Carl Thomas  00:01

Good evening. What a great turnout. Thank you so much for being here. I'm Carl Thomas. I'm the board chair of the Filson Historical Society. And I'm so pleased to welcome you to the Gertrude Pope brown Lecture Series, initiated in 1993 is a memorial to the life of Gertrude Pope Brown, and made possible by the continuous generous support of days brown Stubbs and George Garvin brown the fourth, the Series is brought internationally recognized historians to Louisville, many of whom are Pulitzer Prize winners, more than 30,000 citizens have learned more about the significant stories of our region, our nation and our world. Because of Gertrude Pope brown lectures, the Filson is most grateful for this generosity. Thank you. Just as dace and Garvin have made tonight's program possible, there are many ways that you can ensure that our history is preserved and told by generations to come. If you're interested in becoming a Filson member, purchasing a gift membership, contributing to the Filson donating to our collection, or volunteering. Please see a staff member on your way out tonight. Okay, tonight, we are honored to have New York Times best selling author Liza Mundy, who is a journalist and author of four books. She is a former staff writer for The Washington Post. Liza has a BA from pence Princeton University and an MA in English literature from the University of Virginia. Tonight, she will be discussing her latest book, code girls the untold story of American women code breakers of World War Two. And without any further ado, Liza.

Liza Mundy  02:07

I must say it is such a pleasure to hear my name pronounced the way that I pronounced it growing up, not only pronounced correctly, but pronounced with a little bit of a southern accent. I'm from southwestern Virginia. And when I went to Princeton, my accent was so strong that when I said my name, I think I said Lhasa because people couldn't even understand it. So anyway, that was just the perfect pronunciation. And it made me feel very much at home. It's such a thrill to be here in Louisville. My my grandfather in Roanoke grew up with a family business was a livery stable. And so he had horses all of his life, he always rode a horse, he always had a horse and Derby Day was huge in his house, he would get very nervous and his
palms would sweat and you weren't allowed to speak to him while the race was going on. And, and so that's a vivid memory of mine when I was growing up, as well as my first taste of a mint julep. Of course, I was a child, and I was sneaking it at a Derby Day party. And I of course, thought it would be like that sweet green candy, you know, that we had growing up. And so the actual tastes of bourbon came as a bit of a shock. But I, I would soon develop a taste for it perhaps a little sooner than I should have. But those that was a different time back then. And anyway, so horses and bourbon have certainly loomed large in my life for a long time. And it's such a pleasure to be here. And I'm so grateful to the historical society, not only for getting this incredibly great turnout, but for supporting for for supporting readers and lovers of history, for growing audiences for books about history, and for bringing on for bringing authors to speak to groups like this so that we can be together so that we can share our love of history so that we can talk. I can share anecdotes, I can hear your questions. It's such a meaningful experience for me to be here. And so I'm very grateful to this really storied society being around since the since the 19th century. It's just an incredible honor for me to be a part of it. And I'm also thrilled to talk about my book code girls, which really, for me, has been, I'd say, the most meaningful reporting and writing experience of my career. And speaking of history, I think we're at a time when women's history is being understood in a whole new way and coming into a new light. I don't know how many of you read The New York Times I know we've got some subscribers to the Washington Post here in the audience. That's my longtime employer. But I'm sure we have readers of our hated rivals. No, wait, I mean, our esteemed colleagues at the New York Times, and if you are, you may know that the times it started something called the overlooked series, and what they did was they went back in their archives and looked for important women who did not get obituaries when they died. And these are women. You know the stature of Charlotte Bronte and Sylvia Plath women you with Think would have been recognized when they passed away, but in fact weren't. And this is part of a monumental effort on the part of the New York Times to really look back at how these women were regarded and treated in their day, and to try to make a bit of restitution for they're being neglected and ignored. And of course, we're also at a time when the me to movement has caused many women to come forward and talk about painful episodes in their own past things that happened to them at a time when they felt that they couldn't tell anybody when they felt that they their voices wouldn't be heard, they wouldn't be recognized. And I think that's, you know, one of the sort of more painful examples of the way in which women's experiences both in the past and in the in the more distant path are being recognized and validated in a way that's never happened before. But the happier version of that is the coming forward, the recovering of women's historical contributions, important historical contributions that were underestimated at the time, and often all law all but lost to history. I'm sure many of you are familiar with Hidden Figures with the book or the movie Hidden Figures about the African American female mathematicians who power the space race. And I think Hidden Figures is a great example of the way in which we are now recognizing that women have made significant contributions to American history. They haven't just been placeholders for the men, they have been powering the STEM field, powering the steps, phased arrays, and ways that we are finally really beginning to appreciate Hidden Figures has done a lot for all of us book authors who write about women's histories. It convinced I think, movie goers and audiences and readers and publishers, that these stories really happened, that the women's work was really important that it mattered and that it's true, and that there are audiences for these stories. So I was lucky enough to be on a panel with Margot Lee Shetterly, the author of Hidden Figures. And she made this great analogy that there had been rooms full of women throughout American history doing important work. And it's as though people are coming along now, and turning on the light switch. And we see that these rooms full of women, have been with us have been with history for decades for generations. And we're finally now coming to realize that they were there all along, not being recognized and often not expecting to be recognized. And in the case of my book code girls, this would be a very, very
