THREE DOROTHIES: WOMEN, CAR CULTURE AND THE IMPACTS OF WAR IN THE GENDERING OF THE AUTOMOBILE 1908-1921

A Thesis Submitted to the Committee on Graduate Studies
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Abstract

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An interesting question arises upon viewing the 1939 film, *The Wizard of Oz* (MGM). The main character Dorothy Gale faces a long arduous journey on foot. *Why did she not have a car?* Women had formed strong associations with the automobile in its early years, yet they appeared to have weaker associations with the automobile a few decades later. A look back to three other "Dorothies" from the World War I era demonstrates the evolution of women's associations with the early automobile, and how war impacted them.

In the pre-World War I years, women drivers appeared in film, while Dorothy Levitt wrote columns for other women on how to drive and repair a car and many other women invented safety technologies for automobiles. During World War I, the pinnacle of recognition for women's driving emerged with the woman ambulance drivers on the front lines. Dorothie Feilding was one of the first women to arrive in Belgium to drive ambulances, often while under fire. Feilding and many women like her were given war medals for their service, and their bravery was touted in newspapers. However, once the war ended, their accomplishments would be erased and ignored.

In the post-World War I years, Dorothée Pullinger's experience as CEO of the Galloway factory illustrate how ideas of masculinity and femininity. promoted by governments after the war, impacted women. The Galloway factory in Tongland Scotland, was staffed by women engineers and workers. After World War I ended, these women were pushed out of their jobs. War-induced disability and its economic costs to governments were at the heart of gender inequities and served to displace women from automobile technology. Policies such as Britain's "Restoration of Pre-War Practices Act" set the stage for a script that constructed women's jobs as expendable and marketed ideas of the disabled soldier needing to "re-gain his manliness" by re-entering the labour force at women's expense. As a result, the state imbued a new relational, gendered analytic onto automobile use and production that remains with western society today.

Keywords: woman's labour, woman driver, automobile, factory labour, gendered technology, World War I, ambulance, silent film, Restoration of Pre-War Practices Act, Galloway, Tongland, First Aid Nursing Yeomanry, Munro Flying Ambulance Corps, Dorothy Levitt, Dorothie Feiling, Dorothée Pullinger.

Preface

I wish to acknowledge the gift of living and studying on the traditional lands of the Anishnaabe and many other indigenous peoples. Indigenous learning often includes looking at the world and subjects within it from non-traditional perspectives, including understanding how our own experiences shape our understanding of our surroundings or a given subject. This is something I strive to embrace, and I am thankful to have learned to value this "way of knowing" very much. Therefore, I wish to acknowledge a few of these things in my own research.

The role of the people who have influenced me is vast and includes my grandfather, my father and my brother who introduced me to cars at a very early age. My grandfather changed a diaper for the first time – mine – in his garage with a J-cloth, and I was with him in that garage for many years afterwards, observing his interactions with the automobile, and the care he placed in working with this technology. It influenced my own interest in cars and other technologies. My father introduced me to literally thousands of vehicles over my lifetime, which he bought and sold, telling me which ones were safe, which were too fast, and which were out of the question when he witnessed me taking a corner too fast in a Mustang when I was only sixteen years old. My brother Johnny contributed to my interests by sharing his toy cars, always encouraging me

to drive and speed beside him on his Hotwheel track, with never a hint that cars were a toy for boys and girls should stick with dolls. I was his best friend, and racing rival on the circuit in our basement. My grandmother introduced me to early film, the black and white silent films that we watched together in the same aforementioned garage that my grandfather had transformed into a family room for us. I could see that there was much to be learned from silent film. Early on, I appreciated the straightforward messages that the captioning offered, as well as the use of facial expression that actors used to convey emotion. My Mother taught me that there should be no difference between women and men's abilities, and that I should be able to stack wood, swing a hammer or paint a room just as well as any other person.

As I explored the evolution of women in the World War I era, I brought all of these influences along for the ride. And my own experiences as an adult also gave me pause to think and consider the women behind the diaries and letters, and what they must have felt. In particular, as I read the accounts of the woman ambulance drivers at the front lines, I could draw on some of my own experiences conducting hurricane relief. As I read their stories of traveling across rutted muddy roads where they could have found themselves broken down and under fire, I frequently thought of the trips I took across a barren landscape of destruction between New Orleans and Mississippi after Hurricane Katrina, as I traveled to a shelter to assist with hurricane relief. I knew about the mud - the

very foul-smelling mud – that would coat everything on your vehicle. I knew the ambulance drivers would have dealt with the same muck, and the women would have to live with the same fear that a tire would blow out at a very inopportune place and time, while driving over unrecognizable debris and jagged materials. An even more challenging experience that shaped my understanding of the women's interwar experiences in the ambulances occurred as I was researching, and simultaneously losing my 100 year old Mother-in-Law from gangrene. It occurred to me that this horror of witnessing extreme uncontrollable agony was something the woman ambulance drivers would have dealt with on a much larger scale. These women do not write about this in their diaries and letters, and I can understand why. It is too much to recount, and this highlights how very traumatic it must have been. This understanding led me to consider other ways of understanding that words are spoken or unspoken purposely. When accounts are given that describe women such as Dorothy Feilding throwing a tea party near the front lines, it is not quite as it might seem. It is not necessarily a moment of joy and socializing, but rather it may have been a gathering of the traumatized, who were trying to find solace and strength in one another's company, in a tradition that reminded them of a happier time and place. In many areas, the diaries may seem to be light-hearted and frivolous, but one must remember the much darker shadows behind these accounts. That is a key part to understanding the strength the woman ambulance drivers displayed. It also suggests that they would not

have experienced such challenging and traumatic circumstances if they had not been very capable drivers. The automobile led women to some of the most difficult experiences a human being can encounter. This is in part why it is vitally important to shine a new light on their accomplishments, to understand how they came to be such capable drivers and to fully realize how removing these associations took away something that should have been a fundamental part of life to women who wished to understand and enjoy this technology. Our technological world today could look very different if these associations had not been interrupted by the response to war.

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Contents

Abstract ii

Preface iv

Acknowledgements viii

List of Figures xi

INTRODUCTION 1

Theoretical and Methodological Considerations 8

Feminist Theory: Gender as a Key Outcome of Archival Investigation 8

Science and Technology Theory 10

Gendered Technology Theory 14

PART I:

DOROTHY, THE AUTOMOBILE ADVOCATE:

Women in the Drivers Seat in the Pre-World War I Era 22

Introduction 22

Dorothy Levitt and Early Women Inventors 30

The Origins and Evolution of Early Automobile Films 42

Pre-War Film: Her Place: Behind the Camera and Steering Wheel 53

Male Gaze: A Different Woman Driver in the Eyes of a Man 73

Conclusion 84

PART TWO:

DOROTHIE UNDER FIRE:

Recruitment to War Work and Women's Empowerment on the Front Lines 93

War Recruitment and the Ambulance Drivers 95

Propaganda Coercions: Poster and Film 97

Empowered Spaces: Women behind the Wheel 113

Early Writing on Women at the Front Lines: Arthur and Helen Gleason 120

The Munro Flying Ambulance Corps 1914-1918 130

Elsie Knocker and Mairi Chisolm 148

Chemical Warfare Begins 157

Kate Luard and the British Expeditionary Force, 1915-1918 161

First Aide Nursing Yeomanry 1916-1918 ... 169
Women's Rescue and Care of Injured Men's Bodies ... 178
The Militarized Woman in the Ambulance Space ... 183
Conclusion ... 190
PART THREE:
DOROTHÉE THE VISIONARY:
The Post-War Creation of a Gendered Analytic in Automobile Use and Production ... 200
Introduction ... 200
The Woman Driver and Auto Factory Worker in Scotland ... 232
Conclusion ... 253
FINAL CONCLUSION: ... 261
How Governments and Unions Wrestled the Steering Wheel Out of the Hands of Three Dorothies, Launching a Century-Long Disconnection of Women and Technology ... 261
Reference List ... 275
Archival Materials ... 294

List of Figures

Introduction

1: Argo Electric Advertisement. 1912. JustACarGuy.com

Figure 1 Link: http://justacarguy.blogspot.com/2017/04/in-1912-lot-of-electric-vehicles-were.html

PART I

Figure 1: "An Auto Heroine: Or the Race for the Vitagraph Cup and How It Was Won". National Library of Congress. October 10, 1908.

Figure 2: "An Auto Heroine: Or the Race for the Vitagraph Cup and How It Was Won". National Library of Congress. October 10, 1908.

Figure 3: "An Auto Heroine: Or the Race for the Vitagraph Cup and How It Was Won". National Library of Congress. October 10, 1908.

Figure 4: Laurel and Hardy Youtube Channel. *Mabel at the Wheel.* Keystone Films, 1914.

Figure 5: Laurel and Hardy Youtube Channel. *Mabel at the Wheel.* Keystone Films, 1914.

Figure 6: Laurel and Hardy Youtube Channel. *Mabel at the Wheel.* Keystone Films, 1914.

Figure 7: Laurel and Hardy Youtube Channel. *Mabel at the Wheel.* Keystone Films, 1914.

Figure 8: Laurel and Hardy Youtube Channel. *Mabel at the Wheel.* Keystone Films, 1914.

Figure 9: Laurel and Hardy Youtube Channel. *Mabel at the Wheel.* Keystone Films, 1914.

Figure 10: Laurel and Hardy Youtube Channel. *Mabel at the Wheel.* Keystone Films, 1914.

Figure 11: "Joan Cuneo." Collection of Tanya Bailey.

Figure 12: National Library of Congress. Digital Files. “A Beast at Bay.” Biograph, 1912

Figure 13: National Library of Congress. Digital Files. “A Beast at Bay.” Biograph, 1912.

Figure 14: National Library of Congress. Digital Files. “A Beast at Bay.” Biograph, 1912.

Figure 15: National Library of Congress. Digital Files. “A Beast at Bay.” Biograph, 1912.

Figure 16: National Library of Congress. Digital Files. “A Beast at Bay.” Biograph, 1912.

Figure 17: National Library of Congress. Digital Files. “A Beast at Bay.” Biograph, 1912.

Figure 18: National Library of Congress. Digital Files. “A Beast at Bay.” Biograph, 1912.

PART II

Figure 1: National Library of Congress. “For the Glory of Ireland.” 1915.

