# Audio file

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# Transcript

**INTRO:**

You're listening to Their Finest Hour, a podcast from the University of Oxford.

**Main Text:**

**Dr. Joseph Quinn:**

Throughout Women's History Month, March 2023, we had a lot of very interesting stories coming to our project and certainly quite a lot of very interesting material was submitted to our online archive. A growing amount of material telling us fragments, basically, about the role of women in the Second World War and combined with quite a lot of history that has been put out into the ether over the last few weeks.

One of the things that struck me, certainly, is the idea that we don't really know as much as we think, or thought we knew about the role of women in the Second World War. And I suppose it's fate, perhaps, that today we're joined by Dr. Sarah Louise Miller, who is a member of the Steering Group and an academic adviser on Their Finest Hour project. Dr Miller is a member of Kellogg College at Oxford, and she is also a member of the Defence Studies Department at Kings College London, where she also did her PhD, but in the War Studies department.

And the subject of her PhD, which is now a book called *The Women Behind the Few*, which has a very nuanced take on the role of women, specifically intelligence-gathering duties and in terms of analysis and in terms of basically filtering raw intelligence, and how their performance in these duties during the Second World War ultimately changed - largely male - preconceptions around women's service in the armed forces. And I think her book is producing some fairly ground-breaking conclusions - conclusions that have never occurred to most historians and will radically reshape attitudes towards women's service in conflicts such as the Second World War. For a long time to come, Sarah, you're very welcome.

And first of all, my first question is how did one become recruited into these particular sections of the Women's Royal Air Force? What kind of candidates were they looking for? What kind of what was the ideal recruit for specifically? Intelligence gathering analysis. And shall we say, processing duties?

**Sarah:**

The WAAF hierarchy got really good at spotting what they call the “right kind of woman” for this job, so there were some really kind of important things that you needed in a woman and intelligence work, and that would be things like the ability to keep a secret. So, you know, lots of officers were picked because you've a higher level of responsibility and accountability, if you're an officer, and that often resulted in flash promotions. If you wanted a woman who was sort of at a lower rank to be an

intelligence officer because she was identified as being - having the kind of qualities that they needed that might result in a quick promotion which makes them easier to identify in the ranks.

But it would be other things like modern languages if you have - if you speak another language you get snapped up straight away, even if it's not a language that they're working with. So, you know, they're looking at German, Italian, Russian, different – Japanese. Even if you speak another language that's outside of the Axis powers. Language is kind of perceived as being a form of code breaking or reading code, because it's something substituting for something else. Same with music. If you can read music, you are probably inclined toward code breaking.

Anyone with maths - maths and sciences - because women weren't educated in maths and sciences as a general rule. They were educated in sewing and knitting and cooking, so if a woman did have experience or qualifications or education in those fields, they were immediately picked up as well. So that's the kind of thing that you can see on a recruitment form.

Then there was the stuff you couldn't see on a recruitment form, and that was personal qualities. If a WAAF was prone to boisterous behaviour or nervous disposition, they were not probably going to be useful and with intelligence work you wanted calm, collected women who could stay focused under pressure. Who were very good at keeping secrets, didn't talk all the time. So lots of kind of personal qualities at the WAAF hierarchy kind of looked out for, but ultimately they got very good and they didn't have a blueprint for recruiting women. They had to kind of use their initiative.

And they managed to pick women just by looking at their pre-war experience. Had they worked in a telephone exchange? Then they're going to be okay in communications work. Had they spent a long time in a job that was tedious and meant sitting still for a long time? If they had, they'd probably do well in a slightly more boring, but very, very important intelligence role. So, kind of getting creative with what a woman may have done that might help in intelligence.

**Joseph:**

I see. So, it seems that there were certain preconceptions that framed the attitude of their recruiters from the very outset. So, an idea of what women could do, what women were capable of – you used the phrase “the right kind of woman”. A whole framework – a misogynistic framework around, basically the, shall we say, the recruitment and induction of women into the Armed Services and, of course, the Women's Royal Air Force, had pre-dated the outbreak of the Second World War.

It seems as though attitudes, like pre-war attitudes and even those attitudes that we would have associated with the previous conflict hadn't moved on very much, and it was almost like - it almost seems like it's a starting from scratch in terms of where the position of women is and where male attitudes are with regard to the service of women in the military.

**Sarah:**

It's true. I was quite surprised, actually, when I started looking into the Second World War WAAF because, initially, they had far fewer trades available than they'd had in the First World War. And the First World War is, you know, a couple of decades before that, and they don't have the vote when they first set up the Women's Royal Air Force.

So, in terms of society and legally, they've got kind of less rights and less standing in the First World War. There are more military roles available. Going into the Second World War, they do have the vote, but they have something, you know, something like four or five options of what they can do initially in the WAAF, which obviously expands to hundreds of different roles by the end of the

Second World War. But it's that initial hesitancy that's really interesting is - it's like where did that come from? When they got to the end of the First World War and were like, yeah, go do this - that's completely inappropriate, in their mind, anyway, for a woman to do and to then dial it all the way back at the start of the Second (World War) to know that's not appropriate for women - it's quite an interesting and odd thing to do.

**Joseph:**

Sarah, one of the things that, I suppose, makes your work unique is that your new book appears to contribute something rather nuanced in terms of our understanding of the role of women in intelligence, which is a story that people have been actually familiar with now for quite a long time. It's something that was almost taken for granted. However, the problem, I suppose with perceptions is that even in that very important work, the point you've made is that there is this feeling that women - or this idea that women were taking the place of men who were in other so-called important roles, and that, effectively, what they were doing was they were just filling boots, so to speak, and that the work that they were doing was just, essentially - it was supplanting the role of male service personnel as opposed to actually contributing something unique.