large room of women. This was in fact many, many, many rooms of women. There were more than 10,000 women who came to Washington during World War Two to serve the war effort to break codes and signals to shorten the war by at least a year to save 1000s of lives. So it was not just rooms full of women, but buildings full of women, whose story was all but lost to history. And and it has been, as I said, the great pleasure of my career to get to spend time with these women. During the reporting of my book, I've spent a lot of time in assisted living facilities talking to women in their mid 90s. I've eaten a lot of cottage cheese and saltine crackers, eaten a lot of butternut squash soup. But I've heard these incredible stories unspooled by women who never expected to get credit while they were doing it, and who really never expected to get credit in their lifetimes. And it has been an extraordinarily meaningful experience. And to give you a sense of how important their work was, and how the course of the war changed the course of their lives. If you if you get the book or have a chance to look at the book code girls and look at the photographs in the book, you will see that there is a photograph of about a dozen young women who were sitting on a platform wearing frilly white dresses, and this particular group of women was representative of any group of women who went to any woman's college back in 1942. I'm sure here in this audience. We have people who are graduates of Hollins or Randolph Macon or Sweetbriar, or one of the Seven Sisters schools in in the Northeast. My mother is a graduate of Hollins. This particular group of women were attending Gaucho College, which at the time was a what was called a girls school in Baltimore, Maryland. It's now in suburban Towson. It's co Ed Now like many of these schools, but back in 1942, it was a girl school, the women who went there were called voucher girls. And this particular group of women had been selected to be on the May court at voucher. And as far as I can tell, a mayday ceremony is sort of a remnant of a pagan fertility ritual in which the young women are dressed up in their virginal white and symbolically ushered into the marriage market. And I think of this picture as being representative of the plight of the edge. cated woman in 1942 gouts. Her like many, like virtually all women's colleges in the country was founded in the late 19th century. At a time when many people believe that higher education was not only unnecessary for women, but undesirable for women because it was bad for women, there was a general belief that it made women unpleasant, it turned them sort of uppity into what was called Blue Stockings. And there was actually a Harvard physician who argued that education made women infertile, because it swelled their brains at the expense of their wombs. And people actually believed this. So back in 1942, there really weren't very many young women who went to college. And the reason for this was because so many campuses were still closed to women. In my home state of Virginia, UVA held out as long as it could, from admitting, you know, regular four year degrees to female undergraduates, many the Ivy League, many private colleges were, of course, men only. So women were shut out of a lot of campuses. But in addition to that, if you were a woman, and you went to one of these great women's colleges that had been founded to prove that it was worthwhile to educate women, the only job you could reliably expect upon graduation, was teaching school, because so many fields were close to women at the time. And teaching school is great if you want to be a school teacher. But if you want to be a lawyer, or a doctor, or an engineer, or an architect or a business woman, your chances are very slim of entering those fields, because you're going to be shut out of graduate schools, so many families coming out of the depression would make an economic calculation that it really wasn't worthwhile to send a daughter to college, because what was she going to be able to do afterward. So only 4% of American women in 1942 got a four year college degree because of these barriers and discouragements. So the young women on that platform at voucher wearing those frilly dresses, were much more unusual than they would have realized. But also representative in that one of the reasons a family might send a daughter to college was not just because she was academically voracious and just really wanted to go, but because she could get her proverbial Mrs. Degree, she could be ushered into the marriage market, she could date men, at neighboring men schools, and assure her
economic prospects by either marrying a man from a good family or a man with an education that would guarantee him a profession. And so families would make that economic calculation. And as a result, the women and colleges back in 1942, and I've interviewed a lot of them felt dual pressure, they felt academic pressure to make good grades to succeed at these fine liberal arts colleges, they were attending, they were taking physics, they were taking Math, Calculus, Latin, English, French, you know, they were taking tough courses they wanted to do well prove that they could do well, but they also felt enormous pressure to get married. In fact, I interviewed a woman at Wellesley College in Massachusetts who remembered and she was correct, that the yearbook at Wellesley had actually had a section that enumerated the women who were engaged the graduating seniors who were engaged, who they were engaged to, and then they had a section of women who had actually left before graduation to get married, and who they had married, because it was considered entirely respectable thing to go to college for a couple of years. And if you met the right man, to go ahead and leave and get started with your family, so that was the life course, that these women were being funneled into either getting married, ideally being engaged when they graduated, or falling back on teaching school. But what I love about this photo, if you see it, is it shows how the world was changing in the spring of 1942, both in terms of global affairs, but in terms of these women's life course, on that platform, the graduating may court at gaucha are two women, one of them Jacqueline Jenkins, when she got married later on in life, she would be Jacqueline Jenkins, not my mother a Bill Nye the Science Guy. So that gives you a sense of her intellectual chops, as well as her best friend Gwyneth commander, these two young women had already been secretly tapped by the US Navy to become codebreakers. So they're sitting there in their frilly dresses looking like every other undergraduate but in top secret. They have spent their senior years secretly training in a locked classroom at the top of Boucher Hall learning being trained by the English professor, all a Winslow, who was probably no more than a chapter ahead of them in the book on codebreaking and a naval officer who came up once a week to train them. They were being ushered into this arcane field called cryptanalysis or codebreaking that nobody in the United States would have heard of. It was certainly a true addition, the art of making codes and ciphers, making secret languages and secret alphabets is something that's been around as long as human beings have been able to communicate. We've always wanted to be able to create a secret code which we which we could communicate with somebody special, and not