Hely’s Limited. 1915. “For the Glory of Ireland” [poster] Library of Congress, Washington, D.C. https://www.loc.gov/item/2003668400/

Figure 2: Milner, E. & J. L. 1915. Women of Lancashire [poster] Imperial War Museum, London, U.K. https://www.iwm.org.uk/collections/item/object/28598

Figure 3: The Scarlet Letter

Figure 4A. *Hearts of the World* (Griffith 1918)

Figure 4B. *Hearts of the World* (Griffith 1918)

Figure 5. Join the Navy

Figure 6. British women ambulance drivers, 1917. *Nursing* cliohttps://nursingclio.org/2018/11/20/a-male-department-of-warfare-female-ambulance-drivers-in-the-first-world-war/

Figure 7. Dorothy Feilding, 1914. The New York Times.

Figure 8. Feilding decorated by King Albert, 1914. Illustrated London News.

Figure 9. Munro Ambulance Corps/Red Cross vehicle, 1917. Imperial War Museum Collection.

Figure 10. Two women ambulance drivers at Pervyse, 1917. Imperial War Museum. https://www.iwm.org.uk/collections/item/object/205348909

Figure 11. Soldiers lined up for medical transport after gassing. Possibly a woman ambulance driver behind, top left. Date unknown.

Figure 12. Wolseley lorry. Date unknown. https://www.keymilitary.com/article/wolseley-great-war

Figure 13. Grace MacDougall in FANY uniform. Imperial War Museum. https://livesofthefirstworldwar.iwm.org.uk/lifestory/5146365

PART III

Figure 1. W.A.A.C. 1915. Women Urgently Wanted [poster] Imperial War Museum, London, UK. https://www.iwm.org.uk/collections/item/object/31373

Figure 2. Hawthorne, H. G. 1917. “God Speed the Plough and the Woman Who Drives It” [poster] National Library of Congress, Washington, D.C.

Figure 3. Gibson, C. D. 1918. “Help Her Carry On” [poster] Library of Congress, Washington, D.C. https://www.loc.gov/item/93510436/

Figure 4. Ordnance Dept USA. 1917. “Stenographers! The Kaiser Is Afraid of You” [poster] Library of Congress, Washington, D.C. https://www.loc.gov/item/00652373/

INTRODUCTION

I have always wondered why Dorothy in *The Wizard of Oz* film (1939) was provided with a pair of glittery high-heeled shoes for a long, arduous walk, instead of a car to zip down the Yellow Brick Road to find the wizard in Oz. I would argue that a car could have provided her with protection from many dangers, including being hit by apples thrown by fruit trees, and fire balls slung from the sky by a wicked witch. A fast car could have sped her along to the Emerald City rather quickly. So, why wasn't there a car for Dorothy to drive in this 1939 film?

Although the *Wizard of Oz* book, written by L. Frank Baum in 1900, was published when the automobile was very new, and was not yet considered a viable form of transportation, even from this same year, pre-World War I films such as *How It Feels to Be Run Over* (Hepworth 1900) were showcasing the car. Early cinema was flush with depictions of woman drivers. One noteable example is the American film *An Auto Heroine or the Race for the Vitagraph Cup and How it Was Won* (Vitagraph 1908), which is discussed in Part One of this study, representing American film in the pre-World War I era. Alice Ramsay, the woman driver in the film, was a professional driver hired by Maxwell, an American manufacturer from 1904-1925, to race and demonstrate their automobile in long-distance driving events. This suggests that in the pre-World

War I years, the automobile industry was working to educate and attract women as consumers, and this occurred in the United Kingdom as well.

Given the existence of strong early associations of women with cars in Britain and America, one would have expected that the early trajectory of woman drivers would lead to even stronger associations as the number of cars grew. However, something changed, and these positive messages were reversed. Woman drivers in film and real life became less common, or even an oddity in some places, by the middle of the twentieth century, with narratives of the automobile as a man's technology rising significantly through the mid-twentieth century. A film of the magnitude of *The Wizard of Oz*, which introduced colour film to America, a brand new and exciting technology, really missed the bus by not giving Dorothy a vehicle to drive. This is doubly disappointing since the film featured a very sturdily built Yellow Brick Road that was perfect for a car. It was made of bricks after all, and the film came out in the mid-twentieth century heyday of the famous "Indianapolis Brickyard" racetrack.

The absence of a car in an iconic 1939 film hints at the research question central to this study: Why did the strong associations women had with the early automobile, in the pre-World War I years, change or disappear in the post-war years? Why isn't the 1939 Dorothy Gale driving a car down the Yellow Brick Road when women were historically well-established as drivers, as seen in earlier

films and literature? Perhaps we have never asked this question, nor wondered why women were distanced from this technology after World War I ended.

In order to explore some valid possibilities of what might have led to these changes for a multi-disciplinary Cultural Studies research project, we need to consider not one Dorothy, but several "Dorothies" who traveled different roads, and had different experiences with the automobile in the pre-World War I era, the World War I interwar years and the post-World War I period. By locating three different British "Dorothies," each telling us a story about a woman and car in one of the periods, we can consider questions that pertain to the field of Cultural Studies. Such questions are focused around an interrogation of when and how gendering of a technology begins. This is achieved in my study through a look at the trajectory of women's associations with the early automobile in the pre-World War I years, how they grew during the interwar years, and how they were eventually dampened or were extinguished in the post-World War I years in Britain. These stories shed light on why this was the trajectory for women and technology, and how it may have reached into other areas as well, lasting even until the present day.

It is important to note that the words "woman" or "women" are consciously used in this research, and these terms are employed with an understanding of the social and cultural constructs of the terms. Judith Butler

asks what a woman is in *Undoing Gender*: "How are we to say "we", who is to say it, and in the name of whom?" (Butler 175). When Butler goes on to discuss how the concept of sexual difference might be approached in modern feminist theory, she makes an interesting observation: feminist theory today should consider making "a submission to the demand for re-articulation, a demand that emerges from crisis" (Butler 178). Perhaps, behind the distortions of gendered automobile technology, lies the crisis of World War I itself. While it is important to note that a significant change occurred somewhere in the Post-World War I era, one cannot begin to examine that period without first fully understanding how women created, used and celebrated the automobile initially in the pre-World War I period. It is also important to this study to note that an inter-disciplinary investigation was conducted, which utilized carefully chosen theory and methodology in order to allow for a deeper and more nuanced understanding of how the automobile became gendered in the World War I era.

The research of Georgine Clarsen forms a major relevant feminist work that this study engages in the World War I interwar and post-war years sections. Her book *Eat My Dust* (2002) and article "A Fine University for Women Engineers: A Scottish Munitions Factory in World War I" (2003) provide a starting point for the discussion in part two and three of my study surrounding the trajectory of women's automobility in the World War I era in the USA and Britain. In *Eat My Dust,* Clarsen recounts the stories of women from the USA,

Australia, Britain and Africa from 1900-1930 and she describes the ways that women embraced the automobile through a cultural context. Like Clarsen's work, my study discusses how women from 1908-1921 sought to shape and define automobile technology to further their desires for freedom from domesticity, and aspirations for a permanent place for women in the development of transportation technology. Women's World War I automobile labour challenged notions of femininity and gender and Clarsen's work contends that women articulated strong competency, understanding and interest in automobile technology that transcended traditional notions of what comprised "acceptable" domestic technologies. Likewise, the three Dorothies and other women in my study reveal the woman motorist and labourer of this era was a woman of middle to upper class with access to the automobile and driving permits. These women challenged ideas of gender through their use of the automobile, and their service during the war. However, my study also engages the idea of coercion in wartime labour that enticed and threatened men and women into prescribed roles that British government desired, revealing how women's image was manipulated to serve their military needs. Clarsen's initial ideas are taken a step further through the areas of representation in pre-World War I film and propaganda materials which form a key part of the trajectory which ended with the post-World War I era case study of the woman workers of the Galloway factory in Tongland, Scotland.

Nicoletta Gullace's work on British propaganda in World War I informs some of the context of what "coercion" entailed in the interwar years. In particular, her article: "White Feathers and Wounded Men: Female Memories of the Great War" (1997) and book *Sexual Violence and Family Honour: British Propaganda and International Law During the First World War* (1997) inform a special part of the understanding of how women were manipulated by military and government forces to coerce men into enlisting. Gullace tells the story of Admiral Charles Penrose Fitgerald who deputized the women of Folkestone on August 30, 1914. The women were charged to hand out white feathers in the region to any young men who had not gone to war. My study discusses this event and takes this idea of coercion a step further, looking at a wide variety of propaganda posters found in both the United Kingdom and America which reveal a strong enticement of men into enlisting in the military via narratives of women's roles as victims or sexual objects. It reveals how the creation of a dual narrative of woman as the victim needing protection, and also the humiliator of men, may have caused a backlash after the war, introducing tensions between men and women. This is highlighted in my study's discussion of the labour automobile labour force of the Arrol Johnston factories and particularly the aggression shown to women of the Galloway factory who sought to become automobile engineers.

The work of Joanne Bourke in *Dismembering the Male* (1996) highlighted the relations involved in how injured soldiers returning from war impacted the

lives of women at home when they returned. Bourke's work highlighted how and why governments were concerned with paying out pensions and reducing the number of claims through means of creation of a narrative surrounding manliness and employment that impacted women working in factories. Part three of my study interrogates this aspect by examining how the women of the Galloway factory, which was exempt from the *Restoration of Pre-War Practices Act of 1919,* were still negatively impacted by the narratives government and union forces created to put men back to work in factories at the expense of women. It strives to reveal how these institutions underscored a rise in patriarchal ideas surrounding the division of labour between men and women in the post-war years, while recognizing that they were not the sole cause of change.

The works described above are combined with first-hand accounts of women in all three phases of World War I: pre-war, interwar and post-war engage who engage with the automobile prolifically. Moreover, their stories form a trajectory that reveals how the three Dorothies, together with their contemporaries collectively suggest that these women were not outliers, rather their numbers and the variety of ways they expressed a natural affinity for automobile use and labour that were more common than previously believed. These begin with American race car driver Joan Cuneo's writing in the pre-war years about women's place in motoring, which is mirrored in many ways by the advocacy of Dorothy Levitt in the United Kingdom who wrote articles and books educating women on how to

drive and repair their own vehicles. The critical descriptions of going to the front lines are explored in *Lady Under Fire on the Western Front: The Letters of Lady Dorothie Feilding Moor* (Hallam, Hallam: 2011) and Diane Atkinson's *Elsie and Mairi Go to War: Two Extraordinary Women on the Western Front* (2010). The wartime diaries and letters of Kate Luard presented by Janet Lee reveal how women of the FANY considered themselves to transcend ideas of gender due to their work (Lee 2017). Yet Lee does miss the earlier strong associations of women and the automobile from the pre-war years that this study reveals, such as their innovation of automobile safety devices, advocacy of women's driving, marketing of the automobile, in particular the electric car to women and of course American films featuring woman drivers from 1908-1915.

