



Temporary Empowerment: The Rise and Fall of the Women Airforce Service Pilots (WASPs) in Post-World War II America and their influence on Firmware Engineering Principles

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ABSTRACT

This paper examines the pivotal role played by the Women Airforce Service Pilots (WASPs) during World War II and the factors leading to the program's dissolution after the war. Created in response to the demand for pilots, the WASPs were instrumental in ferrying aircraft and freeing male pilots for combat roles, flying over 60 million miles across various missions. Despite their critical contributions, the WASPs faced opposition following the return of male pilots from combat, shifts in societal expectations, and political lobbying against the program's militarization. This paper explores the influence of post-war societal norms, media manipulation, and political pressure that ultimately led to the disbandment of the WASPs. Additionally, it discusses the lasting impact of the WASPs on military aviation and how the structured, adaptable approach they employed in aviation testing and troubleshooting parallels systematic methodologies used in modern firmware engineering. Just as WASPs ensured the reliability of aircraft under variable conditions, firmware engineers today employ rigorous testing and troubleshooting to ensure robust system performance across multiple platforms. The investigation utilizes primary and secondary sources to offer a comprehensive analysis of how the aftermath of World War II curtailed women's temporary empowerment in aviation, while also setting the stage for future advancements in gender equality in military service and firmware engineering practices.

Keywords: Airforce, aviation, firmware, engineering, WASP

1. INTRODUCTION

The Dissolution of the Women Airforce Service Pilots in the Aftermath of WW2

December 7, 1941, marked the start of U.S. involvement in World War 2. As the U.S. economy took a turn and their wartime industries increased, women's role in society changed to accommodate ordnance needs. 6 million women left behind their traditional roles and joined the workforce (Dzelzkalns 5). This paper will focus on the women of World War 2 who left behind their domestic lives and exchanged them for military aircraft. As the need for females in the workforce grew, U.S. Army Air Force (AAF) leaders were interested in incorporating women in air assignments: first as an experiment, then through militarization (Wensley 2). With the creation of the Women's Flying Training Detachment (WFTD) and the Women's Auxiliary Ferrying Squadron (WAFS), women were able to free men to fly combat missions (Dzelzkalns 20). These two organizations soon merged to form the WASP program (Women Airforce Service Pilots), serving from 1942 to 1945, led by Nancy Love, Jacqueline Cochran, and General' Hap' Arnold (Carl 11). The Department of Defense (DoD) received 25,000 candidate volunteers and selected around 2,000 of them to train at the Avenger Field in Sweetwater, Texas. These 'Rosie the Riveters' flew over 60 million miles and over 77 types of aircraft throughout the war to aid their country (Mutisya 8).

By 1944, plans for a coming European invasion meant shifting priorities onto ground troops. As a result, a cutback occurred in the Army Air Force, relieving over 8,000 male pilots. These pilots began to lobby against the WASP militarization Bill (House Bill 4219) (Fagan 11). The program's militarization proposal was rejected, and the program ended in stages by the end of 1944 (Wensley 27). The WASPS were disbanded unceremoniously and labeled as an experiment by the AAF. 'Temporary Empowerment' occurred as America was ready to return to normalcy, and women were expected to return to their pre-war social and professional roles (Carl, 40). However, organizations such as the Women Flyers of America, Civil Aeronautics Association, and the Ninety-Nines International Women Pilots Association were established to support women in military aviation who had gotten a taste of social change during World War 2; This was the women's response to the new climate of military aeronautical activities (Mutisya, 7).

2. METHODOLOGY

2.1 *Historical Debate*

Different schools of thought surround the factors that caused the dissolution of the WASPs during the aftermath of World War 2. Scholars like Wesley and Pearson believe that it was due to the program being a temporary experiment, the attitude of the program's leader, Jacqueline 'Jackie' Cochran, and the militarization bill being introduced too late. However, while these may be factors, historical evidence and arguments suggested by scholars like Dzelzkalns and Mutisya suggest that the disbandment was primarily due to the return of men, societal views at the time, and the manipulation of media.