have anybody else being able to listen in or read the cipher, Julius Caesar had a cipher, Mary Queen of Scots communicated in cipher Europe, with all of his diplomatic intrigues, and all of its wars had a long tradition of what was called reading each other's mail. During the Renaissance, they were armchair philosophers that had set out to break to use sort of tables math and, and languages to create sort of crossword puzzle like tables that would allow you to scramble letters, they were always trying to create an unbreakable cipher, and they would have competitions with each other. But in this country, with a younger tradition, we did not have a we did not have this long tradition of, of listening in or reading secret messages generated by politicians and people in other countries. So it wasn't something something that Americans would really have heard of. But these two young women along with about a dozen of their other gaucha, classmates, were secretly being trained to learn these tables to learn this tradition to learn how to take frequency counts how to understand the behavior of letters, the mathematical behavior of letters, they were doing this at the same time that they were having to do all their other courses to graduate. They couldn't tell anybody what they were learning how to do. They couldn't tell their brothers, their boyfriends, their roommates, they couldn't tell their families, that they were being trained for a completely different future than the one that they had been trained for. And the reason that these two young women and ultimately a dozen of their classmates had been selected for this arcane training session was because six months earlier, on December 7 1941, we were attacked at Pearl Harbor, a massive surprise, a shock to the American public. It was the event that propelled us into World War Two, at a truly terrifying
time when it was not for a day and that we would win this war that we accept now that we won. But we didn't know back then that we were going to World War Two was a massive surprise, it was a terrible shot, the Japanese thought that it would bring us to our knees, that we we allow them sort of some sort of negotiated peace in the Pacific. Of course, the American people rose up, all of the young men went to recruiting stations signed up to fight. And it was a terrifying time. It was also a massive intelligence failure. So at the precise moment, where we are suddenly launched into a global total war, we declare war on the Japanese on December 8, Germany declares war on us. All of a sudden, we're at war in two theaters all over the world, we're sending men out through both oceans at precisely the moment when we know how vulnerable we are. And within the US military, it's immediately recognized that this is a massive intelligence failure, the fact that we were attacked and surprised at exactly the place in the Pacific where we had our Pacific Fleet anchored. The fact that this came as a surprise, exposed that we had no intelligence gathering capabilities. I live in the Washington DC area where we now has 17 intelligence agencies, we have intelligence agencies that exist to oversee other intelligence agencies. But back in 1942, we didn't have any of that we didn't have a CIA, we didn't have a NSA, we didn't have a Director of National Intelligence, we would begin right away to build a spy network overseas, the OSS would be founded, we would start to you know, recruit spies in in Europe. But that takes a lot of time. And what we had to learn to do, really just about overnight, was ramp up our ability to break the codes and ciphers that are now being sent through the radio waves that in unbelievable volumes, by every enemy commander by every politician by every government bureaucrat, every skipper of a rice step is communicating over the radio waves or sometimes by telegraph cable, but through public airwaves, or public cables. And they are in ciphering, their communications in in a myriad number of different ways. So just as we are constantly sending emails and texts and tweets, and Facebook postings, and all of these messages that we're using to communicate with all the people in our lives all day long. That's what was going on during a war by everyone who was involved in that war. So Admiral donot, the favorite the famous commander of the German U boat fleet, is communicating with every single EU boat and they're now all over the Atlantic Ocean waiting to sink our convoys as we are sending our boys to Europe, you know, to Italy to England. To help with the fighting, the wolf packs are waiting for our convoys. And Donna's is communicating with every single one using the famous Enigma machine that you've heard of if you've seen the Imitation Game, you've heard of the machine that the Germans were using to scramble their messages. And that just gives you a sense of the unbelievable volume of messages that we have to learn how to snatch out of the air with intercept stations that were quickly building, and then send them to hastily trained codebreakers who can hope to puzzle out what these messages say. So that we won't be surprised the way that we were at Pearl Harbor, which is the great fear as we enter World War Two. Now, normally, the US military would, of course, turn to young men to learn how to do this work. Before the war started, both the US Army and the US Navy had very small codebreaking bureaus. It was not a prestigious military occupation. If you're with a US Navy, you don't want to be stuck at the code desk, you want to be out commanding a ship, you want to be out at sea. And so the man hadn't really wanted to be part of the codebreaking desk, they might cycle in and out, but it did exist. And so before the war, the Navy generated monthly memos in which it said, where it was recruiting these sorts of unique minds of people who could do this work. And when I was doing my research at the National Archive, I actually found the memo that showed the lightbulb moment going on in a naval bureaucracy had when they said to themselves, okay, if the young man, we would normally recruit from MIT or Yale to do this hard intellectual work, if these men aren't available to us. Where can we turn, and so typed on that memo is new source women's colleges. If the educated men are no longer available to do this work for us, because they're risking our lives for American democracy and freedom, then let us see what these educated young women can do these women who up to now could only have been school teachers, or wives by and large,
great occupations. But that's what they're confined to let us see if they can use their challenge
talent in the new venue. And that is why those young women at gaucha were secretly tapped
to do that work in their senior year. That's why women at the Seven Sisters schools were
quietly called in the Navy put out feelers it had contacts at the at the male Ivy League schools
at MIT, they would ask those contacts will recommend some women who are teaching
astronomy and math at Smith or Radcliffe or Bryn Mawr or Mount Holyoke, get them to tap
their best senior girls. They're the ones who are good at math or languages who are patriotic,
who show grit and persistence, who come from good families who we can be sure we'll be loyal.