Theoretical and Methodological Considerations

Feminist theory and technology theory underpin the investigations undertaken in this study, which utilizes American and British film, archival materials, and case studies surrounding women and car culture in the World War I era. These theories are at work in this study in a multi-disciplinary assessment that includes women's studies, media and film, technology, labour, and history. The primary theoretical considerations are discussed below.

Feminist Theory: Gender as a Key Outcome of Archival Investigation

In contemporary times, we have the luxury of having many choices between fully formed, albeit still evolving, theories of feminism that allow us to view gender issues more openly, and with great equanimity. This is critical for understanding culture and the problems that exist for women and other groups. Feminist communication theorist Lana Rakow explains that "We can and must look to the meanings and experiences of women and others who have been invisible or devalued in order to understand our subordination" (Rakow 2004: 6). We can look to feminist theory to understand women and technology from historic times; however, our understanding of gender must be a key outcome, rather than a presuppositional construction. Quite literally, to pre-determine what gender means is to put the cart in front of the horse. Debates surrounding technology point to this rationale for understanding gender as an outcome, rather than a tool for conducting research. History is also vitally important to understanding who we are because it illuminates where we came from and who we might become. As Paula Gunn Allen points out in her article *Red Roots of White Feminism:*

> "We must remember our origins, our cultures, our histories, our mothers and grandmothers, for without that memory, which implies continuance rather than nostalgia, we are doomed to engulfment by a paradigm that is fundamentally inimical to the vitality, autonothis, and self-empowerment essential for a satisfying high quality life" (Rakow 2004: 32).

This study breaks free of the rigid boundaries of disciplines that seek to contain and privilege knowledge, seeking answers that are flexible and can change to respond to new information. Historic feminist research must look to the experience of ordinary women, as there are few accounts of their experience from great leaders or thinkers of a scholarly nature. Therefore, examining women's work, whether developing a film script, working behind the camera, inventing automobile technology, or driving, is quite useful, and has often been overlooked. By bringing these different film and labour archive disciplines together to examine gender relations with the automobile, women's accomplishments in the pre-World War I era can be illuminated. An understanding of how women's connections to technologies came to be deemed less significant after World War I may also emerge. Historic film, newspaper and technology archives can help set the record straight on incorrect assumptions about women's contributions which "remain largely unchartered ground" (Hill and Johnson 2020).

Science and Technology Theory

Three theoretical approaches can be used to understand the impacts of technology on societies. Yet, each of these theories appears to work best at different technological development stages. Technological determinism proposes that technology shapes our behaviours and ideas, changing society in several ways. In relation to the automobile, it may be suggested that the earliest cars gave people more hours in their day because they could travel more quickly. The

deterministic aspects occur once people have adopted a new technology and begun to change their daily routines as they use it. For example, driving to the market to purchase food products would allow more time in the user's day for other tasks and entertainments. The ability to drive further distances in an automobile could enable people to visit friends and family more frequently. This might strengthen social connections and change how people socialize with one another. It also did not take as long to start a car and get in it as it did to outfit a horse and buggy, and the speed of a car was much faster than a horse-drawn vehicle or bicycle. Together, all these factors meant that people could use their time differently once they made the switch from horse to horseless carriage. The automobile allowed people to learn more about distant communities, introducing new exchanges of customs, traditions, and ideas.

Social Construction of Technology (SCOT) theory frames users as the primary actors providing input to producers of a technology. In SCOT theory, users take a technology and adapt or customize it to their specific needs. This creates new uses or preferences for features that are often relayed back to the producer developing the technology. In this way, both the user and producer work together in constructing the technology's many iterations. SCOT theory can be extended to include technological inputs and ideologies that inform us of how society reacts and shapes their preferences of a technology psychologically,

including its gender biases. To understand how this works, one can look to the ideologies that arose during and after World War I.

By looking at women involved in automobile innovation and filmic representation, it is possible to gain an accurate picture of their work prior to World War I. Early pre-World War I films show numerous examples of women driving, which can be compared to post-World War I filmic representations, while also keeping the real conditions surrounding automobile use and labour in mind. The next question is to discover why a change occurred from an acceptance of women's technologies to an idea of a male-gendered automobile post World War I. The challenge is to learn what was it about World War I, which caused the patriarchal society to arise in its aftermath, and why technologies became connected to patriarchal notions of power. However, a question remains with the use of SCOT: Does it fully address all of the actants that impact a technology? For this, one must also consider the non-human agents which SCOT leaves out, as well as the momentum a technology picks up once it has been introduced and accepted and begins to impact society and other objects in a continually expanding way.

An excellent theory for understanding the various complex interactions of technological agents is with Bruno Latour's Actor Network Theory (ANT). The basis of this theory is that networks of relationships of social and natural origins explain how technology evolves, and these networks are constantly changing.

ANT posits that many “actors” including non-human agents, work to shape products such as the automobile, once they have been adopted. Likewise, networks of issues occur that shape cultural changes, for example in the World War I era, American and the United Kingdom were impacted by Fordism, mass production, urban planning on more intricate scale, etc. Technology is constantly in a period of flux, going through changes which may reflect different environments and cultural norms which may exist. In the social sciences, a reference to “society” may not actually take into account that “societies” are variable and constantly changing, which is sometimes neglected in social constructivism. Actor Network Theory (ANT) uses analytical tools to help explain these variables under the assumption that change is occurring and finds that the process of change and outcomes are both malleable. This makes ANT a good choice for technology theory that looks at a change in the use or perception of a technology, such as a changing gender-association. Likewise, the non-human agents that impact a technology are just as important to consider as the human. For example, this study looks at film, and considerations are given to how the camera captures the automobile and driver. Through this process, ideas about the car are formed. This occurs symmetrically with the filmmaker’s choices which imprint social messages to audiences, which are received and potentially spread into the larger society. This research looks closely at those messages pertaining to gender and the automobile, before, during and after World War I. The camera

allows the skills and capabilities of different drivers to be seen on film, and in some cases, can make their skills look better or worse than they actually are, subject to the filmmaker's decisions on what they want the audience to see. Film is therefore critical to the historical archive of the automobile because it allows for something to be revealed that documents miss: a direct view of technology while it is being operated. Just as a piece of literature or document is mediated, the camera is also subject to mediation. However, raw footage can reveal more of the inherent nature of a technology while it is in use than a document can describe with mere words.

Gendered Technology Theory

In trying to learn how a technology is gendered and represented, one must also understand how new technology impacts or interacts with the culture it is introduced into, particularly its power structures. As Butler emphasizes, "the reproduction of gender is always a negotiation with power" (Butler 2009). Therefore, one must bear government and capitalist interests in mind when considering the various social technology theories and choose which is the best fit for understanding how a technology might become gendered. Technological determinism posits that a technology impacts the behaviour of users. For example, when the lightbulb was introduced, the hours people could work in a day were lengthened because tasks no longer had to be completed by dim candlelight at night. The light bulb impacted human behaviour, allowing more tasks to be

done and people to go outdoors more at night once streets were lit. Social Construction of Technology (SCOT) on the other hand, posits that user feedback preferences and ideas about the technology to the producer and change the technology. With the automobile this occurred as users added safety devices to their cars, or found new uses for a car, such as cooking over a hot engine or threshing corn by connecting the engine to another machine. In the pioneering days of the automobile women were some of the first users of the technology to come up with safety devices and supports. For example, the windshield wiper, the signal, and the solid line in the center of a road, were all invented by women. Manufacturers noticed women's preferences for safety devices and developed and marketed vehicles that met that need, as seen in Figure 1.

Figure 1: Argo Electric Advertisement. 1912.

Not only were women interested in safety features, as indicated by the large title lettering: "Her Safety", but the vehicle is marketed as an object that offers women increased independence, something that was becoming more important in

the 1910s as the era of the New Woman commenced. Women's equality in the public space was therefore promised by the automobile. The interior of a car was a space where they could go out safely and unaccompanied by a man (at least in the eyes of an automobile marketing team). For the purpose of the first part of this study, the locus of women and automobile technology theory should be located in Social Construction of Technology (SCOT) Theory, which offered women autonomy and the opportunity to give feedback regarding their preferences to manufacturers. SCOT theory also meshes well with those feminist theories which contend that gender is socially constructed, whereas technological determinism would more closely align with notions that sex is pre-determined, that people are born with their gender assignment, just as technological determinism is assumed to assign pre-determined behavioural changes.

There has been a shift away from technological determinism, due in part to this dislocation from gender (Cockburn 2003). It does not account for the human that invented the technology, just the technology as the determining factor in behaviour. In other words, the lightbulb may allow people to stay up or work later, but consideration must be given to the fact that the lightbulb began as an idea in the mind of a human inventor, and that ideas change as they reach other humans and interact with their experience. Social Construction would posit that people will take the lightbulb, understand how it was designed by another human, and then adapt it for their own uses, adding more possibilities, such as to warm an

area, rather than just light it, or to use it on a vehicle to signal a warning to other drivers. If gender is socially constructed, perhaps humans have many possible ways of constructing its meaning that allow for many more than a male or female binary.

Gender can be a significant factor in considering how media materials, such as film, are created and presented. As Laura Mulvey posits, the "male gaze" of men behind the camera may suggest something very different than the woman filmmaker may produce, particularly if some of her goals are to show women's competencies, or to encourage women in the use of a technology such as the automobile. Mulvey's concept of "male gaze" was first presented in her essay "Visual Pleasure and Narrative Cinema" (1975). It describes how inequities between men and women play out in representation on screen, with women being sexualized from behind the camera lens, by the male characters, and through the audience's gaze. This often results in major differences in the cinematic representations that a woman filmmaker might create. However, there is much more to the early women filmmaker's prerogative than simply excluding the sexualization of women on screen. The male gaze is absent in the woman filmmaker's work, but, more importantly, sexualization is replaced by goals relating to women's advocacy and authenticity. When a woman filmmaker creates a character, she may consciously or subconsciously, showcase issues or traits that are unique to the period of her film. This may include women's competencies

with technology or a wish to inspire certain attitudes toward objects, such as the automobile. In the case of the pre-World War I filmmaker, major issues such as suffrage, or the ideologies surrounding the New Woman era – a time when women were determined to show their intellect and abilities, are infused in her film.

