

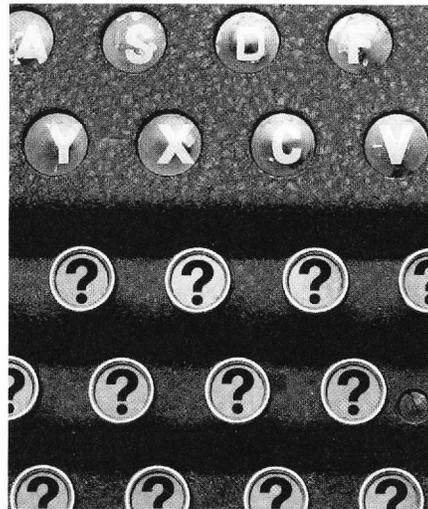
...the Allies Had Not Broken the German Naval Code?

By Mark Grimsley

WHEN IT WAS finally revealed in 1974 that the Allies had been reading the encrypted German Enigma transmissions throughout much of the war—intelligence the Allies called Ultra—historians initially expected the news to shed light on the conflict's numerous turning points, which it did. They also thought it would likely emerge as a crucial factor in some of them, which it didn't. Although Ultra was a major asset to Allied intelligence, few historians now consider it to have been the decisive factor in any major operation—with one exception.

The exception was the Battle of the Atlantic, the war's longest campaign. It began on September 3, 1939, the day Great Britain entered the war. It did not truly cease until May 8, 1945, the day Germany surrendered. The battle was crucial. If Britain did not receive enough supplies, it might not be able to stay in the war. In his memoirs, Winston Churchill confessed, "The only thing that ever really frightened me during the war was the U-boat peril."

In the early years, the British relied



on warships armed with depth charges and equipped with radar and sonar to escort their convoys. The Germans countered with a mix of surface raiders and U-boats, but rapidly shifted toward the latter. The Kriegsmarine had just 57 U-boats when the war broke out, but steadily increased this number until, by August 1942, it boasted 300.

The U-boats operated in "wolf packs"—clusters of several vessels arrayed in a loose chain across the major shipping lines but within easy supporting distance, so that when one U-boat spotted a convoy the others could quickly move in to join the attack. Convoys caught by wolf packs

could suffer devastating losses in a matter of hours.

On both sides, radio communications -- elaborately encoded to foil eavesdroppers -- played an indispensable role. Unbeknownst to the British, German cryptanalysts had cracked the Royal Navy codes before the war and had read British naval traffic for more than two years. Germany, for its part, utilized Enigma -- a complex enciphering machine considered impossible to decrypt if the correct procedures were used to protect it. Nonetheless, Britain and France were well aware of Enigma. Polish intelligence had studied it intensely during the interwar period and just prior to the outbreak of hostilities, handed the western Allies a working model of the Enigma machine as well as their extensive knowledge of how to decrypt it.

Using their knowledge of how Enigma worked, along with higher algebra, gifted insight, and numerous clues ("cribs") from sloppy encryption operators, British cryptanalysts learned to decipher some Enigma traffic. The German Wehrmacht and Luftwaffe codes proved relatively easy to crack because of rampant neglect of good communication procedure. The Kriegsmarine, however, did much better—which was particularly frustrating because it was the naval code the British most urgently needed to penetrate.

Britain's first major breakthrough

came in May 1941, when its warships seized a German weather trawler and, by happy accident, captured a German U-boat. In both cases British cryptanalysts acquired keys that enabled them to decrypt German naval traffic fast enough for the information to be operationally useful, especially in terms of re-routing convoys away from wolf packs.

But in February 1942 the Germans shifted to Triton, a more complex Enigma variant the British couldn't read. The result was a major increase in U-boat interceptions of convoys and merchant ship losses -- over 5.6 million tons between February and November 1942.

All that was about to change, however. In October 1942, two British destroyers found and attacked *U-559* in the eastern Mediterranean Sea. A barrage of more than 200 depth charges forced the U-boat to the surface. When the German crew abandoned ship, three British seamen -- Tommy Brown, Antony Fasson, and Colin Grazier -- climbed into the U-boat's control room. Making their way to the captain's cabin, they used a machine gun to open its locked cabinets, then frantically grabbed the documents they found inside. Brown made it to safety, but Fasson and Grazier drowned when the U-boat abruptly sank, never knowing that the documents they had died to secure contained the keys needed to break the Triton code. It took British

cryptanalysts until early 1943 to capitalize on this find. When they did, the results were dramatic.

By that juncture, Allies had all the elements they needed to wage the Battle of the Atlantic: radar, sonar, improved depth charges, and long-range aircraft. But the decrypts maximized their usefulness and, moreover, transformed the nature of the battle. The Allies not only diverted convoys from wolf packs, but zeroed in on both combat U-boats and the oversized supply U-boats that enabled the combat boats to greatly extend their time at sea. The hunters became the hunted.

By May 1943, U-boat losses were so heavy that Admiral Karl Donitz withdrew them from the North Atlantic. Although the battle continued at a reduced tempo, the Allies had effectively won. According to military historians Allan R. Millett and Williamson Murray, "Ultra's contribution to the antisubmarine battle now became the most significant intelligence victory of the war, and the only episode in which intelligence alone had a decisive impact on military operations."

What would have happened if the Allies had never cracked the Triton code? It must be acknowledged that the Kriegsmarine could never have achieved its goal of knocking Britain out of the war. British planners estimated that Britain needed to import

between 9.8 and 11.5 million tons of supplies per year. The U-boats never came close to sinking that amount. But the effect would nonetheless have been catastrophic. Unable to divert convoys around known German wolf packs, the Allies would have suffered much heavier losses. They would have had much greater difficulty in finding and destroying German U-boats.

Historian David Kahn is probably on target when he concludes that a failure to crack the code would have delayed the Allied ground offensives by several months—and in the case of the Normandy invasion, pushed it back into 1945. Based on shipping figures, Kahn estimates that the Mediterranean offensives would have been delayed by three months, and that to get sufficient tonnage it would have been necessary to transfer vessels from the Pacific, thereby delaying operations in that theater as well. The increased number of U-boats (because of reduced losses) would also have made Lend-Lease supply to the Soviet Union far more problematic. Barring the atomic bomb, the war might have been extended by as much as two years, until 1947.

The gallantry of three British seamen may therefore have saved hundreds of thousands of lives. *