And these young women were called in. And they were asked two questions. Do you like
crossword puzzles? And are you engaged to be married? As you can see, the obsession with
marriage is a is a thread that runs through all this. And so if they answered yes to the first and
no to the second, they would be invited to take this secret, very difficult correspondence course
that the Navy had developed. And in fact, a lot of the young women lied, a lot of them were
engaged now, because there was even more pressure to get married. Once the men started
shipping out, they wanted to have somebody at home waiting for them, somebody to write to.
And so a lot of young women were engaged to be married, but they lied. And they said that
they weren't. Because whatever they were being invited to do sounded a lot more interesting.
And important than waiting around to see if their brothers and boyfriends would be okay. And
so those young women who were recruited and graduated in the spring of 1942, would come to
Washington as civilians at exactly the moment in the war, when it suddenly becomes clear how
important codebreaking is going to be to the course of war, not only in the Atlantic, where the
U boats are in the European theater, but also in the Pacific. The Battle of Midway in June of
1942 is probably it's one of the most famous sea battles of all time. It's probably a battle that
you've heard of. It's about all that turned on our ability to break the Japanese naval fleet code.
The Japanese had set out in June of 1942, to do what they had failed to do at Pearl Harbor,
which has completely destroyed our Pacific Fleet. By then we were reading the Japanese naval
fleet code. The reason we were reading it was because during the 1930s when codebreaking
was a non prestigious occupation in the US Navy, a civilian woman and a former Texas School
teacher named Agnes Driscoll, who was a mathematical genius who was also talented in music
and languages had figured out how the Japanese Navy fleet code worked. She had diagnosed a
fantastically complicated system that the Japanese Navy used, every word would be rendered
as a five digit code group. Another set of five digits would be added to that that's called a super
enciphered code group. It was an early form of what we now call encryption. Agnes Driscoll sat
at the desk for a decade and figured out had the Japanese were in ciphering their code system.
So we knew how it worked. The reason we weren't reading it at Pearl Harbor was because the
Japanese had changed their codebooks. This was like a dictionary of the code groups right
before Pearl Harbor. So it had gone dark for us. But we got back in by the time of Midway, we
were able to read those messages, we were able to ambush the ambusers. We defeated the
Japanese in a three day battle in the Battle of Midway. And that marked what would be the
beginning of a turning point in the Pacific War. We didn't know it yet. But it was a great boost,
of course, to the morale of the Navy, the morale of the American public. And this is when, you
know, hundreds now more of young women are flooding into Washington to take up the
codebreaking effort. The naval downtown headquarters is getting so crowded that they had to
sit on upturned wastebaskets, because they are flooding into the offices at precisely the
moment where it suddenly becomes clear that codebreaking is going to be a prestigious and
important occupation in the course of this war, because it's going to enable us to tell in the vast
Pacific Ocean where the enemy is and where the enemy is headed. So that's what's happening
with the US Navy and those girls and frilly dresses. So just to give you a sense of the lay of the
land, when we're entering a world war two, the division of labor is that the British have broken
the Enigma cipher, they have figured out a way to to determine the key setting of this machine
that the Germans are using this key setting changes every day, it's a set of rotors that
Macon woman's College, a great girl school in Lynchburg, Virginia, her hometown, and her

out of an engagement that she didn't want to enter into her college wife. She went to Randolph Macon woman's College, a great girl school in Lynchburg, Virginia, her hometown, and her
college boyfriend was now in training camp in California. And he sent her a ring from training camp to get married. And so young women back then were told not to upset morale. That was a big deal. If you were a young woman, you were responsible for the morale of the men. And so if the man was not at home, if he was somewhere, you you shouldn't upset him by returning the ring. And so even though he wasn't actually fighting, he was just a training camp. She figured she couldn't upset him. So she would wear the ring even though she she liked him, but she didn't want to get married right away and she wasn't sure if she wanted to marry him. And so this gave her an out from getting married. This gave her a way to envision a different future than the one that she felt like she was being pressured into. So not getting married was actually one of dots reason for signing on the on the dotted line. The other reason was, while there were a lot of other reasons, she was teaching school in Chatham, Virginia in 1942. In 1943, it was her first year out of Randolph Macon. She all the male teachers now had left for the fighting. So she was teaching Latin French physics, English, something called hygiene. She was marching the senior senior girls back and forth to lunch. And she was she was very, very, very overworked. And she was very underpaid. She was making $900 a year teaching school in Chatham. So she came home and she said to her mother, Mom, I'm just exhausted. That, you know, I can't go back to teaching school, but she also knew that the family household depended on her income. Her mother was a single mother. Her mother had not been to college, her mother worked as a secretary to uniform factory in Lynchburg, Virginia, a factory called duty dad's the reason that dad had gone to college was because her mother wanted DOD to have a slightly easier life than she herself had had. So dot knew that she needed a paycheck. And she knew that the US government would would pay better than teaching schools. She knew that the US government paid $1,600 a year for whatever it was that it wanted her to do. Since these school teachers were being recruited in public, they couldn't even be told what they were coming to Washington to do. But she knew that it would pay better. She knew that this would enable her like her