

Beyond the *General Belgrano* and *Sheffield*:

Lessons in Undersea and Surface Warfare from the Falkland Islands Conflict

MIDN 4/C Swartz

Naval Science 2—Research Paper

Instructor: CDR McComas

8 April 1998

Beyond the *General Belgrano* and *Sheffield*:

Lessons in Undersea and Surface Warfare from the Falkland Islands Conflict

425 miles off the coast of Argentina lie the Falkland Islands, a string of sparsely inhabited shores home to about 1500 people and far more sheep. The Falklands (or the Malvinas, as the Argentineans call them) had been in dispute long before Charles Darwin incubated his theory of evolution while observing its flora and fauna. Spain, France, Britain, and Argentina each laid claim to the islands at some point; ever since 1833, the Falklands have been a British colony, although ever since 1833, the Argentineans have protested the British “occupation.” In April of 1982, an Argentine military dictatorship made these protests substantial with a full-scale invasion of the islands. The British retaliated, eventually winning back the islands by July.

Militarily, this entirely unexpected war was heralded as the first “modern” war—a post-World War II clash of forces over a territorial dispute. “Here at last was a kind of war [military planners] recognized”; unlike Vietnam, this was “a clean, traditional war, with a proper battlefield, recognizable opponents in recognizable uniforms and positions, and no messy, scattered civil populations or guerrilla groups to complicate the situation.”¹ Here, the “smart” weapons developed over 40 years of Cold War could finally be brought to bear against real targets. Likewise, the conflict provided one of the first opportunities to use nuclear submarines in real combat. As a result, hundreds of experts have explored the lessons to be learned from the war over the Falklands.

¹ Peter M. Dunn, “Lessons Learned and Unlearned,” *Military Lessons of the Falkland Islands War: Views from the United States*, ed. Bruce W. Watson and Peter M. Dunn. Boulder, Colorado: Westview Press, 1984. 127.

However, accounts of the war tend to center on the sinking of two ships in particular: the Argentine cruiser *General Belgrano* and the British destroyer HMS *Sheffield*. Sunk by a nuclear submarine and a “smart” missile respectively, these two ships’ demise reflect important lessons to be learned about naval warfare, but must be viewed in a larger context. Submarines and “smart” weapons played a far larger role in the conflict than simply sinking two ships; only by understanding the larger picture can one learn the lessons of the Falklands Conflict.

Submarines in the Falklands Conflict

The first operation involving a submarine in the Falklands involved the Argentine submarine *Santa Fe*, the former USS *Catfish* (SS 339), a Perch class diesel sub commissioned in 1945. The *Santa Fe* was en route to the Falklands to covertly ship supplies to the troops garrisoned there, surfaced and approaching the port of Grytviken, when it was spotted by a British helicopter on April 25.² The helicopter was one of a group of five consisting of one Wessex, two Wasp, and two Sea Lynx, which subsequently fired on the helpless submarine with depth charges and other ordnance.³ Surfaced, the submarine had little defense except for the rifles found on board. The *Santa Fe*’s crew beached the badly damaged submarine just outside of Grytviken. Although this was a chance encounter, it highlights the vulnerability of a submarine when on the surface. As the submarine is a weapon of stealth, once that stealth is removed, it becomes a sitting duck to attacks from both the air and sea.

The *Santa Fe* was not the first submarine on the scene, however; as the political conflict escalated in March, the British nuclear submarines *Spartan*, *Splendid*, and *Conqueror* were

² William J. Ruhe, “Submarine Lessons,” *Military Lessons of the Falkland Islands War: Views from the United States*. 8.

ordered to sail for the Falklands, to “covertly prepare a task force for South Atlantic operations.”⁴ This action showed two advantages of the modern nuclear submarine: speed and stealth. Thanks to their nuclear propulsion plants, the submarines were able to arrive far before the rest of the British task force. Furthermore, this action took place without at all affecting the political situation. Because the ships could remain undetected nearly indefinitely, the Argentineans had no idea that submarines were off their coast unless the British told them, thus not exacerbating an already tense situation. Indeed, had the politicians been able to resolve the conflict at that time, there would have been no trace of the British submarines ever being in the area.

