

Literary Frolic Fridays: September, 2019 edition
Captain Edward “Ned” Latimer Beach’s *Run Silent, Run Deep*

Faulty Ordnance

Between 1941-1943, crews of US submarines were imperiled by faulty gov’t issued ordnance

- ✚ Between 1941 and 1943, the lives of the submarine crews of the US Navy were imperiled by faulty ordnance—“criminally defective weapons”—as much as by enemy attack.
- ✚ In the opinion of today’s author, Captain Edward Latimer Beach, the faulty torpedoes which, between 1941 and 1943, the Department of the Navy equipped the US submarine fleet was “the root cause” behind the “shameful” “debacle” of the US’s capitulation of the Philippines to the Japanese in 1942. The only contributions made at that time in the Philippines by the US submarine fleet were, in Beach’s opinion, the evacuation of a handful of trapped personnel and the spiriting away of several million dollars of gold bullion.
- ✚ As Beach observed: “Nothing can be more demoralizing to men who must risk their lives in combat than to be forced to use weapons which they know ... are not dependable ... and for which they have no substitute ...” When disasters occurred or attacks failed, “without exception, [they] were blamed on the skippers, their fire-control parties, and their torpedo-overhaul personnel.”
- ✚ “Our Navy’s concentration on paperwork and paper results overwhelmed reality.”

Torpedoes:

- Mark XIV: The US Submarine Fleet’s standard issue torpedo during the Second World War was the Mark XIV. It was developed during the Great Depression (1922) by the Naval Bureau of Ordnance at the Naval Torpedo Station on Newport, Rhode Island’s Goat Island. Unbeknownst at the time, its design was already antiquated and inferior against those being utilized by the British, Germans, and Japanese (which were lighter, faster, and more destructive).

- Just over 20 feet long, each Mark XIV weighed 3,200 lbs., carried a 650-lbs. warhead, was steam powered, and could run a distance of 4,500 yards at 46 knots (approx. 53 mph).
- Due to insubstantial funding and other constraints, the Mark XIV torpedoes went through insufficient development and inadequate testing—none were even given a live-fire test!
- Between 1941 and late 1943, the Mark XIVs routinely proved faulty, unpredictable, and inconsistent weapons: they exploded before reaching their intended targets, ran either too deep or in circles, heading directly back to the US submarines which had fired them—sinking them if the subs were too slow to crash dive—and created a wake of gas bubbles on the surface which alerted the enemy to the presence of both the torpedo and the US sub which had fired it. The Mark XIVs also contained very few interchangeable, repairable parts.
- Despite numerous reports from skippers whose crews experienced or were threatened by nearly fatal situations caused by faulty Mark XIVs, the bureaucracies at the Naval Bureau and Navy Department attributed accidents to operational error and poor maintenance. It was not until 1943 that action was finally taken to provide the US submarine service with a weapon that it could trust and count on.

Specific problems endemic to the Mark XIV torpedoes, pre-1943

➤ *Faulty exploders caused premature explosions*

- Any vessel in a body of water not made of wood or fiberglass is like a floating magnet; it emits a magnetic field into and through the body of water it travels within. The strength, intensity, and distance of these fields are impacted by: the material the vessel is constructed from, the origin of that material, where on the surface of the Earth the vessel happens to be traveling and the direction in which it is going.
- In and of itself, the planet Earth is a gigantic magnet. Its fields or lines of magnetism run from north to south.

- There are some locations where the Earth’s magnetic field is particularly strong and others where it happens to be weak. Consequently, in some bodies of water, a ship’s magnetic field is augmented and extended outwards a considerable distance by the Earth’s magnetic field; in others, the field is limited in range.
 - Upon entering the magnetic field projected by an enemy vessel, torpedoes often exploded *before* having made any physical contact whatsoever with the vessel itself. In such cases, US submarines were left defenseless and vulnerable.
 - In an attempt to keep that from happening, submarine crews often disarmed the primary exploders of their torpedoes. This “home remedy” often backfired; the backup contact exploders had a habit of deforming and becoming bent out of shape. Even though a torpedo might have struck its target at a perfect ninety degree angle it might not have exploded because the now deformed contact could only be triggered by a glancing blow.
 - On those occasions when it was too dangerous for a submarine to remain at periscope depth and watch an enemy target break up and sink, captains had to rely upon the sounds they heard to determine the success or failure of an attack: consequently, conflicting tallies arose between captains and the Navy with regard to the numbers of enemy targets sunk or damaged.
- ***Running deeper than intended***
- Often, the torpedoes ran at greater depths than that which their indicators had specified—sometimes at depths exceeding the operability limits of their exploders. Instead of striking their targets, torpedoes simply ran underneath the hulls of enemy vessels. To compensate for the depth discrepancies, some captains (unofficially) set their torpedoes to artificially shallow depths such as “three feet against a big ship and zero feet against a small one.”
- ***Torpedoes circulating back and attacking the subs which had fired them:***
- Often, rudders of torpedoes would jam and cause them to swing back (with warheads armed and ready) to the very spots from whence they had been fired. In such instances, a second could mean the difference between life and death. Captain Beach hypothesized that six out of the

20 US submarines that were lost with all hands in the Pacific Theater due to unattributed causes were probably sunk by their own torpedoes.

During active service, Beach experienced each of these potentially fatal mishaps first-hand.

- In February, 1943 while in her patrol area between Palau, Micronesia and Wewak, New Guinea, the USS *Trigger* fired torpedoes against a Japanese freighter: the rudder of one of the torpedoes jammed and it circled back directly towards the *Trigger*. Beach and the other men survived because the torpedo exploded prematurely before it could make direct contact with the *Trigger*. Altered to the sub's presence, the Japanese freighter made good its escape.
- A few weeks later, the *Trigger* encountered a convoy of five ships protected at their flanks by two Japanese destroyers. After running underneath a destroyer, the *Trigger* fired a torpedo at the largest of the freighters in the convoy: the torpedo malfunctioned by surfacing itself, thereby alerting the Japanese to the sub's presence. Before the *Trigger* could fire again the two destroyers barreled down on top of her, forcing *Trigger* to dive for her life.
- While in the East China Sea that September (1943), *Trigger* encountered two unescorted Japanese freighters sailing together. Her torpedoes struck what should have been death blows to both ships but they failed to explode. Thus alerted, the freighters parted ways and sailed away in different directions.
- Just a few days later (September, 1943), the *Trigger* encountered a Japanese convoy consisting of three oil tankers and three freighters. Launching a nighttime ambush, the *Trigger* slid into the middle of the convoy, surfaced, and attacked. Though the torpedoes worked that time as designed the *Trigger's* 3-inch gun could not fire five rounds in a row without jamming. This forced *Trigger* to cut its attack short as one of the enemy escorts was still at large.

BIBLIOGRAPHY

Beach, Edward L. "Culpable Negligence: A Submarine Commander Tells Why We Almost Lost the Pacific War." *American Heritage*, December, 1981.
<https://www.americanheritage.com/culpable-negligence>

Bogart, Charles H. "Hunter/Killer." *Sea Classics*, March, 1974.
<http://navsource.org/archives/08/pdf/0823735.pdf>

Christmas, Timothy J. "From Boat Driver to Writer. Author Beach and His Submarines." *All Hands*, November, 1985.
https://www.navy.mil/ah_online/archpdf/ah198511.pdf

David F. Matthew. "Mark XIV Torpedo Case Study." Naval Post Graduate School, Monterey, California, 2011.
<https://calhoun.nps.edu/bitstream/handle/10945/25598/NPS-GSBPP-11-005.pdf?sequence=1&isAllowed=y>