. Stearman

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This introduces an unusual ship that would largely solve the Navy's amphibious shortcomings described below, which should be of prime interest to the Marines. The April 2019 issue of *Proceedings*, mainly devoted to amphibious operations, lays open the most crucial problem facing these operations: "the Senate Armed Forces Committee draft of the upcoming (FY 20 [fiscal year 2020]) National Defense Authorization Act suggests that technological progress by future adversaries has made amphibious assaults too hazardous."[1]

This conclusion must be based on the simple fact that all of our amphibious and supporting ships are so vulnerable to ubiquitous anti-ship missiles that they must prudently remain at least 100 miles from any hostile shore. Clearly, this rules out any direct assault on well-defended coastal positions or even simply any contested areas. For this and other reasons, the kind of direct across-the-beach attacks we saw in World War II have so far not been planned by the Marines. The new Commandant, Gen David H. Berger, however, noted that joint forcible entry operations "were not irrelevant." A new ship could make this, and the EABOs described below, possible. It could be one of the Commandant's new initiatives. The Navy and Marines are now relying on establishing expeditionary advanced bases (EAB) in contested areas on an enemy's flanks or on islands close to shore. These are called expeditionary advanced base operations (EABOs). This would seem to make good sense. In fact, this is, in essence, very similar to the flanking attacks GEN Douglas A. McArthur made in his Southwest Pacific command (mostly the Philippines) where Japanese forces were spread out more thinly, unlike the well-defended islands like Iwo Jima. Gen Berger would like to accelerate EABOs.

There is, however, one salient problem with EABOs: the EABs now could not receive essential support from any of our amphibious and other ships because, most being in *contested areas,* they would clearly have to come within 100 miles of enemy anti-ship missiles. This would, *inter alia*, rule out essential logistical and ship borne medical support. Armored vehicles or any other vehicles could not make the long sea trips needed with connecter craft such as LCUs and LCACs. They could only be brought in by vulnerable amphibious ships. Marines in EABs will also need naval surface fire support (NSFS). The Navy originally intended the DDG-1000 (Zumwalt) super destroyers to provide NSFS, but this proved to be unaffordable. At present, the Marines

NSFS will be required to support Marines on EABs.. *(Photo by PO3 Jack Aistrup.)*

have no NSFS support—a very serious shortcoming.[2]

It should also be noted here that the main peacetime role of the Navy is to influence events ashore. An extreme example of this was how our Navy, greatly enlarged by President Ronald R. Reagan, essentially won the Cold War with large-scale maneuvers in seas that bordered on the Soviet Union.[3] A more classic naval show of force was the 1946 dispatching the battleship USS *Missour*i to Istanbul at a time when Turkey faced threats from the Soviet Union. It succeeded in its mission.[4] We now lack the capability to impose a credible threat on any scale with ships which dare not come closer than 100 miles from a hostile shore.[5] With the loss of our battleships, the Navy lost its ability to mount a *visible* effective show of force in potentially hostile situations. In any case, our vulnerable warships, with only one small gun on the bow, are singularly ill-suited to this mission. It should be noted that the Soviet military was well aware of the need for credible visible weapons for naval shows of force. A typical example of this is the battle cruiser *Peter the Great* which bristles with exposed weaponry. (It is still in commission and can be effectively used for port calls abroad.)

The new ship, referred to at the beginning, is the expeditionary ship (ES) described below. It is noteworthy that this ship has met with the approval of John Lehman, former Secretary of the Navy 1981-87, during the Navy's largest peacetime build-up and of Gen James N. Mattis (before he became Secretary of Defense). The father of this new ES concept is Kenneth S. Brower, a highly experienced feasibility naval architect and weapons effect expert, who has come up with this relatively less costly and nearer-term solution to all of the problems described above.

The expeditionary ship would begin with the hull of a supertanker.. (Photo by PM2 Andres M. Meyers.)

The envisaged ES would begin with a new supertanker hull with 250,000 LT (long tons with a full load) displacement, 1,075 feet long with a 170-foott beam, and hull depth of 80 feet which, when converted, would be highly survivable. The huge body alone, Brower explained, reduces the probability of hull girder failure from an under-keel attack. It could easily survive multiple side torpedo hits. Also, its huge volume permits the arrangement of numerous large voids which, where needed, are bounded by layers of state-of-the art armor which will contain the blast and fragments generated by high explosive warheads. Since empty displacement is only fifteen percent of maximum displacement, one could, if needed, add tens of thousand tons of high-grade armor to protect key areas of the ship. The ship could have the same weapons systems as all of the Navy's combat ships. Among other things, the current ships, however, having much less volume, clearly provide more obvious aim points for enemy weapons. The ES large volume greatly complicates an enemy's identifying aiming points.