younger brothers who had now had now joined the US Army right out of high school. She could serve the war effort, the Braden family, like all American families was so gung ho to participate in the war that they had actually volunteered their family dog Pucci to become a war dog and dot still has the single space letter she got from the Army War Dog Training Center, saying thank you very much for volunteering your dog but we have an age cap for the war dogs and unfortunately Pucci was too old to serve in World War Two but but dot dot qualified for whatever this mysterious job was that she was being recruited for in the Virginia Hotel in downtown Lynchburg in the fall of 1943. And so dot Braden like 1000s and 1000s of other young school teachers got on the train. She had never been to Washington, DC. Lynchburg is just three hours by train or car from Washington, but she grew up there during the Depression. Her family didn't even have a car. And so coming to Bright Lights, Big City was also an inducement to her. So she came to Washington, not knowing even where she was going to spend the night she assumed that the US Army would put her up and so she took a cab to a place called Arlington hall that was a hastily converted Junior College for Women that had now been transformed into a massive barbed wire compound, where some sort of top secret work was being done. When dot presented herself she was informed that they did not have a place for her to stay that she was going to have to find her lodging and pay for it. They directed her to a dormitory that Eleanor Roosevelt had directed to be built for these 1000s of young women who are pouring in into Washington to serve the war effort. And the other thing she would be told was that she would be shot if she told anybody the work that she was doing. So that was her welcome to Washington. We don't have a place for you to say, but we're going to shoot you if we tell you what you're doing. And she didn't yet know what she was going to be doing. But what she because again, code breaking is top secret work, its intelligence work. That's what it is. It's it's what we now would call cyber intelligence. It's hacking, it's hacking to enemy communication systems. And so again, you can have the enemy knowing that you broken their code system. And so the women were all told, if anybody asks what you're doing in this giant
top secret barbed wire compound in Arlington, Virginia, tell them that you are secretaries that you empty wastebaskets, you fill inkwells, you sharpen pencils, you give the commanding officers what they need. And in this sense, women were the ideal intelligence officers because people readily assumed that the work they were doing had to be trivial and unimportant, that it couldn't be crucially important to the war effort, because women were doing it. So in that sense, at that time, women were the ideal intelligence officers because nobody really cared what they were doing in those compounds. And the women themselves didn't understand or appreciate how important their work was. And dot, when I talk to her still has a hard time understanding and appreciating that she was part of one of the three most important codebreaking successes of World War Two. The first was our breaking of the Enigma cipher. The second was the Battle of Midway, those are two things that many of us have heard of. But the third that people are less likely to have heard of, because it was lower profile daily. And relentless was our sinking of the supply ships that were supplying the Japanese army on all these islands around the Pacific. And that's what DOD and her fellow school teachers were working, that's the code system that they were working, it was called 2468, or the water transport code. And so those school teachers had to be hastily trained to work a very complicated super enciphered numerical code system, DOD had to learn how to strip out extraneous numbers that had been added to the code group in order to get down to the code group and then figure out what the code with a message said it and these were supply ships, hundreds of supply ships that had been commandeered by the Japanese army to supply the Japanese army troops. So everything had to be brought by water, food, medicine, animals, veterinary supplies, reinforcement parts for aeroplanes, reinforcement troops, it was all being brought by ship, they were using this coded system. The school teachers were trained how to work those messages, dot remembered working as fast as she could I remember, I then found documents in the National Archives talking about how fast the school teachers got at this work, so that they could break the messages, and that they could be then radio to an American submarine commander who would be waiting on the horizon when the supply ship appeared. And because the school teachers did their work so well, and so quickly, we sank 1000s and 1000s of Mars 1000s of supply ships, I found lists of Mars in the National Archives, all the ships that were sunk, it shortened the war in the Pacific again, by at least a year it saved 1000s of lives. And it was because women like dot were working so hard to get those messages broken because they knew that their brothers lives depended on it. They knew that their boyfriends lives depended on it their husbands. And they knew that, you know, the fate of the war depended on their work. And so that gives you a sense of how vital the intelligence work was that the women were doing. Just a funny example that I think people in this room will probably identify with, I know that I identified with it. Ultimately, women were recruited from all over the country. Ultimately, the army started recruiting from teachers colleges all over the country, women started pouring in from other states, we broke new systems, we needed 1000s and 1000s more women, the better they got at it, the more we needed, when we would have a breakthrough in a code system, we would need to exploit that system. So ultimately, 7000 women would come to work as civilian code breakers for the US Army. Ultimately 4000 women would come to break the Japanese naval fleet code for the US Navy, they would become waves they would become both naval officers, the first female naval officers, as well as enlisted women, all working together in in in a top secret compound in Washington DC where the Department of Homeland Security is headquartered now that's where the Navy women were working. And that was a tipping point for women in the military. There was no going back after World War Two. And so for the women. It was an analogous situation. Of course men now are going out all over the world at great risk to their lives. They're seeing this out Pacific they're seeing cities like Paris, they're seeing parts of the country that they've never unpacked to the world that they've never seen before. And so this sort of analogous situation for women was meeting women from different parts of the country. And so for DOD, as she's sort of working in
