

Meet the **CODE GIRLS**, and discover how journalist
LIZA MUNDY cracked their stories while
researching her new book.

CODE GIRLS
*The Untold Story of the American Women Code Breakers
Who Helped Win World War II*

She clapped her hand to her mouth, as if she couldn't believe she had said it. The word she had uttered was "overlapper," and it was the first time she had used it since 1945. Even during the war, the only place she could say the term was within the fenced and guarded compound where she worked. To use it anywhere else might tip off a curious stranger to the kind of work she was doing. Once the war was over, she stopped working at the compound and so could not say it anywhere. And yet, even though 70 years had passed, she had not forgotten it, either.

It was a weekday afternoon in the summer of 2015, and I was sitting in an assisted living facility on the outskirts of Richmond, Virginia, talking to 95-year-old Dorothy Bruce about her work breaking codes during World War II. Dorothy--or Dot, as she was called--was a schoolteacher when she was recruited to come to Washington. After the tragic shock of the attack at Pearl Harbor, which was one of the biggest intelligence failures in American history, the U.S. government was desperately seeking educated women to help build a massive code-breaking operation to attack Japanese and German codes. Dot was one of more than 10,000 women who answered her country's call to service, boarding a train to come to Washington and learn a new and arcane line of work. These women were the backbone of one of history's great intelligence successes, and until now they have gotten no public credit for the contribution.

There is irony here; in the late 1930s and early 1940s, one of the prevailing stereotypes about women was that they could not keep a secret. Women, everybody knew, were gossips; they were chatterers, fishwives, rumor-mongers. But in fact, the women not only kept the secret during the war, but most of them took it to their graves.

Quite a few are still alive, however, with vivid memories of the war and the work they did to help win it. For the past three years, I've had the honor of interviewing scores of women about their wartime code-breaking service. In almost every case, I had to persuade them that it really is okay to talk. They swore oaths of secrecy, and while the commitment has been formally lifted—the U.S. government would like them to tell their story—they still had trouble believing it. So well did they keep their secret that few people realize that during the worst global conflict the world has seen, the Americans had a code-breaking operation that was larger than, and ever bit as significant as, the British operation at Bletchley Park. Fewer still realize that more than half of America's code-breakers were female. As young men were sent off to serve on aircraft carriers and fight in jungles and make amphibious landings onto beaches, educated women poured in to Washington and, for the first time in their lives, were offered work other than teaching school.

I came across this story when I was reading a declassified history of the post-war code-breaking project called Venona, which attacked Russian codes and yielded the names of Americans who spied for the Soviet Union during the war. The author of that history mentioned that most of the people working on Venona were women, and that many were hired during the war. Intrigued, I followed that thread to the National Cryptologic Museum in Fort Meade, Maryland. There, a museum curator and a historian for the National Security Agency, both women, were delighted to talk about the entire wartime code-breaking effort, which begat the NSA. Immediately after Pearl Harbor, they explained, female college students were recruited by the U.S. Navy, receiving secret letters in their college mailboxes, inviting them to clandestine meetings where they would be offered a correspondence course in cryptanalysis.

Thousands more were recruited by the Army, which targeted schoolteachers in the South. The female historians I was talking to work in a field, national security, that tends to be dominated by historic tomes about men, and they were so eager to get the word out that one of them went back in her files to get contact information for some of the code-breakers and their families.

These efforts led me to the women themselves, and to innumerable conversations that were not only riveting but profoundly moving. I talked to Anne Seeley, who was a senior at Smith College when she got her secret letter. Now in her mid-nineties, living at her family home on Cape Cod, she was still kayaking and sailing. And she still remembered how to do the code-breaking work she did; while my daughter videotaped her at her dining room table, she got a piece of paper and drew columns on it, then explained the peculiar kind of “false math” that Japanese fleet commanders used to encipher their communications, and the methods she and her female colleagues used to crack it. Anne Seeley was one of hundreds of women working to crack the main Japanese fleet code, used by the Japanese Navy around the Pacific. The women’s solutions would be radioed to American submarine captains, who would lie in wait for the enemy ships they identified, and sink them. She not only remembered how she did the math; she remembered every single mistake the Japanese code-makers habitually made, which helped the women get an entering wedge. Sometime later, looking through wartime documents at the National Archives, I saw that her memory was exactly right. She used terms like “additives” and “tailing” and “shooguichi messages,” and there these same terms were, in the files.

Other women remembered—and still felt--the emotions evoked by the war. I talked to Dorothy Ramale, who grew up in a tiny Pennsylvania town. She wanted to be a math teacher—a hard job for a woman to land in the 1940s, since math was considered a man’s field—and was studying at State Teachers College in Indiana, Pennsylvania, when the war broke out. So many long years later, she still remembered staying up late and going out to say goodbye as her male classmates were rounded up and put on a bus to Pittsburgh, where they would be inducted into military service.

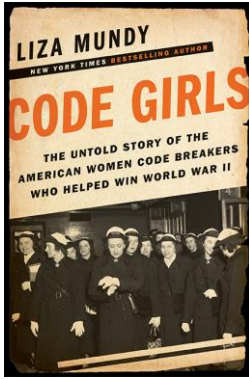
Tears sprang to her eyes as she watched them go, and as she was recounting the scene to me, sitting in a wheelchair wearing a cheerful yellow sweater that she had put on for our interview—ninety something women always dress very well for interviews—she remarked that tears were springing to her eyes, again, just remembering that night.

Other women worked on the Enigma project, breaking the codes used by the German U-boat captions. One of these, Janice Benario, worked in the submarine tracking room, where she had a huge wall map of the Atlantic Ocean, and tracked with pins the location of every U-boat the Allies knew about. Another woman I interviewed by Skype, Margaret McKenna, also worked the Engima project, and remembered the wall map, and how harrowing it was, as a young woman, to know that America was trying to send troop ships through a hornet's nest of U-boats waiting for them in the North Atlantic, and it was up to her to try and protect them. Many of the women had boyfriends and fiancés in the fighting; virtually all had brothers. Some were able to track the course of the ships their brothers were serving on. One woman knew that her brother's ship was about to be attacked by a kamikaze, and there was nothing she could do to save him.

One of the things you worry about, when you are getting started writing a book about secret events that took place 75 years ago, is that you won't be able to get enough material. Or even any material. This was my concern, but nothing could have been farther from the truth. I have become convinced that every assisted living facility up and down the east coast has at least one female code-breaker living in it, unbeknownst to her neighbors and tablemates. A friend of mine was visiting her mother, who went to Wellesley, in an assisted living facility in Maine, and she came back she told me: I've got three for you! And she did. Similarly, I went to the National Archives at College Park thinking I might be there for just a week. I stayed for months, astonished to see that, in their vast archives of papers and reports from the World War II code-breaking project—papers that were top-secret until recently--there were many documents about the women and the work they did; the boarding houses they lived in; the memos of praise they received; the deadlines and quotas they met. There were

positioned herself at the prestigious New America Foundation as one of the nation's foremost experts on women and work issues. She is also the author of the much-discussed article “Why is Silicon Valley so Awful to Women” which appeared in the April 2017 issue of *The Atlantic*. Visit her website at www.lizamundy.com; look for CODE GIRLS on sale in October.

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