A cross-disciplinary theoretical approach is very helpful to uncovering the relationships between women and the early automobile in the pre-World War I era. Feminist theory such as Judith Butler's considerations of performativity and the body, technology theory, such as SCOT and ANT, and film theory such as Laura Mulvey's "Male Gaze" must all be consulted and interwoven. It is only through such a multi-faceted study that we can truly learn how a technology was viewed once those meanings have been pushed out of the conscience. Ideas about how people interacted with technology in an earlier period often change, incorrect assumptions are made, and the physical loss of materials that would provide accuracy impact our ability to understand. In other words, what has been lost to the memory or the archive, can be pieced together by an examination of a variety of historical materials, with relevant theories applied to uncover their meanings to earlier societies. In addition to viewing film and archival materials which highlight ideas and attitudes about the early automobile, we must also recapture and reveal the physical interactions women had with cars through their own innovations. Ultimately, the theoretical and multi-disciplinary approach described above will help us understand how the gendering of the automobile occurred in

relation to World War I, and why this gendering was so powerful that it impacted ideas of women and technology for over a century. While women did continue to drive and have associations with the automobile, it was the trajectory of men's associations with the technology that became more powerful in film and media, creating a norm that automobiles were a man's technology and where women were usually depicted as passengers rather than drivers.

We can see this is early American car chase films, in popular James Bond franchise, in auto racing, particularly as Nascar arose, and in the automobile industry where women in technology positions remained rare until recent years. Depictions of American woman drivers did occur in film, yet it was without the empowerment that the pre-World War I woman driver enjoyed. American films such as *Female* (Warner Brothers 1933) which depicted a woman CEO of an automobile company who relishes that she "lives like a man" having affairs with her engineers, breaking their hearts and living an "all-business and no love" lifestyle, signal the message that whilst women may wish to work in the automobile industry, they cannot sustain power and happiness via their association with work and automobile technology, as domestic life and marriage appear to them as inevitable.

Ultimately, this is seen through the heroine in *Female,* who meets a new engineer at her company whom she falls in love with. She gives up her job after

he tells her that “women are made for love and marriage” rather than business. Later we see other similar narrative emerge in cinema, such as *The Great Race* (American Technicolour 1965) starring Natalie Wood as a race car driver. Like the heroine in *Female*, Wood’s racer ultimately gives up the steering wheel to the man she falls in love with. These examples show a distinct temporary nature of women’s empowerment by technology, where power is suggested to be found only within the home and nuclear family.

PART I:
DOROTHY, THE AUTOMOBILE ADVOCATE:
Women in the Drivers Seat in the Pre-World War I Era

Introduction

Part One explores women's connections to the early automobile through their representation in film, media, and the advocacy of the first Dorothy prior to WWI. Dorothy Levitt was born January 5, 1882 in Hackney, England, and became famous as a motorist. She was a boat and race car driver, writer, and automobile instructor to Queen Alexandra. Levitt wrote a weekly column about cars and driving in *The Graphic*, a British illustrated newspaper, addressing women in the United Kingdom. Her columns were published in 1909 in a book titled "The Woman and the Car: A Chatty Little Handbook for All Women Who Motor or Who Want to Motor" (Levitt 1909). She continued her advocacy to women motorists in newspapers in the Pre-World War I era, including writing for the Yorkshire Evening Post in 1912. Levitt was Britain's first race car driver and was considered "the premier woman motorist and botorist of the world" (Levitt 1909: 3). Her accomplishments were well noted in newspapers from the time she was approached by an automobile manufacturer to race one of their cars in April 1903 (Kramer 2007: 61). This race made her the first British woman to enter a racing competition. While her driving accomplishments were considerable, it is her advocacy that shows us that a large audience of British women were very

interested in the automobile and could gain a strong knowledge of how to use and repair cars in the Pre-World War I era. Levitt was one of many women who contributed to automobile technology as well. She devised the idea of using a hand mirror to allow her to back up. Levitt was a well-known authority to women on driving and repairing their own vehicles (Levitt 1909: 29).

On the other side of the Atlantic, women with similar ideas and experiences were emerging. Joan Cuneo and Alice Ramsay were two Americans who were also making strides with the early automobile. Like Dorothy Levitt, Cuneo wrote about women's motoring for magazines such as *Country Life* (1914). Her focus was primarily on bringing attention to the fact that there were more men driving cars in America, and questioning why that was so, when women were skilled drivers. She had another thing in common with Levitt: the unfortunate experience of being denied entry into certain races. In Cuneo's case, it was the major road races that she was barred from. Despite being told she could not compete by the major race sanctioning bodies, she would show up and try to convince them to allow her to enter, sometimes succeeding (Nystrom 2013).

Alice Ramsay was another important American woman in early automobile advocacy. She was more of a professional driver, hired by manufacturers to undertake long distance journeys, making many stops along the way to pose for pictures and talk to spectators about the car she was driving.

Ramsay also penned a book of advocacy for woman drivers. Her book, *Veil, Duster and Tire Iron* detailed her cross-country journey with three other women in 1909 for the Maxwell Automobile Co. (Ramsay 1961). Ramsay also introduces the importance of film in early automobile advocacy for women, as she appears to be the unnamed protagonist of the film *An Auto Heroine* (Vitagraph 1908) which shows a woman entering one of the major road races, and despite attempts at sabotage, winning the trophy in the end. Pre-World War I films support the idea that women's relationship with the automobile was growing stronger as advocacy and real life driving occurred. Cinema affected how people felt about gender and created expectations of automobile use by women. Early film was invented almost simultaneously with the automobile, and as new technologies, there were few preconceived notions about either. Several films depict woman drivers as heroines, enhancing the advocacy found in the literature presented by women such as Dorothy Levitt. Together, print and film media created a powerful attraction for women to the automobile.

Pre-World War I film and archival materials pertaining to women's driving experiences indicate that women developed strong associations to the automobile from 1900-1913. These records tell us how women felt about this new technology, and how others perceived their abilities to drive and maintain a car. Examples of women drivers in film and automobile advocacy in print could be found in both the United Kingdom and North America. On both sides of the

Atlantic, they indicate that women were interested in cars, including in their development, that they enjoyed driving, and that others noticed and found this exciting enough to film and showcase in theaters.

How did women view the automobile when it was introduced? Numerous examples offer information that highlights their use and contributions to automobile technology in the pre-World War I era. Like Donna Haraway's cyborg, the earliest women using automobile technology had no "origin story" which might have precluded them from being considered capable behind the wheel (Haraway 150). Women in Britain, such as Dorothy Levitt and Eliza Davis Aria, showed a keen interest in motoring and advocating for women to learn to drive, buy their own cars and carry out minor repairs. Between 1906 and 1909, these women were publishing materials that encouraged and instructed women in the art and science of driving. In Germany and America, women such as Bertha Benz and Mary Anderson were also making significant contributions to automobile technology, particularly in the area of safety mechanisms. However, one of the most interesting connections between women and automobile technology occurs at the intersection of film, in this rare period when women such as Florence Lawrence, Mary Pickford and Mabel Normand were making great strides behind the camera and the steering wheel, and where real-life professional drivers such as Alice Ramsay were testing automobiles in endurance runs, while catching the attention of filmmakers and manufacturers.

Prior to World War I, the automobile was still in its infancy and was not always gendered, as seen in films such as *An Auto Heroine* (1908) and *Mabel at the Wheel* (1914) which depict woman drivers as heroines and protagonists. The drivers in these racing movies are outdriving the men they compete against. These portrayals suggest a perceived equality of the skills of men and women in their use of automobile technology. However, there is diversity in the depiction of men, women, and the automobile, such as Mack Sennett's *Race for a Life* (1913) shows. In this film, Mabel Normand plays a helpless victim needing to be rescued by a man and his car, which is the famous race car driver Barney Oldfield driving the "Green Dragon" in *Race for a Life*. This diversity in gendered representations of technology in film is a unique resource that showcases something newspapers, still photography, ephemera, and other written accounts can not: they show a driver handling a car.

While it is true that in some cases, an actor is simply steering the wheel and the car is stationary, the examples chosen for this study depict actual driving. This allows for an investigation and visual account of men and women drivers which can lead to an understanding of driving competencies and styles, as well nuances such as whether it was difficult for a woman to crank an engine or a difference in how women and men performed this task. Questions can be answered such as: Did women carry out other actions related to their apparel or appearance prior to beginning operation? Some of these operations can indicate

how comfortable women were in the role of "driver," how they felt about the experience, and what unconscious body movements were made before, during, and after driving a car.

The use of automobile technology cannot be observed in such detail in other historical sources, making film a unique historic archive. As de Lauretis said, "the representation of gender by powerful social technologies such as cinema undoubtedly affects the way in which gender is internalized and constructed by individuals – but our individual self-representations of gender impact on the broader social construction of gender too" (de Lauretis 1987: 9). Film is invaluable in reconstructing gender differences in an automobile's operation. Cinematic depictions send messages to audiences about these differences, which influence the technological consciousness of a society.

While film can be incorporated as an archival object, the drawback is that there are a limited number of existing films from the pre-World War I era. One goal of this study was to view a more exhaustive list of films from the period which featured the early automobile driving. However, the major global film archives only held a handful of automobile films. This is partly owing to the loss of films from degradation, fires, etc. which resulted in the loss of many films, some which included the word "automobile" in the title found in IMDB. Another limitation is that there were fewer automobiles existing in the pre-World War I years. It was still a new technology and still in the early adoption phase. In many

places, the horse and buggy were used well into the 1910s, while the automobile became more commonplace by 1920 and beyond. This coincided with the period when it may have become increasingly a male gendered technology.