In the thesis, "The Women Airforce Service Pilots (WASP)", Wensley argues that the program was shut down because it was only meant to be a temporary experiment. However, this is debatable since General Henry Arnold and Jackie Cochran had always intended militarization. They had mapped out the future of the WASP program even before it was launched (Dzelzkalns 14). Others argued that the disbandment was due to a statement issued by director Jackie Cochran, giving off a tone that depicted a 'take it or leave it' threat (Landdeck 231). She stated, "Under civilian status, so many elements of the experimental project are lost or weakened ... that serious consideration should be given to inactivation of the WASP program if militarization is not soon authorized" (Fagan 112). Cochran additionally commanded WASPs to refrain from speaking in interviews, which caused further misjudgments to be created (Dzelzkalns 29). While her actions were an exasperating factor, they were not a significant cause since there was a balance of views in the media. Articles like "Ladies Courageous," and features in "Life" and "Time" magazine made a stance for the women (Dzelzkalns 35). The disbandment was also blamed on introducing the militarization bill too late (Wensley 93). This statement is not fully supported since the militarization bill was first introduced in the United States House of Representatives on September 30, 1943, by Representative John Costello and had support from the Army Air Forces and Department of War (Pearson 147).

As such, the research question, "To What Extent Did the Aftermath of World War 2 in the 1940s Cause the Dissolution of the WASPs (Women Airforce Service Pilots) in the U.S. Army Air Force?" must be addressed to fully understand the factors leading to the disbandment of the program, the social setting of post-World War 2, and the role of women at the time.

This question holds worldwide significance as it delves into the role of the WASP Program, an organization that has significantly elevated the position of women in the field of military aviation and contributed to the Allied victory in World War 2. By examining the closure of the program, historians gain insight into its impact on women and their societal role during the 1940s.

Methodology

This investigation uses primary and secondary sources ranging from news articles, oral histories, autobiographical books, and congressional records and acts.. The perspectives of historians, WASPs, generals, media in the 1940s, and more are highlighted to collect a greater general understanding of the social setting in the U.S. during the time. The following argument asserts that the aftermath of World War 2 in the 1940s played a significant role in the dissolution of the WASPs.

This essay is organized thematically around major factors relating to the aftermath of World War 2 that contributed to the dissolution of the WASP program. The reduced need for women pilots due to the return of male pilots, the post-war retrograding of societal views, and the manipulation of media were significant factors that led to the dissolution of the WASPs, as supported by historical evidence.

2.2 *Returning of male pilots reduced the need for WASP pilots since the end of the war.*

In 1944, the war in Europe was coming to an end, and the needs of the Army Air Forces changed. More male pilots overseas were surviving and, as a result, were being rotated out of the foreign war theaters and back to the U.S. (Landdeck 228). Many of these surplus pilots became instructors or transitioned to civilian jobs in aviation. However, due to this imbalance in supply and demand, many male combat pilots who had returned from their assigned missions were concerned about keeping their flight pay (Dzelzkalns 7). The WASP graduates occupied around 1,000 pilot roles at bases nationwide and the head of Air Staff in Washington DC was growing concerned that they were 'putting the big football players to shame' (Mutisya 62). This source is valuable based on its source as it aids in understanding Washington's stance on women's involvement in military aviation. Those in authority agreed that these dynamic women were taking all the thunder while wasting the talent of male pilots sitting on the sideline (Dzelzkalns 49).

The war spending by the AAF on new airplanes, mechanics, fuel, etc., strained their budget for military programs and caused pressure among pilots for assignments. Many male pilots began protesting against the militarization for WASPs. While the 1943 WASP Militarization Bill was being considered, these furious pilots created the Ramspeck Committee. The committee, headed by the Civil Service Committee chairman, Robert J. Ramspeck of Georgia, instituted an investigation called the 'Ramspeck Report', released on June 5, 1944, to see how public funds were being utilized (Dzelzkalns 11). They were fighting for their jobs back and garnered support from those in authority to villainize the WASP pilots. "They (civilian pilots) formed a powerful lobby, and the resulting pressures, both political and emotional, worked against the women" (Dzelzkalns 6). The report's central argument revolved around the "utilization of experience and capabilities before resorting to the use of inexperience and costly training" (Dzelzkalns 101). The report claimed that it was the most cost-efficient to use men in ferrying tasks that WASPs held, stating that "the proposal to expand the WASP has not been justified ... Several surpluses of experienced pilot personnel are available for utilization as service pilots. Therefore, it is recommended that the service of these several groups of experienced air personnel be immediately utilized." (Dzelzkalns 102). This source is limited based on its content because they used dominantly male statements, hand-selected statistics, and had no female representation, leading to bias. This impacted the decision of

militarization and dissolution even though the statistics were false; in reports, it was clear that these women had equal experience and flight scores as the male cadets (Carl 101).