But your work completely turns this whole notion on its head and, actually, makes the suggestion that, actually, the kind of work that these women were doing was actually something that they were particularly well suited to and, in fact, actually were doing much better than their male colleagues. Could you tell us a little bit more about the role of women, shall we say, in the in the WAAF during the Battle of Britain and the key role that they played in that campaign, and why their role was so crucial?

**Sarah:**

Yeah, it bothered me tremendously that the word ‘auxiliary’ appeared in the title of their service, and I looked it up because I thought, what is the relevance of that? And it kind of means supplementary - it means kind of support - and I don't think that is an accurate description of their work in the Battle of Britain, certainly. So there are, you know, there are files in the Air Ministry and the National Archives - some of them even indicate that the substitution rate of women for men in the Royal Air Force in 1940, sometimes was three to one, which puts the value of a woman of about 1/3 of an airman. And that's before the Air Ministry has really seen what the WAAF are capable of - and the Battle of Britain is where they see what the WAAF are capable of.

So, there are in lots of different roles, but in terms of intelligence, they're in a quite unique world of of real time, very fast-paced intelligence. Britain is unique in having the world's first fully integrated air defence system, and that means taking intelligence right from its point of collection, all the way to the deployment of anti-aircraft defences and the scrambling of air squadrons and everything in between, because the intelligence that you collect at the beginning point is utterly useless if you cannot get it to a specific squadron on a specific airfield that’s in the right place to meet an incoming raid. And this system kind of loops all of the necessary components together, and it is largely staffed by members of the WAAF.

So you've got women working in the radar stations around the South Coast of Britain. They are using technology - nobody's ever seen that - what's been, you know, perfecting. For a few years before the outbreak of war, it's brand-new technology, and these are women who have most of the time - not got a driving licence and haven't done maths and science at school - and they're learning, on the job, how to use this tech. And they are watching Luftwaffe raids come in across the channel, recording that information and sending it to another component in the system which is the filter and

operations rooms, and that would start at the headquarters level of Fighter Command. That's Bentley Priory. Quick plug - that's now an awesome museum!

And there it is filtered. The information is - because it's raw data at that point, which doesn't really make sense to anyone apart from scientists - so they will - they will filter that info. They will then send it on to the operations room, who will then send it down the system to operations rooms at Group and Sector level. So, these are kind of smaller geographic pockets of the UK, and it's at that point that the RAF can order squadrons - fighter squadrons - into the air to meet these incoming Luftwaffe raids. They can also deploy anti-aircraft flak gunners which - some of those are ATS - they can deploy air raid sirens measures to keep British people safe. So this is literally force-multiplying life-saving work that these women are doing.

**Joseph:**

Just for the benefit of slow learners like myself - in terms of understanding or unpacking the Dowding system - because we all think we know what the Dowding system is - you know, the first integrated air defence system instituted by any country. And we all think we know what it is, but actually listening to you, we might realise, actually, that we don't know so much, particularly, this particular - that sort of the assembling and processing and putting into the right order of this raw data, these mountains of raw data.

And, suddenly, when you consider that aspect of things, you're thinking to yourself, well, whoever's at the receiving end of that - you wouldn't envy that! And, particularly, with so much at stake with targets that are about to be struck, with lives that potentially could be lost, and also orders that need to be given to the right units in order to take effective action – it seems that it - what you're telling me is that these women are actually at the forefront of the battle itself, even before the pilots come into the fray. They're, in many ways - they are the first responders. But in terms of the role WAAF women in these particular roles play, could you describe them as a sort of a 'human CPU' – a human 'central processing unit', or is that the wrong way to them - their role?

**Sarah:**

It's a fairly decent way of describing them, I think. You know, during my PhD, which was a very similar topic, I looked at the Women's Royal Naval Service in Intelligence. I used a lot of terminology referring to machines and systems, because it's a really useful way of understanding this.

And you're right, it's not simple to understand this system. It's a vast system, and it's - in some ways it's a system within other systems. And using kind of machine terminology is quite helpful. So, if you think of, you know, British intelligence as a machine inside that machine, you've got other machines in the form of service Intel, which is RAF, Royal Navy and British Army. But then you've got special Intel as well, which is MI5, MI6, GCSC, which then became, as we know today, GCHQ.

And that's all - they're all individual systems inside a much bigger system. And inside of those individual systems, you've got lots more little systems. So the Dowding system is a little system, all of its own, and every single component in it is needed for it to work, so you can look at women in these jobs that look like desk work. You know - they're just manning a telephone, they're just manning a teleprinter. They're just doing this. They're just doing that. But, actually, what they're doing is keeping every single part of that machine connected and working. And if you remove one part one section of the unit, the rest of it breaks down.

There's no point in this ground-breaking technology in the form of radar, if you can't get that information through the rest of the machine to its ultimate output, which is an operational

command decision on the battlefield. So yeah, I think it's a really useful way of thinking about what they did.

**Joseph:**

It sounds to me as though this was something of an experiment – or, perhaps not a planned experiment, but something - it was a moment where 'needs must', where the country was in a desperate state, it had to be defended, and they needed to utilise people within specific roles as quickly as they possibly could. It seems like it was a very important test for women in the armed forces and how they could be used, or leaned on, to perform specific tasks that were vital to the national interest and to a positive outcome in in terms of the war effort.