However, the fact that automobiles do appear in films within a decade of their invention shows that audiences were interested in seeing this new technology on the silver screen. It is important to understand that many localities, particularly smaller cities and rural areas, may have had a better chance of seeing a car in the cinema than they would on their roads for some time. So, these early depictions in film are quite important as they did offer many people their first look at an automobile. The messages that mass audiences took away from these views of the automobile being driven, likely contribute to how society perceived its use for decades to come. Gendered differences or similarities that may appear to occur during the operation of a car are certainly invaluable to understanding some of the first gendered ideas of technology, with the ability to be spread to large populations. Likewise, how script writers and filmmakers chose to portray men or women drivers tells us something about the ideas held about driving capabilities.

If "representations in media are part of culture as reality" (Rakow, Wackwitz 2004: 174) and the concept of "woman" does not precede the filmmaker's ideas, then its representation may be indicative of the relationship between a subject and object in a given society. Understanding this relationship is the true goal of an examination of these two formats: archive and film. The

printed archive should be examined first: archival material produced by women about their driving experiences and advocacy tell us a great deal about why they were attracted to automobile technology, how they felt about driving, what actions they might typically take in their driving life, and any concerns they might have for their own safety. These are the most significant areas to understand before looking at women driving in documentary "views" or narrative films. Film may be "constructed" for an audience, which may have enhanced particular aspects of women's relationship with the automobile; a film may also have been created to draw an audience. In cases where the woman filmmaker is producing the depiction of the woman driver, it would seem reasonable to assume that some of the same ideas that the archive reveals may be present. The representation can then be accepted as another real example of culture, and one that provides concrete evidence of how a woman driver performed the actions required to drive an early automobile. Further, it adds another layer to the importance of women's advocacy of driving when it is a woman such as Mabel Normand or Mary Pickford behind the camera and the steering wheel.

As described above, a historical look at pre-World War I driving using film and archival materials suggests that there was an acceptance of women's ability to drive and they had access to automobiles shortly after the automobile was introduced. There may be different levels of automobile use across geographic regions and socio-economic groups, with wealthier white women being the first to

acquire automobiles and advocate for other women to take up driving and automobile ownership. However, the examples below suggest that there was an acceptance of woman drivers prior to World War I.

Dorothy Levitt and Early Women Inventors

Women in North America and Europe were important innovators of early automobile technology, particularly in the area of safety features. For example, in Germany, Bertha Benz invented the brake pad for her husband Karl Benz's Motorwagen 3 in 1888. Numerous American and Canadian women came up with designs for safety devices. These included Margaret Wilcox, who answered the call for heat in the cabin of cars with her invention of the car heater in 1893. Mary Anderson, an inventor from Alabama, designed the first manual windshield wiper during a trip to New York City (Bailey 2016). Women were pioneers of technology, and the first woman to patent an invention was Margaret Knight who at seventy years of age invented a rotary engine for the automobile (Washington Post 1914). British race car driver, Dorothy Elizabeth Levitt, instructed women in driving and automobile repair and came up with the concept for a portable rear-view mirror in 1911 (Levitt 1909). Canadian actress Florence Lawrence of the film *The Automobile Thieves* (Vitagraph 1906), and her mother Charlotte Bridgwood, both born in Hamilton, Ontario, were inventors of the turn signal and the motorized windshield wiper respectively. Finally, road safety became an

important arena in women's contributions to the automobile when Dr. June McCarroll came up with the idea of drawing a white line down the center of a California highway to mark out lanes for vehicles in order to make driving safer (*Defiance Crescent News* 1949). Each of these ideas came after the invention of the automobile, and fed back to the manufacturers, confirming social construction influences to the technology. SCOT theory posits that once a technology is introduced, its users may find different purposes for it, and they adapt the technology or expand its capabilities from its original applications. This is clearly seen in the examples of the women inventors of early automobile features. For example, women wrote to the car manufacturers, asking for a way to heat baby bottles in the cabin of the car (Kline, Pinch 1996).

However, in the case of women such as Bertha Benz, who took the initiative to design features that improved her husband's 2.5 horsepower car in 1888, a more direct role can be seen. While driving one of her husband's automobiles for the first long distance road trip made by a motorized vehicle, Bertha ran into some challenges, and took the initiative to resolve them. First, she had to repair the vehicle's ignition and used a garter to do the trick. Next, she ran into an issue with a clogged fuel line and used a hairpin to clear it. However, her greatest ingenuity came as she observed the wooden brakes on the car becoming badly damaged from the rocky, rutted roads on her 65-mile journey. She conceived of the idea of creating a brake pad that would not be as prone to wear

and tear, and stopping in a village, she found a cobbler and had him install leather shoe soles to absorb the impact (Maranzami 2019).

The experience of Mary Anderson, a woman from Alabama who was visiting New York in 1893 is somewhat similar. Anderson was riding a trolley in the city when she noticed that heavy precipitation forced the driver to open the windshield to see ahead. She conceived of the idea for a manually operated windshield wiper to be used to clear the glass, allowing the driver to see (Bailey 2016). Anderson was granted a patent for designing the wiper which was operated by a handle inside the streetcar, but, she could not sell her invention to any takers at the time and made no money from its invention. This could have been in part, as her descendants believe, due to her being "such an independent woman. She didn't have a father, she didn't have a husband, and she didn't have a son" (Palco 2017). Here again, the theme of women fighting to contribute to technology, and being oppressed can be seen. Ideas surrounding women and technological development were indeed very patriarchal. However, that did not stop them from trying to break free as the era of the New Woman of the 1910s occurred.

Dorothy Levitt, the first woman race car driver in Britain, was famous for her accomplishments in boat and auto racing. She held impressive records in both. However, she also displayed a deep understanding of automobile

technology. Levitt came up with the idea of carrying a small hand mirror in the car, in order to see behind while driving. She advised women how to use it in her 1909 book, *The Woman and the Car:* "Just before starting take the glass out of the little flap pocket of the car… Sometimes you will wonder if you heard a car behind you – and while the necessity or inclination to look round is rare, you can, with the mirror see in a flash what is in the rear without losing your forward way, and without releasing your right-hand grip of the steering wheel (Levitt 1909: 29). This advice to use a hand mirror was not only inventive, it was also instructive. A clear understanding of how the driver should use it, while still being aware of the necessity of keeping a firm grip on the wheel, in order for the operation to be performed safely, is apparent in Levitt's description. Three years after her book was published, car manufacturers would begin installing rear-view mirrors for the same purpose. Levitt taught Queen Alexandra and her daughters to drive, and her columns and books advocate driving to women and repairing of their own vehicles. She advised that "the details of the engine may sound complicated and may look 'horrid,' but an engine is easily mastered" (Levitt: 31). She also advised women "to carry a tablet of Antioyl soap" which was effective for cleaning grease off their hands after carrying out a repair (Levitt: 29). Perhaps one of the most elucidating comments Levitt made, sheds light on a topic that is often debated amongst early automobile researchers: why did women prefer smaller cars? Levitt advises her readers to consider purchasing a single cylinder car for two

reasons: simplicity and reliability. "If you are going to attend to the mechanism yourself, you should purchase a single cylinder car – more cylinders mean more work, and also more expense as regards to tyres, petrol, oil, &c." (Levitt: 17). Other comments Levitt makes regarding operation appear to relate to a gendered difference: "Starting one's engine is not the nicest thing about motoring when a woman is acting as her own driver and mechanician, but, with the little cars no strength is required; it is only the big cars that need a swelling of muscle" (Levitt: 41). The smaller car, she says allows women a safer, and easier engine to crank. Levitt also tackles personal safety while driving, advising women to "carry a small revolver" or travel with a dog for protection (Levitt: 30).

This last point is mirrored in America, by the experiences of Alice Ramsay, the first woman to drive from coast to coast, who was asked before departing if she would be carrying a firearm for protection (Ramsay 1961: 5). Ramsay appears to be the unnamed actress in the film *An Auto Heroine* (Vitagraph 1908) which was filmed the year before her famous coast to coast drive. Upon viewing the film at the British Film Institute in London, England, it was apparent that the woman driver is the protagonist. She is presented as being interested in the race car, capable of driving it and confident in her skills. Her dress is different than what is seen in other automobile films depicting woman drivers. Here the protagonist wears a billowy white blouse, cinched at the waist, a light coloured skirt and bonnet with flowers. This is quite different than the driving apparel

recommended by Dorothy Levitt for real life driving. It gives us our first notion of the difference between a film depiction and an actual woman driver. The woman smiles frequently, showing her pleasure as she operates the car. As in real life, she inspects the car. In one scene she brings a picnic basket to the mechanic, suggesting a domestic role. However, mere moments later, she is behind the wheel, racing, crashing after being sabotaged by a rival team, repairing the vehicle, and ultimately re-entering the race and winning.

This depiction of the woman overcoming unexpected challenges is a trope that is repeated in subsequent films in the early cinema era. The way the woman is represented, indicates that independence and capability with technology was valued. This mirrors the idea that in real life, the automobile could offer women freedom. However, a sense that personal safety could be a concern was attached to this freedom. In particular, the idea of driving alone was seen as dangerous. Dorothy Levitt's advice about carrying a firearm in Britain ties in with this idea. Levitt also had a counterpart in America: Joan Cuneo, who lived a somewhat parallel motoring life, who offered similar ideas and advice to woman drivers. Cuneo competed in major American races, often defeating the top men in the sport. She was also an advocate for women drivers in North America, writing for magazines such as *Country Life*, tackling the issue of why there were more men than women drivers. Only the titles of these articles can be found, however, making a full comparison to Levitt's writing difficult. The comparison might

prove interesting to gender theorists and technology historians globally. Levitt reports on the status of women drivers in several countries, such as France, where she claims the first women drivers appeared, America, “where the fair sex is supposed to receive and to exercise its largest freedom” and compares that to England where women are seen most frequently behind the steering wheel (Levitt: 85). These comments on the prevalence of women drivers in different countries confirms what Latour’s Actor Network Theory suggests: that it is important to consider how technology experiences can vary from one geographic location to another. It may be worthwhile to learn more about cultural differences in technology use by regionalizing even further, such as comparing city and rural drivers, or the different experiences of women drivers in Canada and the U.S.A.

In fact, it is the Canadian experience which provides one of the most elucidating examples of a woman at the intersection of innovation, driving experience and innovation. The contributions of Hamilton-born actress Florence Lawrence and her mother, Charlotte Bridgwood, are very significant to the automobile’s development, but, they were sadly overlooked. Lawrence was known as the world’s first movie star; however, she was also a prolific inventor of safety features for the automobile. Her inventions included the turn signal and brake light, enhancing the safety of drivers in both urban and rural settings. Unfortunately, unlike Mary Anderson, Lawrence did not patent her designs. They were quickly copied, perhaps in part due to the attention they received from her

fame as a film actress, who was amongst the first to be seen behind the wheel of a car on the silver screen. One can imagine a potential link may have existed between the creative and technical mind when considering Lawrence's accomplishments.