assembly line to break her messages, she had to take her message after she gets it along as far as she can. She takes it to a woman they Miriam who is the overlap er, and it's Miriam's job to stack up a lot of numerical messages to look for patterns to see what the code group is this month for supply shipper aviation gasoline, and Marian the overlap or is from New York City. And DoD remembers her as being the most condescending northerner she's ever met. And I think she was probably the first northerner that dot would ever had ever met. And what dot remembered is that is that Miriam made fun of her accent. So they sat in the cafeteria over lunch and you know, they would chit chat and Marian would say things like I've never yet met a Southerner who can speak proper English and dot would sort of film quietly fuce him as she was expected to do, and she would look at the yellow diamond on Miriam's finger, and and sort of satisfy herself by reflecting that the Yellow Diamond was probably not real. And Miriam's fiance was probably not real either. So these two women, were what we did with today called frenemies, they didn't really like each other, but they had to work together seamlessly and they took their jobs. So seriously, they took their work so seriously, that of course, they did work together seamlessly. Dot like many, many women who did this work would make best friends as well doing this work, she would make become best friends with a woman named Ruth Weston, who was a school teacher from Bourbon Mississippi who took a two day train ride to Washington DC, those women would become fast friends. But they were so good at keeping mom that they never even realized that they were both working that Japanese supply ship system. There were other systems that were being worked at Arlington Hall, the place where they were working. And they never even told each other or realize that they were part of the same, the same codebreaking system. And again, just to give you one more example of how important the work was that was being done at these facilities. There was another code system that was being worked by the US Army in this facility by a different group of women. And it was a system that was being used by Japanese diplomats who were stationed in Europe. And so the Japanese diplomats like the German military were using a machine cipher. So they were sending very, very long diplomatic messages back to Tokyo, reporting on what was going on in Europe, and they were using a machine that we called Purple, they would write out these messages in Romanized, Japanese, English, English language letters, sort of a phonetic spelling of Japanese, the purple machine would scramble those letters, and they would be sent back to Tokyo that way, thanks to a woman named Genevieve Grogan. Even before we entered the war, we broke that machine cipher. Nobody had ever even seen the machine. But we reverse engineered that cipher system. Genevieve Gretchen was a mathematician who had aspired to teach college math, and had been unable to find a college that was willing to hire a woman to teach math to undergraduates. So she had been hired by the US Army. She had had the key insight in September 1940 That enabled us to break the purple system. And so we were able to exploit every single one of the Japanese diplomats messages that were being sent back to Tokyo, the Japanese diplomats were hanging out with Hitler, they were hanging out with Mussolini. They were they had their ear to the ground all over occupied Europe, they were hanging out with every axis leader, they were reporting back everything to Coco. So when the Japanese diplomats were invited to tour the coast of France, to look at Hitler's Atlantic Wall, his fortifications along the northeast coast of France, they reported back on where it was well fortified and where it wasn't. So that when we were planning the D Day landings, we knew that Normandy would be a better place to invade than Callay. And so that's the kind of top level intelligence that we were getting from dot and from Genevieve Gracen, and from all of the women who were working these code and cipher systems. And similarly, as the war progressed, we took over Atlantic Ocean codebreaking, from the British. And so by 1944, it was again a group of women who were working massive machines that had been secretly built in Dayton, Ohio, to break this enigma cipher that was that was governing the movements of ever u-boat. It was women who were designing the early computer menus that would that would be plugged into the machines, women who were running the machines, the messages would emerge in
German women who were translating the German messages, as the Germans were looking out at the English Channel, going, oh my god, there are 1000s of allied ships on the horizon, making the D Day landing in Normandy, which we knew was the right place because of the messages that we had been reading. And now the women were reading the messages that the D Day landings were taking place. They read them all during their midnight shift. And at the end of their midnight shift. They knew that the D Day landings had happened they knew to transcribe transpired. They didn't know yet who had up they didn't know yet how many we had lost how it had gone. And so they took the bus over to National Cathedral right next to National Cathedral, St. Albans Chapel was open 24/7 During the war, and the women prayed for the souls of all the men who they knew were making the landings. And so that is how vital the women's participation was in World War Two, more than half of our code breaking force was female, we had a larger code breaking force than the British press at Bletchley Park. Excuse me, it's not as famous because we don't have a Bletchley Park, we don't have, you know, a dedicated museum that people can visit, sort of at that level. And so after the war was over, the importance of codebreaking was recognized on the floor of Congress by a member of Congress from New York, who stood up and said, I just want it to be recognized that our code breakers played a vital