A large portion of the media in the U.S. believed that there was a surplus of women in military roles. General Henry Arnold made a response to the changing demographics in the military, "The war situation has changed, and the time has come when your volunteer services are no longer needed. The situation is that if you continue in service, you will be replacing instead of releasing our young men. I know that the WASP wouldn't want that" (Arnold 2). Due to the pressures placed on him by higher-ups, changes in need, and the male pilots lobbying for their positions back, Arnold was unable to justify the use of women pilots or the WASPs program. He announced the program's deactivation on December 20 (Landdeck 263). Many WASPs felt defeated, since "after honing our skills and dedicating ourselves to the war effort, we were now surpluses." (Carl 111). Like the WASPs, many Rosie the Riveters faced the same fate as the war was winding down. "We are not the heroes we once were. Now we are standing in the way of returning soldiers"(Carl 115).

The women didn't receive any benefits for their service and were sent off to find other jobs. Moreover, they had to wait 35 years to receive recognition (Mutisya 41). The industry was quick to tell them to leave as soon as the male pilots were back from overseas, even though plenty of evidence suggests that there was a need for them (Peach 2).

2.3 RETROGRADING OF SOCIETAL VIEWS

World War 2 made it necessary for women to step outside their typical roles due to society's changing economic and demographic nature. The WASPs were a perfect example of this shift in organization. However, with the closure of the war, the mentalities held by the American public reverted to their pre-war state (Mutisya 11). "Their careers will be marriage", said many regarding the futures of WASPs (Pearson 157). Dzelzkalns believes that the debate over the militarization of the WASPs had less to do with experience and money and more with society's cultural perceptions about women and their societal roles. The WASPs weren't less skilled, nor were they stealing all the jobs. They earned their place in the skies, but America tried pulling them down (Mutisya 9). General Arnold, commander of the Army Air Force, supported the WASP Militarization Bill and believed that the men lobbying against the women did not meet the pilot requirements established by the AAF (Dzelzkalns 98). "We cannot lower our standards because a man has had a few hours in the air. They must meet our standards" (Arnold 1). General Arnold oversaw the program and brought it into effect with Jackie Cochran, believing and holding evidence proving these pilots' skills, making this source valuable to understand the less popularized and insightful view arguing for the WASPs.

Even at its humble beginning, the WASP program faced harsh opposition. The young, aspiring female pilots faced adversity in many forms, including lack of job access, dangerous assignments, low pay, etc., reinforced by the cultural and regime norms (Mutisya 10). They were perceived by many as violating their societal role and cheating their way out of marriage and motherhood (Dzelzkalns 44). Many took their voices to the media to attest to their truths, like WASP Ann Baumgartner Carl, the only American woman to test-fly experimental planes and first woman to fly a jet at the time. However, they were cut down by higher-up officials and media distributors (Carl 134).

Due to the societal viewpoint that women belonged at home, the arguments against women pilots were strengthened, and the pressure from the public proliferated. Many male pilots, military generals, and higher-ups believed that women didn't belong in airplanes and swayed many policies made in office to reinforce that belief (Fagan 11). The Ranspeck Committee's 'Ranspeck Report' attacked the WASPs using untrue stereotypes and biased evidence, strengthened by precursory gender roles, and played a prominent role in rejecting the Militarization Bill (Fagan 56).

After the closure of the WASP program, their records were classified and sealed from the public, unseen and forgotten as America returned to normalcy. All files containing the women's skills, missions, and achievements were 'magically' erased, and for 30-odd years, their contributions to WW2 were forgotten. (Pearson 160). The government decided to hide these files since the dominant view was that women weren't supposed to be flying airplanes and carrying out challenging missions (Pearson 164). Ann B. Carl, a former WASP, faced harsh discrimination during her time at the Wright Field Air Base in Dayton, Ohio (Carl 97). She was an avid writer and wrote journalistic pieces for publication by the WASP Officials. "I noticed that most of my stories had been filed away for after the war" (Carl 107). As such, the officials suppressed publicity and wanted to avoid spreading knowledge about these women with wings aiding the war effort.