In this particular case, what you've seemed to tell me is that women have demonstrated that they can perform effectively in a very challenging role where the air defence of Britain is concerned - you're almost getting the impression that, without them, Britain may not have won the Battle of Britain, as hard to imagine as that might be - it seems that they were absolutely crucial to its outcome. Does this have a knock-on effect? Is there an Air Ministry memo that we can point to where somebody senior, perhaps, even the Secretary of State for Air basically contacting a colleague in the Admiralty, or in the War Office, stating, "based on our experience, we feel that women should be used more rigorously and more effectively within these specific roles, because they perform brilliantly! Our service women in this particular - in this particular role, proved crucial, you know, in terms of the impact."

Is this what leads to the use of service women within confidential intelligence work within Bletchley Park - within various - within military intelligence and within SOE, and within other branches of the armed forces, including the Navy - is this is this the moment? Is this the test that says to the Combined Armed Service chiefs, and even the government, that we need to actually allow women into the armed forces so that we can recruit the right servicewomen for these specific roles because we need them. Is that what happens?

**Sarah:**

It is, basically! Yeah, it's not quite as overt as that. Unfortunately, nothing ever is when it comes to women, unless it's an argument that the Air Ministry is trying to make, you know, to keep things the way that they want them. But I think the way that the women in the Dowding system behave is conspicuous. It can't be ignored. It stands out, and it is a necessary experiment.

But it is an experiment with very positive results and that's difficult to ignore. And Air Chief Marshall Dowding is very vocal about how well things have gone, and what I found interesting was that, sort of, down the food chain, a bit where you get Air Station commanders. I mean, Fighter Command was very reluctant to take them, and there was actually one - I found one Station commander, male RAF Station commander who said, "I've never worked with bloody women and I never want to. And I'm not having them on my station!" And he didn't! #

But the same person went on record later, after the Battle of Britain, and said, "Send me more. They've done such a great job. I'm completely - you know - changed my mind. I'm converted. Send me more WAAFs!" And you don't see kind of Air Ministry memos where they're - they're overtly saying the WAAF have done brilliantly - let's get women into all these jobs - but what you do see is women trickling into those jobs, and there's the rate of substitution changes. So, it's no longer 1/3 of of an airman - it goes to 1 to 1 substitution.

**Joseph:**

That’s kind of is reminiscent, really, of that moment where the Station Commander - I don't know whether it was Northolt or - 303 Squadron, where the Poles were based - where he actually had to go up with them to verify they were getting as many kills as they were (claiming). And then he came back down on the ground after - after weeks, or even months of scepticism of his Polish Air Force colleagues – and he comes down the ground and says, “My God, they're doing it!”

It seems like women have gone through a similar moment themselves. They've been tested and shown not to be wanting!

**Sarah:**

Absolutely! There is no doubt in anyone's mind, after the Battle of Britain, that they are capable. In fact, you even get, you know, higher ranking members of the RAF in operations rooms which are very high-pressure environments. Like a pressure – because, you know, you need this intelligence turned around within minutes, because it's basically ‘real time’ air intelligence and they're listening to what's happening and they're plotting it in real time. And that gives the RAF quite fresh data and that's very difficult to do, because you're listening through a headset to an air radar station on the coast, and you're doing something with your hands at the same time. And you have to keep doing it and keep doing it for hours at a time, and that's quite difficult. And, actually, some operations room staff - male staff - acknowledged fairly quickly that women were better at. It because they were used to sitting still, doing boring, repetitive work, and the airmen, you know, would get agitated and couldn't do that, and they weren't as good at multitasking.

Say what you will about, you know, men and women multitasking, but the proofs in the pudding where the WAAFs in the Downing system are concerned. And it was, without doubt, very, very positive result in terms of the experiment. But it's also, you know, it's hard to ignore by that point. It's hard to ignore how well they're doing, and how - how they stand up under that pressure.

So, moving forward, it's obvious to the other, kind of, sections of the military. And not everyone's aware of exactly what's happening but they're aware of the general attitude shift. And, interestingly, in Hawaii, a lot of people don't know that there was the Women's Air Raid Defence unit, which is directly modelled on the Dowding system. So, you have American and Hawaiian women recruited into the war just after Pearl Harbour, because it's recognised that if they had had something like the Dowding system - 24 hours a day, seven days a week - the Pearl Harbour raid may not have happened, or it may have been easier to counteract it so they create the WARD directly based on the Dowding system and staffed it with women. So, it is acknowledged, in lots of different ways - not so overtly as an Air Ministry memo saying, “These women are great. Let's get more of them!” - but in terms of action and increased substitution.

**Joseph:**

So, essentially - the Dowding system - it's all very well in practice, but essentially it's not just the system - it's (having) the right people for the system. In this particular case, women!

**Sarah:**

Absolutely. The right people. Yeah, the right people, the right kind of personality traits, the right skills. And that gets easier to spot. So you know, WAAF leaders get better at spotting these women as they're being recruited: “Oh, this person's good at multitasking. She doesn't get stressed so easily as that one.” So picking up who is the right person - and they use that phrase, “the right kind of woman” - I've seen that in many a file: The right kind of woman!

**Joseph:**

So you're alluding to research that you've done for your both your PhD and your book on this particular topic. What kind of work was done in terms of the raw - shall we say - research - documentary research that you have done? What kind of sources did you come across?