effort in shortening the war by at least a year saving 1000s of lives, that their contributions were as important as any other group of men. And so the message that was uttered on the floor of Congress was at the code breakers were men. The the the histories that began being written 30 or 40 years later, were all about the very brave exploits of the male codebreakers mostly working in the theater of war, the women's contribution was absolutely ignored. The women by and large, a small cohort of the women would actually stay with this work for their entire lives, they would go on to work for what became the National Security Agency, our NSA is the descendant agency of our successful World War Two codebreaking. And there was a group of women who did this work during the Cold War for their entire careers breaking Chinese communist Code Systems. The Cubans, the East Germans, the Russians, women were doing that work. One of the wartime code breakers and Kara Christie, who started at 22, during the war, would rise to become the first female deputy director of the NSA. But most of the women like dot like my central character, were told at the war, thanks very much for your service. Don't ever tell anybody what you did, we can't have the enemy knowing now that we're going into the Cold War, there wasn't so much talk now of Code Systems, the women were told, never tell anybody what you did. Navy, women got metal, they were told never to show it to anybody. And so for the rest of DOT's life, she had to put up with a situation Fortunately, both of her brothers survived the war. And they came home, they had work after the war that involved a top secret security clearance. And they would get together and brag about their top secret security clearances. And DoD would would could never tell them that she also had a top secret security clearance during the war. And you can imagine how aggravating it was for women to have to sit there and not be able to talk about their wartime service and their contribution. And then what happened in the 1980s is that the work became declassified stories were getting out. And so the word went out, it was okay to talk now. But nobody tracked the women down and told them and so most of the women just stayed mom, because that's what they were told to do. Most of them took the secrets to their graves. And so in many cases, when I tracked down 20 women when I was reporting my book, I've since heard from at least 20 More, as well as hundreds of families saying, oh my god, now I know what grandma did during the war. She said she was a secretary. But but when I was doing my reporting, I often had to convince them that was okay to talk I had to convince dot that she wouldn't be put in prison. If she she finally talked and I said to her,
we'll look at your age and apply the nice prison and, and that relaxed or a little bit. And, and she started talking mostly because her son was there. And he had always wanted to know what she had done during the war. And she trusted him and eventually trusted me. But in the end, you know, it was so important to these women to finally get credit for their enormous contributions that one of the women I interviewed had she had broken her wrist the night before our interview, I was in Atlanta, and I ended up driving her to the emergency room the next morning and we did the interview in the emergency room. I've learned that emergency rooms are a good place to interview people because they can't get away from you and it and you have to wait a long time but You know, at the end of our interview, Janice pennario said, I just hope I live long enough to see the book published. And and I'm happy to report that she did live long enough to see the book published and that so many of these women have been honored now in their communities. Some of them like that have gone out on their own book tours. They've had articles about them in the paper. And it really has been the honor of my career, to get to spend time with them and to try to channel their story. So that we can understand that these women were really the Hidden Figures of the greatest generation. And it's it's high time that they were recognized for their efforts. And I'm just happy to have been a little part of that. And I'd love now to take your questions Yeah, they're gonna pass around a microphone. Right, so the Navajo code talkers, who you probably heard of, were Navajo man who were recruited to actually encode our military communications, they were doing cybersecurity basically speaking in Navajo, to communicate our messages. They were Marines out in the Pacific. And so we had also had women who were encoding messages. And some of the women I came upon some oral histories of women who were actually trained in the Navajo language, I guess, in order to supplement the work that the code talkers were doing. But that's also a great example of how World War Two was a moment of inclusion for many marginalized group for Navajo, you know, for Native Americans who stepped up to the plate for the Tuskegee Airmen, you know, who were able to, to lend their talents to the war effort. And of course, women that we were willing in this moment to be inclusive and to bring in these marginalized groups, who in some cases didn't have as much reason to be as intensely patriotic, but who were and who served the war effort. And we were different than the access countries in this regard, we were more willing to bring people in, we were more willing to bring women in than the Germans or the Japanese were, and then that that inclusiveness made made a great difference. So the machine would change its settings every day. And what the women learned how to do they look for patterns. So if a message was coming from the Bay of Biscay, about the weather, they knew that the all these all these letters had been scrambled, but they knew that there might be a phrase a Bizkaia, wetter, or Bizkaia, wetter forecast it somewhere in the message. So they would estimate they would get there was a lot of guessing required in codebreaking. So they would be looking at these scrambled letters, they would think, okay, the sky wetters, probably here. So they would look at what the letter was that they saw the T or the W that it should be. And they would develop early computer menus, they would have to figure out basically what the algorithm was, that would have known that there were four rotors and all of these other gizmos, they would figure out the algorithm that might produce that set of letters. And they would plug that into these giant machines, and see and test the key setting and see whether or not the key setting worked. And if it did, they would know that they had broken the key for that day. That's what they had to do. It was completely different. The Japanese had a new miracle code system. They were using big code books like dictionaries, but they too would change their code books periodically, and change their additives, the number that was added. And so you had these huge groups of women constantly adding and subtracting to sit to build a new bank of additives so that we can basically reconstruct the additive groups. So it's a great question and it was very laborious work. And it was early computer work. All of the above. I'm not sure so much about slide rolls, but a lot of it was brain and paperwork when I was you can see in the book and on my website, I have some of the just