For example, with a displacement of, say, 120,000 tons, the ES is likely to reach a speed of around 22 knots. Propulsion power for an integrated electric plant will have several gas turbine generators. Propulsion will be four

The HMS* Dragon *with the Russian Kirov Class battleship* Pyotr Velikiy. *(Photo courtesy of the Royal Navy, MOD.)

maneuverable azipods (steerable propulsion unit outside of the ship hull), two forward and two aft and outboard of the ship's hull, and are far less vulnerable than fixed, one or two screws aft. They will also increase the ship's maneuverability.

Another ES plus for the Navy—which will buy the ship—is that, for a number of years, it hoped eventually to field directed energy weapons and rail guns. To support these complex, demanding, and long-in-development systems, the Navy is planning to create a new ship class, the large surface combatant (LSC), which would have sufficient space to produce the electric power needed to support these very power demanding weapons. Today, the super destroyer USS *Zumwalt*, which has the fleet's largest electric generating capability, can generate 80 megawatts, whereas the LSC will need up to 180 megawatts and must, therefore, be a bigger ship.[6] It is now suggested that it will be funded in the 2023-24 timeframe, but its development could begin much sooner. There is always a real chance, however, that the two weapons systems will not perform as hoped. It would, therefore, make far more sense to remove this risk and save a great deal of money by declaring the ES to be the LSC by putting aside enough of its huge hull to generate the required electricity. If the LSC plan does not pan out, then nothing is lost. However, if it does work, a great deal of money and time will be saved; moreover, if these advanced weapons work, they can be tested and mounted on the ES. Beginning with a complete hull, creating the ES saves considerable time and money as opposed to those ships that begin with laying the keel.

The hull should not cost more than $200 million. The total cost could be less than the $1.8 billion estimated for the new LPDs which will have far less capabilities. Completing the complex ES interior would provide substantial work for an American shipyard.

Returning to Navy problems referred to above, it should be noted that only the ES can risk coming close to shore to support EABs in contested areas. This would include logistical and medical support close enough that it can treat wounded Marines within the "golden hour" needed to save lives. With its multiple large caliber and other guns, it can provide the EAB with essential NSFS. It can also provide on-board air support with its F-35Bs and air logistical support with its MV-22 Ospreys. CH-53 and other helicopters, as well as drones, will also be on the main deck, as well as anti-air and anti-missile weapons. The ES will also carry unmanned anti-mine craft. It can carry all this because it has a deck area more than half that of the USS *Ford*'s flight deck. Within the hull will be vertical launch system cells holding a variety of long-range missiles. The sizeable number and highly visible large caliber guns will be mounted on a gun deck just below the main deck, designed to appear threatening. The ship will embark a MEU of some 2,200 Marines who will part of ship's company manning the guns and other ordnance. This would be an ideal example of the kind of Navy-Marine Team the Commandant is promoting.

To get the Marines ashore will be a number of landing craft mounted on side davits like the large life boats on major tour ships. They thus can be quickly lowered to get the Marines ashore. The knowledge that the ship is carrying this many (and sometimes many more) battle-ready Marines will immeasurably add to its impact in visible show of force missions such as coming to the rescue of a friendly regime in the littorals threatened by a major terrorist attack. Or we could, for example, have come to the rescue of the number of Americans threatened in Tripoli in 2011, had it been necessary.

The ES show of force capability could play an important role in helping to protect NATO countries bordering Russia by showing up in the Baltic Sea if Poland and the Baltic states are threatened and in the Black Sea in the case of Rumania and Bulgaria. It could be sent to the Persian Gulf should Iran threaten to close the Strait of Hormuz. With the advent of the relatively new 180 by 1,400 feet lock, the ES could transit the Panama Canal and be available for Pacific missions, for example, helping to counter threats to sea routes in the South China Sea.

In addition to its military potential, it would be ideal for humanitarian missions—especially in stricken littorals in developing countries by providing medical assistance, work parties; food, water, and air access to remote areas.

We must never forget that in times of peace the Navy's prime function is essentially diplomatic by influencing events ashore. For this role, the ES would be unequaled. In light of its ability to decisively enhance our now lacking amphibious capability, the following quotes from the April *Proceedings* article should be taken to heart:

> The ability to conduct powerful, joint-entry operations … produces a credible deterrence against would-be aggressors … A robust amphibious capability helps assure … military success. … The application of amphibious capabilities routinely reassures allies, demonstrates U.S. influence, aids in disaster relief, and offers U.S. policymakers timely crisis response capability around the globe. The United States should not easily dismiss that flexibility in this turbulent age."[7]

Notes

1. Lt.Col Frank Hoffman and Col. George Garrett, "Amphibious Assault Will Remain a 'Corps' Competency," *Proceedings*, (Annapolis, MD: Naval Institute Press, April 2019).

2. William Lloyd Stearman, "Expeditionary Ships to the Rescue," *Marine Corps Gazette*, (Quantico, VA: November 2017).

3. John Lehman, *Oceans Ventured, Winning the Cold War at Sea*, (New York/London: W.W. Norton and Company, 2018).

4. Ibid.

5. "Amphibious Assault Will Remain a 'Corps' Competency."

6.Ibid.

7. Ibid