The British did eventually inform the Argentineans of their submarines’ presence, however, finally establishing a 200-mile “maritime exclusion zone” around the Falklands on April 12. This effectively stopped any Argentine naval operations in the area: no ship would dare to risk entering waters patrolled by the superbly handled British submarines. Indeed, in an interesting illumination on the stealth of nuclear submarines, the British could have been bluffing without the Argentineans ever knowing—as one British submariner quipped, “the only way to know for sure that there is a submarine is when one starts losing ships—and that’s a very expensive way to find out.”⁵

That maritime exclusion zone resulted in the most famous submarine encounter of the war, the sinking of the Argentinean cruiser *General Belgrano* by the HMS *Conqueror*. On May 2nd, the *Belgrano* and two destroyer escorts went on patrol just outside of the exclusion zone. The British saw the *Belgrano* group as a threat to its task force, and ordered the *Conqueror* to

³ USS Catfish SS339 Home Page <http://wavecom.net/~rontini/catfish.html>

⁴ Ruhe 7.

⁵ Tom Clancy, *Submarine*.

engage. The *Conqueror* used two Mk VIII torpedoes, sinking the *Belgrano* in forty minutes.⁶ This was the first time that a nuclear submarine had attacked a surface ship in actual combat. The Argentineans learned their lesson well: the Argentine navy was essentially holed up in port most of the war, especially their carrier *Veinticinco de Mayo*. As a result, Argentine planes had to fly 425 miles from the Argentine mainland to their targets, which taxed their fuel capacity to the breaking point.⁷

Perhaps the most disturbing lesson of the war is in the realm of Anti-Submarine Warfare (ASW). Argentina had only four World War II-era diesel submarines, two of which were tied up in port: the *Salta*'s battery was depleted (although the Argentines moved it around to confuse the British) and the *Santiago del Estro* had been cannibalized for spare parts.⁸ As mentioned above, the *Santa Fe* was damaged early in the war and thus remained inoperative throughout the conflict. However, the British spent an extraordinary amount of time trying to track these few submarines. An enormous amount of ordnance was dropped on false contacts, while Sea King antisubmarine helicopters constantly patrolled the area.⁹ Their efforts were confounded by the difficulty to conduct sonar operations in shallow water.¹⁰ That the British spent so much time and firepower ineffectively chasing one outmoded diesel submarine shows both the difficulty of ASW and the deadliness of even older submarines to a large surface fleet.

Indeed, the *San Luis* fired several torpedoes on British ships, yet each torpedo missed its target. It is suspected that "synchro misalignment had caused incorrect bearing information to be transmitted from the periscope to the fire-control console," and that furthermore an "over-zealous leading petty officer...had incorrectly reconnected lead used to power-up torpedoes in

⁶ Ruhe 8.

⁷ James L. George, "Large Versus Small Carriers," *Military Lessons of the Falkland Islands War: Views from the United States*. 16.

⁸ "The Lesson of the San Luis," *International Defense Review*, Vol. 30 No. 8. 36.

their tubes before launch.”¹¹ This shows that one must not only have the technology—one must also be well-trained in using it effectively.

Surface Warfare in the Falklands Conflict

Despite the importance of ASW operations, the British goal was, ultimately, to take back the islands. This required airplanes to provide air support to ground troops, shoot down incoming Argentine planes, and protect the fleet itself. The Sea Harrier, a variant of the vertical-takeoff Harrier jet fighter designed for the Royal Navy, proved itself admirably throughout the conflict. The Sea Harriers were launched from the *Hermes* and *Invincible*, two Vertical/Short Take-Off and Landing (V/STOL) carriers. Armed with AIM-9L Sidewinder missiles, the Harriers exceeded their commanders’ expectations, shooting down several Argentine planes and providing close air support for the Army and Royal Marines.¹² Their success has prompted some in the US Navy to consider augmenting or even replacing our fleet of conventional carriers with V/STOL models.