the worksheets that they use. And you can see that they were adding and subtracting numbers. They were puzzling things out. They really were using their brains in their heads. They were using early IBM key punch machine so you could feed in a bunch of numerical messages and look for numerical patterns using punch cards. So they were starting to bring in machines and early computers. So it was a combination of all of the above. They weren't good also, I'm told that the that the belligerent nations were more focused on being belligerent on, you know, taking over countries and being aggressive militarily and less so much on the intelligence side of it. And so I don't know if they were as good as we are in particular, I'm not sure about the Japanese, but the Germans certainly broke our convoys cipher. So there were certainly spy versus spy intelligence work. And that's why these systems were evolving during the war. That's why people were constantly changing their codes, group code books, or tweaking their systems or trying to make it more complicated because we were breaking each other very back. Right, so I think you were asking, was there communication between the Americans and the British? Yes, yes. So our Army and Navy had to communicate with each other, even though they were competitive. And then both of them will communicate with England, we were working very closely with England. And some of the women in my book had because when we were trying to break these daily keys, the British would be working it as well. And we would be trading information. I think it's this I think it's that. And one of the women on my book for a gaucho graduate spoke every day to a man in England, and they had code names. And her code name was pretty weather. And his code name was virgin sturgeon. And she she never met him. But that's one of the few things that she would tell her son when she finally talked about her code breaking. So we are Navy and our army, we're developing our code systems. We had a machine that was that was that was generating our enciphered army messages. And the reason that you haven't heard of it, it will it had, it had a just a number. It wasn't like a glamorous name like a Nygma. But the reason that you haven't heard of it, it was called Segawa. Actually, it was designed by a man named William Friedman, who ran the Army's early codebreaking Bureau and he hired Genevieve Grogan and a lot of women. His wife was also a codebreaker. So he was an early adopter and hiring women. And he designed this great machine kava GABA. And the reason you haven't heard of it, the way that you've heard of the Enigma is because it didn't get broken because it was such a good machine. So it wasn't as well known. Which is sort of what you want and intelligence is. Alright, one more question. Okay. Okay, one more question. Yes. How did I get the names of the codebreakers? Thank you so much for asking that question. It was so difficult. There's no central roster. The information has mostly been declassified in the 80s and 90s. So there were masses of files in the National Archives in College Park, with rosters with scattered random names of women. And when they came to Washington and where they lived. In some cases, I had to get records declassified, I had to file requests to have oral histories declassified that had not yet been declassified. But there was just the records were just swimming and random names. And so I literally made a list of hundreds of names within with names like Ruby and Dodd and Perl and Opal and an emerald. And there was actually there was someone who referred to the Southern women as the jewels. He was one of the northerners at Arlington Hall, because there were so many women named Opal and Pearl and Ruby, he thought it was true, actually, that I interviewed a woman named jewel for my book. But I literally, these were maiden names. And I had to plug them into ancestry.com in order to find out what their married names might have been. And then I had a colleague at the Washington Post who I hired to work databases, so that we could try to find out what their phone numbers might be. And so this is, I mean, this is very unglamorous work. For the most part, I literally called hundreds and hundreds of phone numbers. Generally they would be disconnected, no longer connected, but every now and then somebody would answer every now and then some would answer and I would say is this Dorothy Rumali? Is it's Ruth Mirsky. Did you do codebreaking work during the war? And and they would they would say yes, it was it was often the story didn't always have to be pulled out
of them. Often. It was as though they had been waiting for somebody to finally ask them. And one of the women who answered my cold call Dorothy Rumali, living in an assisted living facility in Springfield, Virginia. It turned out once I went out and interviewed her twice. She had been a very badass code breaker during the war. She was so good at what she did that the Navy stole her from the army. She ultimately became by offering her an officer's housing allowance. She ultimately became a math teacher at the Arlington Public school middle school that my own children would later attend. And she came out of just a roster in the National Archives and that's how many women there were doing this work. And it just gives you an example of how they continued to walk among us. Never never been recognized. You know, all these kids are taking Mr. Molly's algebra one class Having no idea that this sweet kind woman had been a truly formidable codebreaker during the war. So that's a lengthy answer to your great question about how I found them. So thank you so much.