I mean, was there an entire field of research opened up on the back of this? Did they, for instance, do medical studies or did they just do social studies in terms of like an 'after action' report, let's say, where they assessed the performance of WAAF service women at the RAF Station in Uxbridge, where they were working night and day, by all accounts, processing and assessing this information, as well as basically plotting course of incoming enemy raids. Did they do studies on what women had done during this particular phase of the campaign in terms of looking at it afterwards. Is that the material that you used in terms of researching your PhD and your book?

**Sarah:**

Good question. It's challenging - it's challenging to look at women in this kind of work, because those records are largely kept by men, and they're kept by people that don't understand this kind of work.

So there are, you know - the RAF are constantly carrying out efficiency reports - they have to - to understand how they can get better. But they don't often include close examination of what the women are doing because there's this heavy misconception and misunderstanding of what it is that women are doing because they look like secretaries. They look like telephonists. And their work doesn't look that important. And that kind of myth has been perpetuated for decades.

So those efficiency reports - they're somewhat indicative of how well the WAAF are doing, but not with any kind of specifics. So, what it takes is to look at the efficiency reports and then look at personal testimony of RAF Station commanders and the male colleagues of these WAAF and their - the WAAF hierarchy. So, you know, Dame Felicity Peake, a higher ranking member of the WAAF, was very, very vocal about how well her girls were doing. And she would give details. So, talking about how well they stood up under constant bombing raids on the places that they worked and lived in, and the way that they carried on with their work. And, you know, she's writing that down. She's acknowledging it because the women are important to her because they're directly under her in terms of supervision.

But the RAF is concerned with efficiency rather than person. That sounds harsh, but it's wartime, so you definitely cannot afford to just look at the official records in the National Archives where womens work is concerned. You can't stop there because there's perpetuation of mythology and misunderstanding will continue. So, it's important to kind of find other sources. Other opinions - never just women, never just men - a good mixture.

**Joseph:**

And what kind of other sources did you use?

**Sarah:**

A lot of memoir, personal memory and oral history. And I think, personally, that historians have been a lot more wary of those kinds of sources than we really need to be. Obviously, we have to factor in methodological issues, like the impact of time on the memory. And thinking about the past in terms of the future and things like that. But I think as long as you're taking enough of this stuff and carrying out comparative studies and looking at it compared to official records, you can build some sort of corroborative story and you can filter out anomalies.

And that's largely what I had to do was draw information from lots of different people - lots of different levels. So, you know, lower ranking right all the way up to Commandant. And just kind of looking for patterns and that's what led to this kind of discovery of how well they had done and how hidden it has.

**Joseph:**

I wanted to move on to the topic of signals intelligence and how WAAF servicewomen are - basically how they're brought into signals intelligence.

But I'm just really kind of blown away by how you've described these official sources at the National Archives, the so-called efficiency (reports). It seems that at every stage in this entire process, from the beginning of the induction of women into these particular roles to their performance and evaluation of their performance right to, basically – or, even the aftermath - it seems like it's cocoon of misogyny really right throughout it. You can't even rely on the actual sources because there is there is a bias within them. It's still - it's framed within this particular narrow-minded narrative. It's almost like they're struggling to get to grips with the reality of what they've just seen. It seems like a very improper way of testing this hypothesis.

**Sarah:**

Yeah, that's actually a really good observation. They are - I think they're taken by surprise and I think that's because the women themselves are taken by surprise. A number of them have spoken about doing this work and not realising that they had it in them. And that's amazing to read - you know what we've experienced that many of us haven't experienced - I didn't know I had in me - and the WAAF, many of them didn't. They've never had to, so you know.

This this piece of work started out as an academic thesis. And on the front page I put that quote from Eleanor Roosevelt: "A woman is like a tea bag. You don't know how strong she is until you put her in hot water!"

Because that largely was true for so many of them. You put them in the hot water of being on a constantly bombed RAF station during the height of the Battle of Britain. That's hot water! And they find out about themselves things that they didn't know. So, can we really expect men in the area to have to have known that about women when the women didn't know it?

And, I think a lot of the - you know, the other women who were not in uniform - are also surprised by how well the women in uniform do. Mothers, aunts, grandmothers! But it's kind of a happy discovery for the women themselves, who gain this kind of independence and self-belief.

And for their male colleagues to be shocked to death at what they're seeing - I think it's this really interesting kind of 'out of nowhere' occurance. It's not out of nowhere - that's not fair - because they do it in the First World War, just not on the same scale.

**Joseph:**

OK, so there was a first war - and I actually wanted to ask about this - there was a precedent for women performing at these, these high-stress, high-pressure levels in the First World War. But I'm assuming it's because of the pressurised circumstances that the Allies, particularly the British, find themselves in the latter years of the First World War (that they) were suddenly inducting women into the armed forces - something that would have been unthinkable in 1914, 15' and even 16' - suddenly becomes a matter of national survival.

**Sarah:**

Yeah.

**Joseph:**

And women get employed in an unbelievable array of duties, and it's a - it's a massive breakthrough moment, really, for women, but very quickly buried thereafter. And I wanted to ask you, to what extent are the foundations laid down…

**Sarah:**

It does.

**Joseph:**

… for the performance of women in so many multifarious roles within the Second World War. To what extent is that - are the foundations laid in the latter years of the First World War set in 1917 and 1918?

**Sarah:**

Specifically, very much. So a lot of people don't know that the day that the RAF was created, in 1918, they also created the Women's Royal Air Force - so they have a service created on the same day.

That the RAF is created out of sheer necessity by 1918 - you know, the huge number of deaths and losses of men - they need women. So tens of thousands of women go into all three armed services, and though they don't serve for long - because the war ends - they serve again conspicuously, courageously, efficiently - very, very well. And again, unexpectedly!