Observers often forget that British victory in the Falklands was by no means a sure thing: the British Battle Group Commander, Admiral Sandy Woodward, said that “major damage to *Hermes* or to *Invincible*...would probably cause us to abandon the entire Falkland Island operation.”¹³ To protect these vital resources, several destroyers and frigates were sent on radar picket duty to essentially form the first line of defense against Argentine air attacks. One such

⁹ Ruhe 10.

¹⁰ “Solutions to the Shallow-Water Challenge,” *Jane's Navy International*, Vol. 101 No. 5. 10.

¹¹ “The Lesson of the San Luis”

¹² Earl H. Tilford, Jr. “Air Power Lessons,” *Military Lessons of the Falkland Islands War: Views from the United States*. 42-43.

¹³ Admiral Sir John Woodward and Patrick Robinson, *One Hundred Days*. London: HarperCollins Publishers, 1992. 5.

destroyer, the HMS *Sheffield*, was sunk by a French-built Exocet missile, prompting a great deal of press on both sides of the Atlantic. The *Sheffield* was not the only ship to be attacked, however; the *Coventry*, *Glasgow*, and *Ardent* were all hit by conventional weapons (only the *Glasgow* survived).¹⁴ Likewise, the *Atlantic Conveyor* was downed by two Exocets and the *Glamorgan* barely escaped another Exocet.¹⁵ Furthermore, the *Sheffield* was not the first ship to be sunk by a “smart” weapon; as early as 1967 the Egyptians had launched Soviet-made Styx missiles, sinking the Israeli destroyer *Eilat*. By examining what caused these ships to be hit and/or sunk, we can learn vital lessons about surface warfare.

First, the British task force lacked Airborne Early Warning (AEW), planes that can detect enemy jets from far away, allowing ships time to arm their defenses and other planes time to shoot down the enemy. Indeed, the heavy losses as a result of lacking AEW have spurred the British to upgrade their Sea King planes to include AEW capability.¹⁶ US Navy officials claim that an American carrier battle group would never encounter ship losses equivalent to the British because our larger supercarriers provide for AEW planes.¹⁷ As one admiral put it, it is easier to “shoot at Indians, not at arrows.”¹⁸ Indeed, British naval officers explained after the Falklands conflict that their ships were not designed for Falklands-like conflict, but rather for a joint NATO strike with close airborne support provided by the US Navy.¹⁹

However, relying on carrier support alone would be foolhardy. Several retired admirals have expressed concern over our over-reliance on carriers: former Chief of Naval Operations Elmo Zumwalt has called the carriers “a seaborne Maginot Line,” and Admiral Hyman Rickover

¹⁴ Norman Friedman, “Surface Combatant Lessons,” *Military Lessons of the Falkland Islands War: Views from the United States*. 28-29.

¹⁵ Ibid 32.

¹⁶ Charles Bickers, “Sea King AEW Bids Line Up,” *Jane’s Defense Weekly*, Vol. 25, No. 17. 9.

¹⁷ “Unsinkable or Sitting Duck? Fierce Debate Over Navy’s Super Carriers,” *Time*, November 1982. 56.

¹⁸ Anthony Preston, “Defending Ships Against Missiles,” *Jane’s Defence Systems Modernisation*, Vol. 5, No. 6. 34.

¹⁹ John Brecher and Tony Clifton, “The Falklands War: A Naval Postmortem,” *Newsweek*, June 7, 1982. 22.

said that they would last “about two days” in a major conflict with Soviet submarines.²⁰ Thus, many call for defense systems on ships themselves to shoot down missiles that get through the carrier defenses. Here, the US Navy points to the Phalanx Close-In Weapon System (affectionately known as the CIWS) as a last-ditch defense against incoming missiles. However, no defense system is useful if it is not activated. This lesson proved itself well in the downing of the USS *Stark* in the Persian Gulf in 1987 by an Exocet missile nearly identical to the ones that hit the *Sheffield*, *Atlantic Conveyor*, and *Glamorgan*. Like the *Sheffield*, the *Stark* failed to employ the available countermeasures; her captain claimed that the ship’s electronic warning system failed to detect the missile, and that the Phalanx system was not on automatic for fear of hitting friendly forces.²¹ One proposed solution is to integrate artificial intelligence technologies into close-in weapons systems, such as the Navy’s Aegis system.²²

