Code Girls: The Untold Story of the American Women Code Breakers of World War II

by Liza Mundy

Reviewed by
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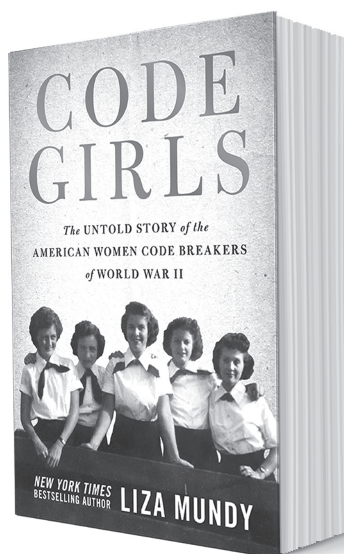

EXECUTIVE SUMMARY

In *Code Girls*, Liza Mundy explores the previously untold story, and largely unrecognized contributions, of the first women to officially serve as part of World War II US intelligence code-breaking efforts. At approximately 11,000, these women comprised more than fifty percent of the 20,000 workers. Based on voluminous research from the National Cryptologic Museum and the National Archives, Mundy brings to life these civilian and military women's stories as they decrypted messages from the enemy Axis Powers, thereby significantly advancing the Allied war effort. Meticulously researched, this work provides fascinating insights for all who have an interest in women's contributions and progress within the military as well as mathematics and computing professions. Historians, intelligence and cyber professionals, and feminists should find it especially illuminating. Mundy paints a vibrant picture of the challenges faced by the Allies as well as the workplace, living conditions, personal stories and struggles experienced by these women code-breakers executing their classified mission. This book does not extensively cover the methods and techniques of code-breaking; instead, the author wonderfully combines personal firsthand stories from these women's lives with the significant impact their sacrifice and efforts had on strategic intelligence supporting military operations, thereby turning the tide of a seemingly unwinnable war into ultimate victory. Similar to the style of popular movie/book *Hidden Figures* in describing African American women's contributions to the Space Race, *Code Girls* brings to light the substantial contributions women made in Intelligence gathering during World War II.

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REVIEW

Recalling the pervasive operational security (OPSEC) initiatives during World War II, such as "Loose Lips Sink Ships" or "Somebody Talked," it is not difficult to ascertain why the stories of approximately eleven thousand female code-breakers were mostly left out of history books. Those who served were strongly encouraged to maintain OPSEC, and the US government itself was slow to declassify the salient details until the 1990s. The author pieces together a compelling and coherent narrative from thousands of boxes of records, rosters, memos, declassified reviews, and other documents. She also convinced about twenty of the women to relate their personal stories. If this research had started earlier, more of these primary sources would have been available to provide commentary, although perhaps not all would have been willing.

As an increasing number of men were sent to the European and Pacific theaters, Mundy describes how recruiters lobbied intensely at the Seven Sisters' Schools, pulling on the patriotic heartstrings of the women to convince them to serve. As many had ties to the war through their husbands or boyfriends, fathers, brothers, cousins, friends, and neighbors, this was not a tough sell for recruiters who did not even disclose the nature of the classified mission. Consistent with other World War II writing, this book emphasizes that this was everyone's war, and all had a role to play.

The first code-breaking recruits were brought into the Army and Navy as civilians. Their numbers would grow from the low hundreds on the eve of Pearl Harbor, to about 7,000 in the Army and 4,000 in the Navy in 1945. For many, this was their first paid employment. The work was not glamorous, and men were not eager to fill these roles. Nonetheless, the women were screened to see if they had sufficient grit to handle

the demanding assignment. Aptitude tests rated them as clerical, technical, or analytic. Those that scored the highest were rated as analytic and would serve in a code-breaking assignment. Code-breakers worked three shifts: day (8am-4pm), swing (4pm-12am), and graveyard (12am-8am). In contrast to a traditional military hierarchy, the Arlington post, where much of the code-breaking was performed, was a largely flat operation that encouraged decision-making inputs from the female code-breakers.

Despite the propaganda, the war was not going well during the early days, and code-breakers were learning their trade as they went. Readers of this book may not necessarily walk away understanding how code-breaking worked, but Mundy emphasizes that success in the assignment required a greater memory than today. The tasks, comparing and recognizing patterns, provided much more of a mental challenge with the absence of modern computers, artificial intelligence, or electronic devices to assist with the tasks.

One example of these pioneers was Agnes Driscoll, who was a young mathematics teacher initially recruited to be a stenographer. After being transferred to the Navy's postal and censorship office, she began to methodically decode messages of the Japanese fleet code throughout the 1920s and 1930s. She eventually became such an expert that she taught code-breaking to men, who then received approximately twenty-five to thirty percent higher compensation. For example, a 1941 Navy memo proposed paying female clerks, typists, and stenographers $1,440 per year, while men in these positions were to be paid $1,620. For Ph.D's, the gender-gap heightened as females were paid $ 2,300 compared with $3,200 for males. Because it was not yet illegal (through the Civil Rights Equal Pay Act of 1964) to provide "Equal Pay for Equal Work," female code-breakers were paid less than men for the same tasks. Another unsung example from Mundy's work is Elizabeth Smith Friedman, a veteran code-breaker since 1927 whose codes would be used by the Office of Strategic Services (OSS), the predecessor to the Central Intelligence Agency (CIA). As there was not a way to correct the record without running afoul of OPSEC and risking treason, her husband, William Friedman, an Army code breaker is sometimes incorrectly credited for her efforts, although she was the one who introduced him to the craft.