Florence worked for several studios, including Vitagraph, and later Biograph, where she became the famous "Biograph Girl". However, Vitagraph was not in the practice of including actor's names in the credits, so many of her performances are not accounted for, despite her starring in nearly 100 films with the studio. She had difficulties at Biograph as well, who refused to give her a raise to match the actors' salaries, and they fired her in 1910 for asking. From there, Lawrence went to Independent Motion Pictures, where studio executives immediately embroiled her in a scandal involving her fake death in a car accident, in order to capitalize on her fame. This action highlights another intersection between film and the automobile, and perhaps hints at her acclaim as an on-screen driver. Women in the film industry came up against barriers constructed to keep them from being independent and having the power to make decisions and be equitably credited and compensated for their skills and ingenuity. Lawrence viewed technology in a rather anthropomorphic way. She described the automobile as "almost human . . . responding to kindness, understanding and care, just as people do" (Paul, 2016). The emotional attachment Lawrence displayed was perhaps what motivated her to improve the automobile. This is similar to the

emotional attachment men had to their cars, which they frequently gave human or animal names to, including “Tin Lizzie” or “Leaping Lena”, which were nicknames for the Ford Model ‘T’ from 1908. In 1914, Lawrence designed a flag that indicated whether a car was turning left or right, and a small stop sign that appeared on the back of the car when the brakes were applied. Her emotional attachment to technology allowed her to consider it in a more intimate way, perhaps something which could be attributed to many inventions.

Lawrence’s mother, Charlotte Bridgwood, is yet another example of a woman innovator. In 1917, she improved upon Mary Anderson’s manual windshield wiper by designing a motorized version. Although she did patent it, she allowed her patent to expire, and by the mid-1920s large car manufacturers were copying the design. Like many of the women before her, Bridgwood did not financially profit from her invention, despite its patent. Corporations turned down the Bridgwood manufacturing designs, just as they had turned down Mary Anderson’s original design for a manually operated wiper blade. Capitalism played a significant role in oppressing women’s technical accomplishments in the Pre-World War I era. However, some women did make strides with recognition. These included Margaret Knight and Dr. June McCarroll.

Margaret Knight was the first woman to receive a patent in America at the age of twelve while working in a textile mill and ended her career working on car

engine designs. She invented a safety device for the loom after witnessing an accident with the machine.   The attitudes of the time towards women inventors in the 1800s were deplorable. Knight was forced to defend one of her earliest patents, a machine for folding paper bags, in court from a man who claimed that "no woman could be capable of designing such a machine" (Smith 2018). This was something seen in women's filmmaking retrospectively, as film historians and critics looked back at the silent era archive. "Even if there had been any work by women, it was inferior; that of such inferior work, no examples survived" (Gaines 2007). Women filmmakers of the silent era were not given the opportunity to fight for their legacy as Margaret Knight was able to do through her court date. Yet, even Knight, at seventy years of age, and with twenty-seven inventions to her credit, was diminished by her comparison to a man. Knight was hailed by newspapers as a "woman Edison", a measurement of her accomplishments stacked up against a man, as if he were assumed to be superior. Yet, she broke through the gender barrier and kept her legacy alive through her own factories. This may be because her work was a slow, incremental building of her technology skills over decades. The comparison to Edison, while it may have appeared as significant praise for her intelligence, is still a comparison to a man. Therefore, Knight is not measured as a human, or anything similar to Haraway's genderless cyborg, but, as a woman with a mind like a man. In the 1800s, only 10% of patents were registered in America by women (Smith 2018). This repression of

women’s intelligence and technical abilities was still apparent at the adoption stage of the early automobile, despite women’s strides. However, things did begin to change in the years prior to World War I, with automobiles and road building.

Dr. June McCarroll, a highway safety innovator, provides another example of women's success in the science and technology field. McCarroll was a nurse in California in 1917 who drove many of the state’s first highways to treat patients. As she was making a house call on one occasion, she was nearly run off the road in her Model T Ford. Dr. McCarroll conceived of painting a white line down the center of the highway to help drivers see where they were supposed to drive in order to allow other cars to pass safely. After taking her idea to the County Board of Supervisors and Chamber of Commerce and being ignored, she acted with the help of a women’s club (*Defiance Crescent News* 1949) and went out to paint a 2-mile white line herself. It passed in front of her own home on Indio Boulevard, in Indio California. By 1924, her advocacy prevailed, and the state legislature approved the painting of center lines on highways in California (Rasmussen 2018). June’s accomplishment was somewhat different than the other inventions, as she was not seeking to profit, but rather to advocate for the state to undertake a safety measure. Perhaps also, as a medical practitioner, June held more sway than some of the women with inventions prior to her center line. In either case, the center line did prevail, and by the middle of the century, was the norm for roads and highways throughout North America.

The examples of women innovators in automobile technology span most of the western world including Germany, Britain, and America. Bertha Benz's brake pads saved the driver from discomfort and increased the longevity of the automobile's parts by reducing wear and tear. Mary Wilcox's cabin heater allowed people to travel more comfortably in cold climates. Mary Anderson's windshield wiper improved visibility in rain and snow showers. Dorothy Levitt's rearview mirror allowed drivers to consider the importance of seeing behind them. Florence Lawrence's turn and stop signals made roads safer for drivers on busy roads and highways. Margaret Knight's rotary engine designs and Charlotte Bridgwood's automatic wiper improved the efficiencies of existing technologies. Cumulatively, these designs likely saved many lives, however, what may not be considered is that safety improvements would also have enhanced wider acceptance of the automobile resulting in growth of the industry. When considering women's advocacy for women drivers and their accomplishments in innovation together, it is reasonable to conclude that the women discussed shared a passion for driving, and wanted to see it done safely, and that perhaps by seeking to make driving safer, more women would be encouraged to drive. Meanwhile, Dr. June McCaroll added the external environment to the safety equation by incorporating finite parameters to the spatial aspects of driving. She created a way to make the roads themselves a safer place to drive and thus, more appealing.

The advocacy of women such as Dorothy Levitt, Eliza Davis Aria and Joan Cuneo indicate that both driving, and maintenance of an automobile could be considered as woman's work, as much as they were for men. However, the need for women to advocate specifically to other women, tells us that it was not obvious to all that women could excel at these things, and perhaps many needed to be convinced. This brings us to the evidence that the moving image provided, and the prolific role that film played in showing that women could drive, race and repair cars. Some of these tasks are well-described in the accounts described above by women such as Levitt, Aria, and Cuneo, but seeing is believing. It is from this point that women such as Mary Pickford, Florence Lawrence, and Mabel Normand, amongst others carried the baton, and showed audiences what a woman driver looked like, and how proficient she could be at repairs and maintenance.

The Origins and Evolution of Early Automobile Films

Women begin to appear in film as drivers at the earliest stages of film and automobile production. Initially, they are not necessarily driving cars, but are rather driving horse and buggies alongside automobiles. An example of this is found in the Edison film *Automobile Parade* (1900) filmed by William Paley on a kalatechnoscope. A parade of automobiles in Manhattan drive past a stationary camera which is capturing the First Annual Automobile Parade in New York City. The film was shot in 35mm on February 6, 1900, as an actuality or view to be

shown with other films in theaters across America. In the middle of the parade, we see one of the first women drivers to be captured on film. At 1:07 an excited, waving woman is seen driving a horse and buggy in the automobile parade. Her movements appear excited and indicate joy at the prospect of being part of the parade of automobiles. All other cars have men driving, but many of them do have women riding along in the passenger seat.

The effect of a capitalist American economy is clearly depicted by the long parade of expensive cars, whose occupants are well dressed in fashionable styles. This is something that is also pointed out in the plots of the narrative films discussed below, where criminals or economically disadvantaged characters are frequently pointing out the fine clothing and expensive automobiles driven by affluent characters, prompting the poor and downtrodden to act out in jealousy or rage. In the 1900 parade, the economic differences are quite visible. However, wealthier drivers are not a source of anger to the audience, many of whom would not have been able to afford an automobile at this time. Instead, an image of two poor older women is contrasted at the end for comedic relief.

The image of the economically disadvantaged women who are riding a buggy is cut off in the Library Congress video despite being described in the synopsis. In this lost scene, the automobile parade ends with two older women driving past the camera in a dilapidated buggy pulled by a mule. It is suggested

that this scene was a sort of comedic finale, using humour to highlight poverty, and acclaim to showcase the wealth and status of automobile drivers. The film tells us that the automobile was introduced initially in New York society as a form of transportation by wealthier individuals, as evidenced by the expensive and formal attire of the automobile occupants in top hats, and fur. The absence of a woman driver amongst the large group also suggests that women initially, may not have been accepted as automobile drivers in the urban setting, or perhaps in this socio-economic group where the men are squiring the women around the streets of New York. Women are however, included in the driving of non-motorized buggies, as seen with the two older women who appear at the end of the film. The final scene may also suggest something about older women and their lower economic status as a direct comparison to the prosperous drivers. Their appearance alone in the city without a man might also indicate that independence from a husband or father comes at the cost of economic privilege.