Ultimately, however, no matter how well defended a ship is, there is always the chance it could be hit. Examining which ships in the Falklands Conflict survived the hits and which did not provides valuable lessons in damage control, fire fighting, and ship design. The *Glamorgan*, for example, survived its Exocet hit, partially because of its navigator’s skillfully turning the ship away from the weapon, but also because it is bigger than the *Sheffield*, such that “any hit would affect a smaller percentage of her length.”²³ Many also speculate that the aluminum hulls of the *Sheffield* and other destroyers prevented adequate damage control and firefighting, because aluminum melts at relatively low temperatures. A House of Commons committee directed to investigate the conflict was extremely critical of “fire- and battle-damage control” on board the various vessels; in particular, ruptured fuel tanks caused massive amounts of fire and smoke to

²⁰ “Unsinkable or Sitting Duck?”

²¹ “Lessons of the Stark, Not All Costly,” *The New York Times*, May 22, 1987. A30.

²² Mark Hewish, “Strengthening the Weakest Link: Integrated Ship Self-Defense in the Age of Littoral Warfare,” *Jane’s International Defense Review*, Vol. 28, No. 11. 41.

erupt.²⁴ As a result, new British ships have tanks as low as possible in the hull, and during the Gulf War the British practiced assisting other ships with fire fighting.²⁵

One often forgotten aspect of the Falklands conflict is the role of logistics. Despite the fancy “smart” weapons and state-of-the art aviation technology, the war—like every war since the dawn of combat—was won with logistics. The British had to provide the “bullets and beans” to supply its sailors and troops fighting a war 8,000 miles away from home. They accomplished this by two methods: First, they established a “forward” base at Ascension Island, airlifting stores and troops to the island early in the conflict.²⁶ Though the island is still 3,750 miles away from the Falklands, it cut in half the distance necessary to resupply the British fleet. Second, the British utilized their substantial merchant fleet to ship supplies from Ascension Island to the task force. This “particularly ingenious solution” involved using a number of civilian vessels, including the luxury liner *Queen Elizabeth II*, to transport both troops and materiel.²⁷ Of course, the plan worked mainly because the Argentineans failed to attack these merchant vessels. The Argentineans essentially made the same mistake that the Japanese had in World War II: by attacking military vessels rather than the slower-moving, more poorly-defended logistics ships that supplied them, they failed to halt the British fleet. Indeed, the only logistics ship hit by the Argentineans was hit by accident: the *Atlantic Conveyor* was badly damaged by a missile intended for another ship.

²³ Friedman 32.

²⁴ “Falklands Experience Invaluable,” *Jane’s International Defense Review*, Vol. 24 No 2. 114.

²⁵ *Ibid.*

²⁶ F. Clifton Berry, Jr. Foreword to *Military Lessons of the Falkland Islands War: Views from the United States*. xi.

²⁷ Daniel K. Gibran, *The Falklands War: Britain Versus the Past in the South Atlantic*. Jefferson, North Carolina: McFarland & Company, 1998. 146.

Conclusions

Given this broader picture of the Falklands conflict, one can derive important lessons in both undersea and surface warfare. The vulnerability of surfaced submarines, the speed and stealth of nuclear submarines, the difficulty of ASW operations, the viability of CTOL carriers, the need for airborne early warning and electronic warfare defenses, and the importance of logistics were but a few of these lessons. With luck, the US Navy will learn these lessons so that it can meet the challenges of the Post-Cold War, increasingly complex world.

Ultimately, however, the final lesson of this war is not military, but political: had cooler heads prevailed on both sides of the Atlantic, thousands of lives would not have perished for a few rocky, nearly desolate islands. Whatever the military failures, follies, and deficiencies, war is nearly always the failure of politics.