The WASPs carried out male duties, such as ferrying aircraft, testing planes, towing targets, instructing, simulating strafing, and night tracking (Dzelzkalns, 20). While many in the public believed that they were inadequate pilots because they were women, there was no evidence supporting such, causing it to be a negative societal stereotype. Operationally, WASPs had a lower accident rate than male cadets and surpassed male AAF performance in every measurable way. The government reports on file contained proof of the women's competence (Cochran 3). Mary Ellen Keil, a WASP who attended B-26 school, found that "we outscored the men in B-26 ground school, and they couldn't believe it. Here we were, supposedly uninformed women, and we got better scores than they did" (Dzelzkalns 89). In October 1943, male pilots were refusing to fly the B-26 Marauder, but 25 WASPs flew it to prove to the male pilots that it was safe. "The men could hardly refuse to fly an airplane that women could handle, and time proved that the women could handle it very nicely" (Pearson 30).

The WASPs opened the gateway for women interested in pursuing military aviation careers (Mutisya, 7). Despite the reputation that preceded them, the WASPs held support from many women nationwide for this reason, including Eleanor Roosevelt (Dzelzkalns 35). In her September 1, 1942 column "My Day," she stated, "We are in a war, and we need to fight it with all of our ability and every weapon possible. Women pilots, in this particular case, are a weapon waiting to be used... Hence I am speaking up for the women fliers because I am afraid we cannot afford to let the time slip by now

without using them" (Dzelzkalns 35). Elanor was a strong supporter of women's equality and liberation, and her statement's valuable origin allows historians to see the viewpoint of American women ready for a change. She aimed to make a statement and show her support as the First Lady of the United States to garner more support. Despite this, the WASPs were not militarized. They were refused benefits and went down in history as the only war bill not passed by the War Board during WW2 (Dzelzkalns 132).

The Manipulation of Media to Deny Militarization

Reports by Cochran and General Arnold document that militarization would be desirable and necessary for the program down the line. However, the WASP program never saw the light of day as an official military unit due, in part, to media manipulation (Wensley 54). The WASP Militarization Bill, HR 4219, was rejected by the U.S. Congress on June 21, 1944, since it faced opposition from some military officials and members of Congress. It was narrowly defeated 118 to 169, and a significant factor leading to conflicted views in the house was the Ramspeck Committee's report on June 5, 1944 (Fagan 11). After minimal research, they "recommended that the recruiting of inexperienced personnel and their training for the WASPs be immediately terminated" (Dzelzkalns 102). The committee consisted only of men who likely held traditional views about gender roles, were pressured by male military pilots, and had a tight deadline for the report. Additionally, they relied only on testimonies from male pilots and officials and failed to consider the point of view of the WASPs themselves. This caused biases to be developed in their argument that were overlooked and indirectly caused the disbandment in December of 1944.

Congress decided that they weren't ready to "justify an expenditure of \$50,000,000 for the training of limited-service personnel ... We should utilize the services of these men who have been trained, who have from 800-4300 flying hours...I do not believe they should be washed out now" (Missouri State, General Assembly, House of Representatives 8). This statement made in Congress was influenced by the incorrect statistics of the Ramspeck report since the evidence shows that the male and female pilots held roughly the same degree of skill and that the cost of training (\$50,000,000) was around the same for male cadets as well (Landdeck 212). Due to the incomplete nature of the report, and its manipulation of limited testimonials and statistics, the program was closed, with no military benefits (Dzelzkalns 35).