And their services are demobilised pretty quickly after the war, but their memory can't be erased. So they are the ones who are shouting about this in the sort of 1930s with the rise of the Third Reich - they're the ones who are saying, “We did this before. We can do it, again!” And the older women are there, ready to help train the younger women and to help set up these services because they knew how they worked and how well they had functioned - or how well they had in places. So, the kind of legacy of women in the First World War is, you know, it's really visible in the services of the Second World War. By which point, you have hundreds of thousands of women in uniform based on the tens of thousands in the First World War. So, it's this kind of snowball that's gathering pace to the point where, after the Second World War, they don't demobilise the women's services like they had in the first, because it's just impossible to ignore after the sheer volume of involvement of women and how well they're doing.

**Joseph:**

Are women involved in signals intelligence in the First World War, and were they already involved even before the so-called experiment that we're referring to takes place at the height of the Battle of Britain - where women play this demonstrably vital role within the Dowding system?

Does the involvement of women in signals intelligence long predate that particular moment within the Second World War

**Sarah:**

The involvement of women in signals intelligence is present from signals intelligence’s inception! From the creation of radio and the use of radio, women are involved - part of the reason being, with

the early equipment, their voices actually were going across the radio waves a bit better than mens. I don't understand the science of it, because I'm not a scientist, but I found in some research that they were sort of more compatible with radio in terms of the way that the technology works - their voice is being softer in a different pitch - but again, they're also used to sitting there, not doing much, so you know, they're not really expected to do much, women – "who sit at home and darn socks" – that Watson Watts said, who perfected the radar system - he said women are good darners of socks, so they'll be good at radar work or they'll be good at radio work because they can sit there and do something boring for quite a long time. It's not glamorous, but it's apparently true. Make of that what you will, but it's a pattern.

Which is why, when signals intelligence begins - and it really is sort of baptised in the First World War with kind of increased use of radio, which by the Second is a crucial component of warfare - they are there because they've been involved in the telephone system, you know, all of the time you see these pictures of early telephone networks. It's women who are manning the switchboards, so they are kind of present in this SIGINT world right from its inception, and they're good at it.

**Joseph:**

And at what point - obviously work in signals intelligence connects in with the work in Bletchley Park - at what point do they realise when they establish the facilities at Bletchley and when they - when that work begins in earnest – at what point do they realise that they need to funnel as many women recruits as they can - specifically chosen, specifically recruited according to certain requirements -but at what point does this begin?

**Sarah:**

At the start of the war you've got, you know, a handful of people at Bletchley, a couple of hundred and then by the end of the war, ten thousand-ish and 3/4 of that number are women. So it's realised quite early on that they're going to need them. And you get these difficulties at Bletchley because you have the men there who have been excused from being deployed abroad and they get handed white feathers. Because they're viewed as kind of cowards who should be out fighting when they're actually young genius mathematicians. And the women come in and it's not really understood what they're doing, but it okay that they're there because they're women. So you get this kind of mass appearance of all these young women at Bletchley, which does raise questions in the local community and they're just told to say, "Oh, we're involved in communications" - or something, you know, really vague, can't possibly reveal any details of what they're doing.

But the number of them at Bletchley is insane. So, 75% of those ten thousand are female, many of them civilian, but you also have hundreds of members of the Women's Royal Naval Service, the ATS and the WAAF.

**Joseph:**

Yeah. And they seem to be employed in a wide variety of roles, everything from - well, I can't pretend to understand the complex nature of the work done at Bletchley, but like, I mean - I interviewed a lady who was involved in basically the translation of these decrypted messages.

She happened to be an academic qualified in German. The Scharnhorst and Gneisenau breakthrough in the Channel Dash and also the signals intelligence suggesting that Operation Barbarossa was about to happen.

Having asked her what other kind of work women were doing in Bletchley - women such as herself - she said, well, we practically did everything. Every single conceivable role imaginable within the Bletchley Park apparatus, they were doing it!

**Sarah:**

It's true.

**Joseph:**

And - but is it because of the secretive nature of the work they were doing at Bletchley? Is that the reason why we don't know or don't understand or fully appreciate how important this was as a moment within military history, in terms of the role that women were playing and the understanding of how important women were in this work?

**Sarah:**

It's partially to do with secrecy, and that has been a recurring issue. I interviewed a couple of 98 year-old Wrens, who were both at Bletchley, who were twins. They had been sleeping in the same bed for, you know, the whole time that they were at Bletchley, but worked in different buildings - and never spoke about what they did. And one of them told me that when she signed the Official Secrets Act, there was a gun on the table next to it. And the kind of intense level of secrecy that Bletchley operated under is a contributing factor to why we don't know or understand what women did there. But there are other reasons too. One of those is compartmentalization!

So, if you don't see the whole picture, you can't give the whole picture away. That was the view of Bletchley. So, if we keep every single unit - and there were lots of them, lots of little systems within bigger systems - actually, if we keep them separate, it's not as disastrous if there is a secrecy leak, they won't – you – they won't get the whole picture. So compartmentalization led to women not knowing their place in the system, not understanding what they were doing. So, when it came time to write memoirs, you get F.W. Winterbottom - it's his memoir in, you know, 1974 – he writes about what was happening at Bletchley. And then lots of other men start to do the same. The women don't do that because they don't think or understand that what they were doing was that important. They don't understand how it fits into the kind of wider picture. There are exceptions to that. There were some women who did, but for the most part, they just don't see their work as worth talking about.