Across the Atlantic, in Britain, we see a similar depiction in the 1900 narrative shorts *How It Feels to be Run Over* (1900) and *Explosion of a Motor Car* (1900) by Cecil Hepworth. The automobile occupants are very well dressed, representing wealthier users. However, the American depictions show leisure and fun, the British version offers a black comedy about automobile technology. Women are included as passengers with a man driving, but the dangers of the automobile both to its occupants and other people sharing the road are

highlighted. This mirrors the initial feelings in the United Kingdom towards automobiles which were seen as a dangerous annoyance. Hepworth shows the automobile swerving madly, while occupants stand up, swaying and gesturing recklessly as they have fun. The dusty roads provide a smoke and mirrors of special effects for depicting the unseen pedestrian who is hit in *How it Feels to be Run Over.*

The film industry was beginning to show a keen interest in presenting transportation technology from the turn of the century up to World War I. It was quite early when the chase films, featuring the automobile first appeared. In 1903, the British film *Runaway Match* (also known as *An Elopement A La Mode*, (Gaumont) featured a car spiriting two lovers away to get married despite their families' protests. Biograph served as the American agent responsible for getting British films onto screens in the USA, and they represented filmmakers such as Gaumont, Hepworth and Robert Paul (Musser 1990: 365). French filmmakers joined their British counterparts at Hepworth by experimenting with themes of death and cars in *Un Accident D'Automobile* (1901, France), and the dangers of auto-racing in Course Paris-Berlin (Pathé Frères 1901). Meanwhile, in America, Edison continued to expand film coverage of automobile parades in New York with *Automobile Parade on Coney Island Boulevard* (1901) and *Twentieth Century Flyers* (1901) filmed in Brooklyn. Hepworth continued with his preferred theme of showcasing the dangers of a speeding automobile, resulting in

dismemberment in the idyllic English countryside in *Policeman and the Automobile* (1902). However, filmmakers in France began borrowing from the American "parade film" and *Automobile Parade at the Tuileries Gardens* (Biograph and Mutoscope 1902). *Dr. Lewis Automobile Leaving London for a Trip Around the World* (1902) was another early automobile feature from Edison, which introduced the road trip to audiences. *The Runaway Match, or Match by Motor* (Gaumont 1903) continued the association between elopement and the automobile. While parades and New York street scenes such as *Move On* (Edison 1903) continued to be presented sporadically, the next evolution of filming automobiles appeared to move one step beyond features of automobiles on the road: the road race film was born. *Start of the Endurance Run of the Automobile Club of America* (Edison 1903) began the tradition of filming auto races in America, featuring trucking, panning, and extreme close ups that suggest interest in the automobile as a subject was growing, and filmmakers wanted to provide more ways to capture their movement for the cinema. Simultaneously, the automobile was showing up in racing films of the United Kingdom, as Hepworth moved to titillate, rather than terrify his audiences. Three of his films: *A Terrific Race*, *At Terrific Speed* and *Start of the Gordon Bennett Cup Race* (Hepworth) also appeared in 1903, indicating a growing interest in speed and competition in western society. This would also be the year which Dorothy Levitt, a British race car driver and writer, would become the first British woman to enter motoring

competitions (Levitt 1909: 8-9) and begin writing about the automobile in her columns, which eventually culminated in her book, *The Woman and the Car* (1909).

Perhaps it was the success of auto racing films which debuted in 1903 that caused the sudden explosion of automobile films and the entry of new filmmakers interested in capturing the automobile in action in 1904. Films such as *Bobby and the Automobile* (Edison 1904), *Automobiling Among the Clouds* (American Mutoscope and Biograph), *The Automobile Race* (Lubin 1904), *Automobile Race at Ballyshanon* (Ireland 1904) and the prestigious *Automobile Race for the Vanderbilt Cup* (American Mutoscope and Biograph 1904) offered more footage to audiences, shot from multiple locations along some very long road racing tracks.

A slightly longer version of the narrative tradition begun by Hepworth began to show up in cinemas from 1905 onward. In France, *Modern Brigandage: Automobile Style* (Pathé Frères 1905) would give audiences a look at the different automobiles appearing on the market. While in America, Vitagraph decided to enter a narrative automobile film, *Number 13, The Hoodoo Automobile* in 1905. Méliès took part in the auto-race film tradition with a comedic twist in their narrative film *Paris to Monte Carlo*. An expansion of actual auto race filming was also taking place as *Automobile Races at Ormond* (1905) brought filmmakers

to the South to capture beach racing near Daytona. The new interest in narrative automobile films and perhaps some interest in the fictionalized accounts of races such as Méliès had produced may have produced the next significant stage in automobile filmmaking: the entry of women into the storylines.

Florence Lawrence's first film was *The Automobile Thieves* (Vitagraph 1906), which kicked off a brief, but prolific period for women drivers in cinema. It would be interesting to learn whether her interest in automobile technology secured her this first role, but, such a detail has never been recorded. The chase film began to take off in this year, with *Police Chasing Scorching Auto* (Edison 1906) which was the first example of a hand tinted film in Edison's catalogue. *Motor Car and Cripple* and *Automobile à Vendre* (Pathé Frères 1906) were examples of lost French films of which little is known. The British trick film *The '?' Motorist* (Robert Paul 1906) featured inspiration from Méliès' *Trip Around the Moon* (1902) as it featured a car driving around the rings of Saturn. Auto racing films continued to provide work to studios such as Edison Films were hired to film "news" such as Auto Climbing Contest for locality in New Hampshire (1906). The racing film genre continued to bring new filmmakers and audiences into the theaters of the UK to view features such as *Auto-racing at Blackpool* (Warwick 1906) and *Cursele de Automobile Bucuresti-Giurgiu* (Romania 1906) which reveals a spreading popularity in auto racing on the silver screen in Eastern Europe, where films were otherwise fairly structured around nationalist themes.

By 1907, the automobile was firmly entrenched as a successful device in the film industry. Filmmakers and audiences alike wanted more accidents, races, and comedy in both the "actualities", and the narrative shorts in Europe and America. However, this year brings some truly bizarre depictions of the automobile. Films such as *Purchasing an Automobile* (Vitagraph 1907) are rather sedate compared to the horrific black comedy that is introduced in films such as *Towing an Automobile* (Gaumont 1907) where many vehicles, items, and people, including a baby in a carriage, and a legless man are tied to the back of an unsuspecting car and cruelly towed through the streets. Likewise, *The Terrorist's Remorse* (Gaumont 1907) provides a tragic interaction where a woman who belongs to a terrorist organization, bombs a Governor's car, killing him. Much could be investigated in this depiction of a woman as a dangerous criminal, if the film could be viewed, but, it appears to be one of the early films tragically lost. More carnage is seen in *Automobile Accident* (Feuillad 1907), and *Man Being Run Over By An Automobile* (American Mutoscope and Biograph 1907). However, little is known of the plot of *Riding on Top of An Automobile* (Walterdaw 1907), *L'auto Remorque* (Gaumont 1907) and *The Elopement* (1907). There is a new combination found for automobile features with a Western setting, such as *The Easterner or Tale of the West* (Vitagraph 1907) and *A Race for Millions* (Edison 1907). The more unusual or perhaps ludicrous view of the automobile appears in *Motoring Under Difficulties* (Selig Polyscope 1907), and *Oh! That Molar!* (Alpha

Trading 1907) which is perhaps the strangest automobile film of all time, featuring a dream in which an automobile is setting a man's teeth back in his mouth after they have all fallen out. This film may make one wonder if the filmmaker may have had a tooth extraction and was treated with an opiate-based medicine inducing similar dreams as he was subconsciously considering his upcoming automobile film projects.

Perhaps one of the most significant years for the automobile, and for women drivers in film was 1908. Many interesting occurrences influenced the evolution of automobile features this year, which included the cementing of relationships between Europe and North America which was brought about by the first American Grand Prize Race (Bailey 2014). Indeed, filmmakers producing narrative films began using the real-life competitions to create storylines and experiment with new camera tricks. One example is *Mishaps of the New York-Paris Auto Race* (Méliès 1908) which offered a comedic look at the popular race. *Starting of Around the World Auto Race* is yet another example. Finally, we have our first film, featuring a woman race car driver in *An Auto Heroine, Or the Race for the Vitagraph Cup and How It Was Won* (Vitagraph 1908) which is discussed further below. What is of interest, is that the title influenced an oil company's booklet on Savannah, Georgia's American Grand Prize race of 1910. This shows a distinct tie between the automobile, film, and oil interests, which could raise considerations of whether oil companies invested in the film industry, thus

increasing the number of automobile films to popularize the technology and further their own profits.

The automobile film genre grew rapidly from 1908 onward and began to include themes of romance and family life, such as *In the Nick of Time* (Lubin 1908) in which an automobile helps bring a doctor to the home of a young woman in labour, just in time to deliver a baby boy. *The Mountaineer's Revenge* (Lubin 1908) offers a story that highlights themes of immorality connected to automobilists who threaten family values. In this film, a mountaineer and his wife are unexpectedly visited by a man in a car who falls in love with the wife, who runs off with him. The Mountaineer is distraught and searches the city for the motorist's home, kidnapping his child in revenge. Ultimately, he returns the child, and the automobilist thanks him for teaching him the value of marriage vows and family life. *The Lost New Year's Dinner* (Edison 1908) also highlights family life in the country and the city, as a city couple visit their older parents on the farm on New Year's Day. The film ties in themes of the police and speed traps which the couple is caught up in as they make their way through the rural areas. Examples of the same movements of automobile films meeting romance and family life occurred in France with *A Poor Man's Romance* (Pathé Frères 1908) offering the story of a poor labourer who must leave his child with an elderly woman so he can go to work. *The Impersonator's Jokes* (Essanay 1908) deals with car theft by a practical joker, and has a light hearted story. *The Magnetic Eye* and *The*

Adventures of Mr. Troubles (Lubin 1908) is another family comedy featuring a man being run over by an automobile after a series of misadventures, which eventually drives him back to the safety of his own room. *The Tale the Ticker Told* (Edison 1908) was not well received, due to missing mise-en-scene details such as showing a scene at a train station that has snow one moment, which has disappeared in the next scene. *After Midnight or a Burglars Daughter* (Vitagraph 1908), *The Great Trunk Robbery* (Robert Paul 1908), *A Home At Last* (Essanay 1908) *Little Chimney Sweep* (Pathé Frères 1908) highlights another kidnapping of a child for revenge on the parents. Meanwhile auto-racing films expand to Brazil in *O Circuito Itapecerica* (Labanca, Leal e Cia, 1908). An excellent film featuring the critical role the automobile was beginning to play in the film industry is the documentary *Making Moving Pictures* (Vitagraph 1908) which gives an excellent look at the intricacies of how films are made.

The evolving themes of the automobile films described above suggest that new ideas about technology appeared quickly and changed just as rapidly. It was during this period of flux that an opening occurred which invited women to show off their driving skills for the silver screen. In the years after 1908, even more examples of woman drivers emerged in film. These fill in even more detail on their driving experiences, and ultimately bring us the first woman filmmakers who created cinematic representations of women behind the steering wheel.