In addition to the opposition faced in Congress, the WASPs had the misfortune of facing discrepant public opinions. This factor was vital in influencing Congress's decision, leading to deactivation (Fagan 79). The question of WASP militarization in the spring of 1944 quickly made headlines in all major newspapers, including the prominent TIME and the Washington D.C. Post (Wensley 21). The magazines won over by lobbying male pilots, supplied incorrect statements, and attacked the WASPs as wasteful. The origin of these sources proves valuable as they show the desperation of the male pilots as they fought for their places back. "While no one knows exactly how many of those civilian pilots, flight instructors, and trainees were protesting the bill, those who did made sure they were heard and did not characterize the WASP kindly (Wensley 57). Many articles, like TIME's "Unnecessary and Undesired?" created charged statements and allegories that "male pilots may soon be cleaning windshields and servicing planes for 'glamorous woman flyers" (Landdeck 211), causing untrue biases against the WASPs to be formed. Even General Arnold was defamed in a press article in the Washington Times Herald column that stated that he was manipulated by the WASP's 'feminine wiles' (Wensley 23).

The Ramspeck Committee used these news articles in their report to create a one-sided argument, and the manipulation of public opinion further pressured Congress to deactivate the bill (Pearson 17). They highlighted the country's desperation to return to normalcy and the previous 'saviors' of the war effort (Rosie the Riveters) were now encouraged to return to their pre-war roles (Landdeck 213). The context and tone were valuable as they struck true to society's views at the time; all through 1944, the propaganda images put out by the Office of War Information highlighted the Nuclear Family and the women's submissive role. (Landdeck 220).

The WASPs did have some positive support that encouraged the militarization of the program. Although Congress had rejected the Militarization Bill in June of 1944, it was still being debated in the Senate. Many women showed their support by writing letters to senators, civic leaders, flying clubs, and the media (Landdeck 231). Positive support pieces by writer Gill Robb Wilson and others, like "The Girls Deliver the Goods" argued that the WASP program had been successful, particularly since they were "ferrying more than 80% of all airplanes produced" (Dzelzkalns 106). While there was a fair amount of positive media coverage, the negative news held more support and ended up swaying results in Congress (Landdeck 220).

Through the media manipulation by the Ramspeck Committee and the spread of incorrect and untrue news, opinions turned against the WASP program, and Congress was swayed to reject House Bill 4219.

3. CONCLUSION

A result of the ending of World War 2 was the restructuring of economies and the societal shift as America was returning to normalcy (Pearson 44). Through this, ideologies shifted, demographic changes occurred, and the needs of the armed forces changed, causing the release of the WASP program.

The aftermath of World War 2 in the 1940s caused the dissolution of the WASP program to a great extent. Due to the end of the war, male pilots returned from overseas, and the need for women pilots was reduced. This competition caused threatened male pilots to lobby against the WASPs and manipulate the media, pushing Congress to reject the WASP Militarization Bill. 'Temporary Empowerment' occurred as America was ready to return to normalcy, and women were expected to return to their pre-war social and professional roles (Carl 40). The WASPs were disbanded unceremoniously and labeled as an experiment by the AAF. However, organizations such as the Women Flyers of America, Civil Aeronautics Association, and the Ninety-Nines International Women Pilots Association were established to support women in military aviation who had gotten a taste of social change during World War 2; This was the women's response to the new climate of military aeronautical activities (Mutisya, 7).

Long Term effects

"You, and more than 900 of your sisters, have shown that you can fly wingtip to wingtip with your brothers. If ever there was a doubt that women can become skillful pilots, the WASP have dispelled that doubt" (Arnold 1). Because of the pioneering and expertise demonstrated, the WASPs paved the way for future women in aviation (Carl 113). The WASPs had been de facto military personnel, acting as catalysts for integrating women pilots into the Armed Services (Dzelzkalns 103). On March 1, 2010, President Obama gave WASP pilots the Congressional Gold Medal and overdue military status in Act S6:14 -11th Congress. "We had been pioneers as military pilots flying military aircraft. None had gone before us...We had changed women's status in flying forever." (Carl, 108).

The structured and methodical approach the WASPs used in training and mission execution mirrors principles in modern engineering, particularly firmware design and testing. Just as WASPs ensured aircraft reliability under varying conditions, firmware engineers ensure robust system performance across different platforms, relying on adaptability and troubleshooting.

Though the program ended, the WASPs' legacy provides valuable lessons not only for gender equality but also for understanding the importance of structured, systematic approaches that inform both aviation and engineering today.

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DEFINITIONS, ACRONYMS, ABBREVIATIONS

Here is the Definitions section. This is an optional section.

Term: Definition for the term

APPENDIX