And we don't see it as worth looking at. Because, if you're looking at a woman typing, she's just typing - she's just a typist. Why would we care about administrative personnel? But, actually, what she's doing is typing up translated messages that then go on to the Admiralty or the RAF's hierarchy, and it's incredibly important work, but it's misunderstood by the people doing it, and then by (those) historians looking back at it. So, it's really a case of kind of excavating that work. And looking for meaning where it is not obviously present.

**Joseph:**

Was an opportunity lost? Maybe the opportunity was never there - but because of what you're describing, the - maybe not reluctance, but a lack of willingness on the part of ex-servicewomen or civilian women who served in intelligence roles at Bletchley… was there a lost opportunity to record these stories – that, kind of, many took to their grave with them? Is there a whole history that has been lost on account of this?

**Sarah:**

I think there's a danger that it could have been. I think we got there, just in time, I certainly feel.

**Joseph:**

Okay.

**Sarah:**

That there's enough to tell their story, and that's certainly something I've been trying to work toward. What I've done is just a very small part of that. There is more to be done, but the stuff exists - the sources exist, we just need – it's about how we do it, it's about how we write it, and I think it's been difficult because when we look at women in history, we look at them through the 'women's history' and a 'gender history' lens, and often that translates to things like social history and cultural history. We look at stuff like sexuality, lesbianism in the armed forces, unwanted pregnancy or that kind of thing. We don't think to ask, but what were they doing operationally speaking? What were the battlefield implications of their work?

We don't connect women to the battlefield, and that's why I chose to do my PhD at Kings College London, because there's loads of strategists there. I was in the Department of War Studies with intelligence personnel - people who had worked in the intelligence services, and people who had worked in the Ministry of Defence and in different, you know, the armed forces. And I wanted that kind of framework for my research because - the story can be told with what we have left. We got there just in time with oral history projects and surviving veterans, but it's how we tell it that's important, I think.

**Joseph:**

I just wanted to ask you how many - how many veterans or eyewitnesses did you personally interview for your work?

**Sarah:**

Not as not as many as I'd have liked, and unfortunately I didn't get to it quite quickly enough.

A handful, but the ones I met I will never forget. They were very sassy ladies, who did not take any rubbish from me or from anyone ever in their lives, I suspect, but they were very full of, you know, character. And it really struck me how kind of, you know, matter of fact they were about their war service or - "we were just doing what we had to do".

**Joseph:**

Now, there are obviously servicewomen. The Women's Royal Air Force (WAAF) that were in other roles throughout the Royal Air Force organisation, and I'm referring specifically to Bomber Command and also their work in, basically, photographic intelligence.

I don't know which one to start with I suppose. I would start with - Bomber Command. What role - vital role beyond the traditional roles that are seemingly associated with women in the Royal Air Force - what vital roles or what - what essential tasks did WAAF servicewomen carry out in Bomber Command?

**Sarah:**

They actually go together! Photo reconnaissance and Bomber Command go together pretty well.

Actually, I split them into two chapters because they felt that - it wasn't right - to cram them into one, I wanted to kind of make the distinction. Uhm, between the two, because it's different kinds of work to the same end, but Bomber Command's intelligence officers did all sorts of things, from being kind of present in briefings for bomber operations - so every time a bomber crew would go out, they would have to be briefed. They would have to know "this is what the target is - this is what your aims are timing". Weather, all that kind of thing, every scrap of information they had - it's very likely they got from a WAAF.

So you had geography experts, weather experts, meteorologists, map keepers! There's a lovely map keeper called Edna Skeen who was a WAAF who's in the book, and she was known as 'the Queen of Maps' and it was said that she could lay her hands on any map of any area within seconds. An RAF crew member can't do that - they can't walk into a library of maps and find what they need that fast, but she could because she was trained to. And during the height of, you know, bomber operations, Edna was given caffeine pills to stay awake because it was so important to the bomber crews. And they had this kind of cute ritual where they would touch her on the shoulder before they went out and say, "see you tonight, Edna".

So these WAAF became kind of important members of bomber station communities. They provided things like flimsies, which were rice paper - sheets of rice paper with maps, call signs, target information, all that kind of thing - they were on rice paper so that if a bomber crew was shot down, they could eat it, and then the enemy would not get a hold of our intelligence. So, the WAAF had to prepare those, they had to give them out, they had to brief the crew before they went out, and then they had to debrief them when they came back, which was very difficult. Because when a bomber crew came back with a very, very high rate of attrition in Bomber Command - heartbreakingly, the average age of a man who died with Bomber Command was 23 - so this is really really difficult work. Having to sit down with a decimated crew when they come back from a raid - they're traumatised, they've probably seen awful things, they've probably done awful things - and that's weighing on them. They don't want to talk about it. They want to go to bed. They want to go home and cry. They don't want to be questioned by a pretty WAAF in a nice uniform.

And the Air Ministry was quite concerned about that because they thought, you know, this is not right. This is not good for either gender here. But, again, you know, necessity gets in the way and the WAAF have to do this work - to debrief bomber crews, and they're actually very, very good at it. And they are able to use their kind of emotional sensitivity, rather than having a hysterical breakdown every five seconds - which is what the Air ministry was afraid of - they were able to treat the bomber crews with sensitivity, with kindness, with understanding, compassion and get useful post-raid intelligence out of them: "How well did you hit the target? Do we need to carry out a follow up raid? What kind of damage do you think we caused? Is that factory now out of operation?" - really important information - trying to drag that out of tired traumatise men is not easy, and it's something they were very good at.