Despite their skills and work ethic, the author asserts these women were often treated with condescension and harassment instead of respect. While both the Army and Navy were looking for women with backgrounds in science, math, music, and language, Mundy shows some stark differences between the service's treatment of women. The former allowed women to serve overseas and welcomed non-whites were into the code-breaking operation. In the latter, more code-breakers would serve in uniform than in a civilian status, restricted women to domestic service, and avoided bringing African-American women into their operations. Nonetheless, at the war's conclusion, almost all women were discharged or resigned. Women with families were traditionally supposed to stay home, supported by their husbands; despite their experience, that cultural viewpoint remained stalwart. Agnes Driscoll was one of the few that kept serving after the war.

One interesting anecdote from *Code Girls* hints at OPSEC's impact on daily life. It is widely acknowledged that everyone was called upon to support and sacrifice to further the war effort. In stark contrast to today's society, the public was encouraged to transport those in uniform. In doing so, they would inquire about the servicemember's duties. It was impressed upon the women that if anyone should ask, they were to discourage further engagement on the issue by answering that they were doing clerical work, sharpening pencils, or filling ink blots. In one instance, unbeknownst to the code-breaking WAVE, a Navy Admiral in civilian clothes was the one inquiring; when she answered, "clerical work," the Admiral gave her a wink, wordlessly conveying that she passed the secrecy test. OPSEC had been maintained!

As in other wars and conflicts, Mundy links the intelligence gathered by the code-breakers to the critical turning points in several battles, thereby changing the eventual outcome of a seemingly desperate war. This intelligence information included enemy supply status, troop training, promotions, convoys sailing, reserves, attacks, changes in the makeup of the Japanese Army, railroad conditions, shipboard losses, casualties, convoys delayed, tools lost, and plans to hamper US air activity. At that time, ships were utilized as the primary form of transport, and they carried troops, food, and medicine as well as spare parts for aircraft and weapons. Code-breaking information about these itineraries revealed to the US what enemy ships needed refueling, what ships were in a given harbor, what convoys were deploying and their likely destination. This intelligence made its way to the highest levels of the US military, to Admiral Chester Nimitz in the Battle of the Coral Sea and the Battle of Midway in 1942, and General Douglas MacArthur in Operation Cartwheel in 1943, to a deception campaign that successfully diverted the German military away from the correct landing sites in France for D-Day in 1944. The codebreakers' intelligence reduced US casualties and expedited destruction of the Axis powers infrastructure.

One of the book's greatest strengths is its snapshot into the daily lives of women code-breakers. Recruits, who often joined due to patriotism, learned the stark difference from the glossy recruiting advertisements when they arrived in Washington, D.C. (pre-air conditioning) for their shifts with clean dresses, and departed with their clothes stuck to them from the intense humidity. Generally, code-breakers resided in more modest living accommodations than today. Two examples were Dot Braden and Ruth "Crow" Weston. To make ends meet in Washington, they shared an apartment by bunking together while another roommate slept on the couch. When the women purchased a mattress, modern furniture delivery did not exist; so, the women bartered with the shopkeeper to drive the mattress to their apartment in return for preparing him scrambled eggs. Like many other workplaces at the time, code-breaking was no place for a "working mom." Although the Army was more tolerant of pregnancy, planned and unexpected, the Navy treated pregnancy as a disqualifying condition, whether joining or continuing service. Once Weston became pregnant, she wrote in her file, "I have to resign my position as a mathematician because I am needed at home with my baby." By telling these stories, Mundy shows implicitly how women's roles have evolved since World War II.

While the author, a veteran writer of women's issues, does glorify these women, she recognizes their challenges and the toll of the work upon them. As the US propaganda machine was steadily conveying a message of success to the public, the code breakers were privy to the grim realities of where the enemy was targeting, and whose husbands, fiancées or brothers were casualties of war. The secrecy of the mission was so isolating that even code-breaking roommates did not discuss their work with one another. As a result, many broke down, and some would abuse alcohol to cope with the stress and isolation. It was Post-Traumatic Stress Syndrome (PTSD) before it had a name or treatments. The US Government was slow to declassify these efforts, and families of the code-breakers would not learn until at least the 1990s that these women were doing more than some clerical function.

CONCLUSION

Liza Mundy succeeds in penetrating the prolonged OPSEC by bringing the story of women code-breakers to life. Not only *could* these 11,000 women do what was asked, they *did*, while also fighting an uphill battle of gender discrimination before the passage of civil rights laws that would mandate equal pay and decent working conditions. Mundy shows that the steadfast devotion to duty of these silent patriots contributed to the Allies' successes, and it is fitting that their stories are finally told, resulting in the admiration and recognition they richly deserve.

Title: *Code Girls: The Untold Story of the American Women Code Breakers of World War II*

Author: Liza Mundy

Publisher: Hachette Books
(October 2, 2018)

Paperback: 448 pages

Language: English

ISBN-13: 9780316352543

Price: $28