**Joseph:**

And with regard to, I suppose, the debrief stages of the work that they were doing, at what point did the Royal Air Force Bomber Command come to the conclusion that women would be better suited to this kind of, basically, post-operation debrief work?

**Sarah:**

Like everything with women and the Air Ministry, it was after they'd seen it go well. So it was never a case of, "Ooh, let's give it a go - I'm pretty sure they'll be good at it". It was all, "Let's give it a go

because we've got no choice", and then it would go really well, most of the time, and they'd say, "OK, well, that went quite well. Let's do it again and increase the numbers".

So, it's this is kind of gradual change brought by successful results from a forced experiment, essentially, and that's - they just don't catch on - throughout the Second World War, they just don't catch on. It's kind of this slow integration, but they get there in the end.

**Joseph:**

We're coming to the end of the interview, and I suppose we're saving the best for last, which is, I think - Special Operations Executive - SOE - it's always the, you know, the nice - the snazzy topic - when it comes to the role of women in the war, I think it's probably one of the best publicised…

**Sarah:**

Everyone loves them.

**Joseph:**

Everybody loves them and - but how many were there from the Women's Royal Air Force?

**Sarah:**

Not many, so the number is in the teens. There's 39 in total, only. I think one of them was a Wren. But the rest were members of the First Aid Nursing Yeomanry, so there was something like 13-14 WAAF. They're all in the book - and I thought it was very important to take them one by one. So they each have an individual bio in that chapter with a little kind of summary of their service. Some of them did end very sadly with torture and death. Noor Inayet Khan is one that most of us know.

I always find it slightly frustrating that it's the ones who were tortured and killed that we do know about. It's almost like there's a sense of kind of guilt, because they met with a grizzly end we have to commemorate their service, when actually I think we should commemorate the service of all of them, because they all went through terrifying things and worked courageously - and very, very hard and very efficiently doing something that many of us can only imagine. Or not. I can't imagine it. Not to say that Noor and her colleagues who did meet with a sticky end don't deserve the adulation that we give, they absolutely do. But Pearl is actually my favourite - Pearl Witherington.

**Joseph:**

Tell us a little bit about her.

**Sarah:**

Pearl is fascinating. Her fiancé, Henry, was captured by the Germans and was being kept in a POW camp. So she joined the SOE with a view to breaking him out. And then the two of them end up in charge!

It's very unusual to see a woman in charge of a resistance network - a British woman, anyway. And she ends up in charge of a few thousand members of the French Resistance, and ends up living in the woods with them, arming them through paradrops and supplies, training them. She's - her training file is hilarious - I've seen it - there's a written note on it, in pencil and it says, "Though a woman, she's quite possibly the best shot we've ever seen - in the RAF, in the SOE." And, she is also very handy with explosives. So, her crew of merry men are responsible for blowing up, you know,

hundreds of sections of railway communications lines, things that make it difficult to get reinforcements to the Normandy beaches at D-Day.

So - she's incredible, she's fascinating, and we don't know about her. Most people don't know her name.

**Joseph:**

On this particular topic, because I'm sure - I think it's inevitable that women who were involved in a variety of roles during the Second World War at some point caused an action which led to the death of an enemy combatant, or an enemy civilian. And, I'm just wondering, are there any accounts that you've come across of women involved in Special Operations Executive, or any special work where they were directly responsible for the death of a combatant?

**Sarah:**

Yes, that's actually one of my - I wouldn't say it's one of my favourite elements of the research because it's not like that, but it's the one of the things I find most important. And it's something that we refer to as 'the kill chain'. So, I looked at a lot at this in my PhD with women in the Battle of the Atlantic and the Pacific Naval War, knowing that they were partially, at least partially responsible for the sinking of an enemy ship, which immediately results in a high number of deaths.

And they're aware of that - they are in the WAAF as well. One, in particular, Eileen Clayton, who worked in the Y Service. She's very aware of the implications of her work, and speaks about a specific incident where she can hear a German pilot plummeting toward the sea in his damaged aircraft, screaming for his mother and saying he doesn't want to die. And she knows that because she passed the coordinates of his plane to the RAF she is at least partially responsible for his death, and she says, "I know his mother's going to wake up tomorrow and find out he's dead, and that's partially my fault". So there's this kind of dawning on them that they are playing a role in killing, which is quite chilling and it's obviously a big weight on them. But the way that they tend to speak about it is "it's us or them".

So, say, some of them are - I mean, one in particular, one WAAF in particular - she was so uncomfortable that she actually went to her WAAF supervising officer and said, "I don't want to do this job. Can you put me in something where I'm not going to be bearing this responsibility". And the WAAF supervising officer said, "I can, but you're very, very good at this work and I just want you to understand your place in this war - that we're not doing this because we want to. We're doing it because we have to."

And they had a chat about it, and you know, there's ethics involved here that we could chat about for days and a lot of those conversations had been had around Bomber Command and the, you know, Bomber Command's tactics with area bombing – 'Bomber Harris's' views on things. But at the end of the day, we can't speak for people who lived through this, and their words are along the lines of "it was us or them". It was a matter of survival. We had to do it. It wasn't nice. We didn't enjoy it. But that it was our job and that we had to.

So it's a very interesting one, with lots of different dimensions to look at, but the kill chain and women, I think, is a very understudied area, and I think it's one of those, even psychologically speaking, and this is one reason why I really like interdisciplinary research and intersectional approaches. If we looked at this through the lens of historical psychology, how interesting that would be. And then, you know, maybe draw some comparisons with women in drone warfare today, because that's what we're essentially talking about.

**Joseph:**

Your last chapter - and I think we'll finish on this - is called, ‘Keep calm and carry on’.

What is this chapter about and why is this – I suspect this is your favourite chapter, I think - I suspect you think this is the unique contribution of ‘unique contributions’ that this book offers your readership. Tell me a little bit about it, and why are you so excited about it?

**Sarah:**

I like this chapter because it's one of those times where you get to go, “You were wrong” to a big bunch of misogynistic men - sort of publicly. So that obviously is that satisfying to me

As a woman in War Studies, I have, myself, experienced misogyny. I have experienced discrimination and - and I think it's satisfying to me because of that, partially. But it's basically about looking at what the RAF and the Air Ministry and the powers that be - the British authorities - all thought about women and their ability to cope emotionally, because it was suspected and believed that they would have constant hysterical meltdowns when faced with the harsh reality of war, because they hadn't been. You didn't have photo journalism and TV journalism in war zones the way that we do. So women hadn't kind of been face to face with war.

The only exception would be nurses and the handful of women in the First World War who had been sent to this specific front that was the battlefield. In the Second World War it's different because, you know, the massive expansion of air power means that the front is brought home to everybody - everywhere in Britain is in danger, where that's - that's the front! So – it's completely unfounded for the RAF to say, “Well, they can't work in intelligence roles, because they'll be seeing pictures of beheaded bodies in POW camps!” Yeah, they did see that, but they also had the issue of stepping outside their house on the way to work and being blown up. So – and working in a munitions factory - that's far more dangerous than going to work on an RAF station, and there were far more accidents in those jobs. So it's almost like this desperate kind of attempt to keep women out of these military roles by saying they're too emotional, they won't cope, they'll be in danger and they'll - they won't like that.

And then - so I took all of that - I looked at instances where, you know, RAF people and Air Ministry people had said things, and they literally said it like that: “They will not cope emotionally. They will be overcome by their emotions”. Over and over, they said it. And then looking at what actually happened, and overwhelmingly, they did not have emotional meltdowns. There are hilarious examples like Eileen Clayton, whose RAF superior officer during the Battle of Britain lost his mind during a bombing raid and went a bit berserk. So, she just went up and slapped him in the face - calmed him right down. No one said anything - just completely silent in the room, and then everyone just went back to work and it was fine.

And there's lots of instances like that where you know - there was one where an RAF priest was conducting a funeral for a fallen airman, and a bombing raid came over and the priest and all the men present jumped into the grave with the coffin because they were, you know, and cowered. And the WAAF, very calmly evacuated the family into a nearby shelter and just, sort of, took over the funeral in this bombing raid. So there's loads of instances like that. That's just two examples

But looking at how did they stand up under pressure? Elsbeth Henderson, a WAAF in the Battle of Britain, who was sat at her post in an Operations Room and a bomb landed on her building and she had to be like, basically, physically removed because she was carrying on with her work. Putting themselves in danger, they're not freaking out. They're not losing the ability to remain calm, hence

the title of the chapter, ‘Keep calm and carry on’, and that kind of thing. So I think it's satisfying in that way, because it's basically saying, “you were completely wrong - and here's the proof!”

**Joseph:**

I wanted just to say just there's been a fascinating interview and I've really enjoyed talking to you. Last thoughts! Do you think the role of women in the Second World War, and specifically the role of women in the WAAF during the Second World War and the specific duties that they carried out, that we've talked about - do you think that it has a transformative impact in terms of - well, just basically I suppose, furthering the wider emancipation of women throughout the long, you know, the 20th Century? A re-evaluation of the role of women generally within the workforce and specifically within the armed forces. Does that play out? Does it move it along much further than it did in the First World War, or – what is the ultimate outcome of all of this?

**Sarah:**

I think people want to believe that women's war service - its the same in the First World War, where people want to make connections between women's war service and getting the vote in 1918 - there's some link there. But it's not completely attributable to one factor, and it's the same with the Second World War. By then, you know, you've had quarter of a million women serve in the Women's Auxiliary Air Force. Same in the ATS, eighty odd thousand (80,000) in the Wrens. That's a lot of women! That's a big contribution that can't be ignored or glossed over. A lot of them go back to separate spheres, jobs or lack of - go back to the kitchen. Some of them retain jobs in the military. Some retain jobs in other industries and areas, but it's not as quick as people want to think. The change is not - it's not sweeping and it's not fast.

So, you know, you've got the Women's Liberation Movement and the rise of feminism hot on the heels of the Second World War, but if we look at, specifically, the military and the intelligence world - the military, they don't - they're not fully integrated until the 1990s. They don't fly active-duty fighter missions until the 1990s. They're not allowed on active-duty warships until the 1990s. That's in my lifetime, you know. And then you've got the situation in the Intel community. In 2018, 24% of higher-ranking members of the intelligence community were female. And it's the same with other minority groups, so that integration is not as fast as we want to believe. It's not as sweeping as we want to believe, and actually it's quite begrudging in some ways still.

And arguably it's not complete. We still have a lot of work to do. You turn your TV on, you know - every other week there's an article in the BBC News about some sort of discrimination in the military and there is still a lot of work to be done. But the work of these people in the Second World War was a catalyst of some degree, and it is a legacy - it has a legacy.

And I've spoken to some currently serving women in the U.S. military and in the RAF who do cite, you know, the ATA and people like that as direct inspiration for them having joined the service and that's a wonderful thing to be able to make those connections.

**OUTRO:**

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