Pre-War Film: Her Place: Behind the Camera and Steering Wheel

Meanings about technology are formed, in part, by social products such as films. They do not simply reflect the ideas of society, but rather interact with them. When a new technology is captured on film, it is "scripted" by the filmmaker so that it has specific meanings for the audience to receive. This is very similar to the way technologists script a technological object with assumptions of how it should be used and by whom. Madeline Akrich tells us that "Like a film script, technical objects define a framework of action together with the actors and the space in which they are supposed to act" (Akrich 1997: 208).

Woman filmmakers in the pre-World War I era had very different ideas than men making films, about how a woman driver should be portrayed on the silver screen. Prior to the Great War, films such as *An Auto Heroine* (1908) often depicted woman drivers as heroines and protagonists. While actresses on the silver screen were struggling to prove their abilities behind the wheel, women in the cinema audience were fighting to prove they could master the technicalities of voting. A strong connection existed between women seeking the right to vote and showcase their capabilities for driving an automobile. Indeed, the suffragettes used automobile tours, and open-air meets as a way of publicizing their campaigns (Sanger, 1995). This suggests that the automobile was a tool that represented power and independence while giving women the opportunity to publicly showcase their technical and intellectual skills. Perhaps then, the next

natural step in building women's relationship with automobile technology was to capture it on film and disperse its ideas to the movie theater audience. "The representation of gender by powerful social technologies such as cinema undoubtedly affects the way in which gender is internalized and constructed by individuals – but our individual self-representation of gender impact on the broader social construction of gender too" (de Lauretis 1987: 9). A woman's capabilities with automobile technology were represented in film as an initial struggle followed by a mastering of skills equal to, or surpassing men's capabilities. Not only were women in front of the camera driving cars, but they were also behind the lens, helping to shape the ideas a film would convey about them.

Social changes related to prohibition and puritanical governing ideas were concerning the fledgling film industry around 1908 when Nickelodeons were shut down (Gunning 1994). A "morality crisis" arose in North America, threatening some social products, such as cinema, which proponents feared could encourage immoral ideas in society. This idea raised the possibility of a crisis in Hollywood and New York studios. Filmmakers from coast to coast began to fear that the morality movement could shut down theaters entirely. However, a possible answer emerged as the studio owners considered the problem. Women were considered the moral leaders of the time. If the studios had more women producing films that struck an appropriate moral tone, there might be a way to

prevent the closure of theaters across America. Women began producing films that explored morality issues to appease the critics and keep theaters in business (Mahar 2001). However, those who led morality movements such as Prohibition were often women, so involving women in the film industry would be a way to show the woman's perspective was important.

As both film and automobile technology began to include more women, the automobile became a site for depictions of relationships where women were sometimes shown as powerless victims to men, as the film *A Race for a Life* (1913 D.W. Griffith) showed. This film is one that gave birth to a negative trope: it was the first scene of a woman tied to the train tracks by an evil villain and needing to be rescued by a man. Many films would pay homage to this early idea for decades to come in film, radio, and television. The film starred Mack Sennett and was based around the infamous race car driver Barney Oldfield and his Peerless Green Dragon car. Two women who would both become powerful filmmakers, both with a great interest in having women drivers as the heroes of their films, also appeared in *A Race for a Life*: Mabel Normand and Helen Holmes. The films these women would produce in the coming years would suggest that both had very different ideas from Griffith on how women drivers should be depicted.

Normand and Holmes began their film careers only a short time after Black American feminists had ushered in the "Woman's Era" in the 1890s (Carby

1985), which inspired women from across America to embrace their role in changing ideas of race, sexuality, and nationhood. The role played by African American feminists in taking on major issues in society elevated the status of all women and opened paths for them as users of new technologies. They did this through their research and efforts to start the women's club movement in Boston, which brought Black women together to address social injustice, thus proving that women could be a force for change and instill new ideas about women's activities outside of traditional domestic roles. So, it was an appropriate juncture at the turn of the twentieth century for introducing new technologies in film and transportation to many members of the western world.

With the 1910s approaching, the New Woman movement continued the Women's Era's work, and more women were encouraged to take on non-domestic roles in society (Kitch 1999). Women such as Normand and Holmes were more than ready to get behind the wheel and camera to show that women could master both of those technologies. Without sound and dialogue, it took a great amount of skill to illustrate new ideas surrounding gender and technical objects to imbue them with new meanings to diverse audiences. The films of Mabel Normand, Helen Holmes and Nell Shipman, as well as performances by Mary Pickford and Gloria Swanson as drivers, portray women as technologically adept and independent, rather than as powerless victims waiting for a man to operate machinery for them. In the pre-World War I period, many films show a woman

rescuing a man, using a car, or performing daring feats such as jumping onto a moving train, as Holmes frequently does. The attachment of women to automobiles is particularly pronounced in Mabel Normand's films, where she is actually driving her own car, often with a stationary camera attached to the hood to capture the images.

Normand was the daughter of an American woman and French-Canadian man. She began her career working with Canadian director Mack Sennett from whom she learned to direct. Normand produced an excellent series of films, often featuring women and automobiles. D.W. Griffith also credits her for teaching Charlie Chaplin to direct (Drew 1997). This is interesting given his body of work, as Mabel likely influenced his style during the brief heyday of women filmmakers. *Mabel at the Wheel* (1914) is part of the early Hollywood era and is set in Fresno, California. Unlike many films of the era that lean heavily on California history and nostalgia, Normand sets her sights on showcasing women breaking free from traditional domestic roles and mastering technology. In doing so, she provided a very strong message to women in the audience: "Ladies, Start Your Engines!" However, she had to get her message across without dialogue and sound, which was a considerable feat. This is where her skill behind the camera gave her racing scenes a tremendous amount of energy and excitement and provided new ideas about women and technology.

Normand perhaps had some help from a prior film script, made during the heyday of early auto racing, the same year that America had its first International Grand Prix race in Savannah, Georgia. *Mabel Behind the Wheel* most certainly parallels the earlier film *An Auto Heroine or the Race for the Vitagraph Cup and How it Was Won* (Vitagraph 1908), where a young woman takes her abducted father's place in a race and wins. However, there are important differences in Normand's script for *Mabel Behind the Wheel.* While *Mabel Behind the Wheel* also depicts a woman racing and competing against men to the cheers of a large crowd of spectators, she is positioned very differently.

To begin with, the protagonist, Mabel, is established as a very good driver prior to the racing scenes. In the film's opening, Mabel is asking her partner if she can drive his race car. When he says no, she shows her displeasure by leaving him on the side of the road and going off with his rival, played by Charlie Chaplin, on his motorcycle. After being dumped off the back of the motorcycle, she lands in a large mud puddle. However, Chaplin doesn't notice his passenger has fallen off and rides off-screen without her. Seconds later, Mabel's lover arrives in his car, finding her in the road. But, rather than Mabel being picked up and put in the passenger seat to be driven home in shame, it is Mabel who gets behind the wheel of the car at last.

Two major differences establish Mabel as a more independent person than the daughter portrayed in *An Auto Heroine*. Mabel has a lover and is not afraid to socialize with another man when her lover's behaviour disappoints her. Further, she is very comfortable driving, and the implication of her sliding behind the wheel without any apparent thought about whether she can drive as well as her lover, who is a race car driver, clearly suggests her confidence. Meanwhile, the daughter in *An Auto Heroine* is rather timidly portrayed at times, with hand-wringing and flustered movements, perhaps a result of the filmmaker being a man and the character subject to male gaze. Albeit, eventually we see her smiling as she drives the car and wins. She does interact with the car prior to it being driven, however, unlike Mabel who appears to be handling the repairs on her own, the Auto Heroine really appears to simply be dusting off the grill while a team of men work on the car around her. While she is seen moving around the car's engine, she is bracketed from her true automobile technology skills.

When Florence Lawrence began working for Independent Motion Pictures, she became the center of a publicity stunt involving the automobile. IMP falsely announced that Lawrence had been killed in a car crash in order to boost interest in their films with their newly acquired star (Hunt 2019). Lawrence described the ordeal of her new studio falsely announcing her death in newspapers without telling her first. She discussed the event four years later in *Photoplay* magazine. "To say that I was stunned would be putting it mildly. I screamed at

the thought . . . I was angered and depressed. I did not know what to do" (Photoplay 1914). Once again, violence was associated with the suppression of women for the financial gain of a studio headed by men.

Figure 1: "An Auto Heroine: Or the Race for the Vitagraph Cup and How It Was Won". National Library of Congress. October 10, 1908. H116781. Copy B. Time stamp: 3:50.

During her race in *Auto Heroine*, the image of the crash was more delicately handled, and did not show much of the wreckage, nor injury. The star, presumably Alice Ramsay, is directed to put her hands to her cheeks in a gesture of dismay. However, like Mabel Normand's racing crash and rollover, Ramsay

helps to get the car back into the race. The *Auto Heroine's* driving skills are not given as much consideration in the film, particularly in comparison to how Normand showcases the skills of the woman race car driver in *Mabel at the Wheel*. Ramsay was much more subject to male gaze in her performances.

Figure 2: "An Auto Heroine: Or the Race for the Vitagraph Cup and How It Was Won". National Library of Congress. October 10, 1908. H116781. Copy B. Time stamp: 3:10.

Ramsay is ignored by the men in the scene of *Auto Heroine* when she drives off in the race car.

Figure 3: “An Auto Heroine: Or the Race for the Vitagraph Cup and How It Was Won”. National Library of Congress. October 10, 1908. H116781. Copy B. Time stamp: 4:00.

Women filmmakers like Mabel Normand and Helen Holmes would try to change these depictions and show that women could do much more, particularly with transportation technology. Normand’s car stunts are much more daring and dangerous than Ramsay’s, with close calls that could have easily injured herself or other actors. The car race scenes are a mix of live shots of race cars in Santa Monica and shots taken from a camera truck, such as Chaplin’s motorcycle ride where the camera is in front of him, riding ahead. While Normand is clearly not behind the camera for the motorcycle shots, she is behind the wheel driving as the camera is mounted on the hood of her car during the race, putting her in control of

both technologies simultaneously. However, her portrayal of the woman driver makes the driving scenes distinctly different from the earlier Blackton depiction in *Auto Heroine*. It is also notable that Normand is famous for her filming of daring rooftop scenes in the late nineteen-tens in Hollywood long before some of the well-known rooftop stunts filmed by Harold Lloyd five years later for *Safety Last*! in 1923 (Bengtson 2016).

In *Mabel at the Wheel*, we see Mabel as a spectator at the 1914 Fresno road race, which her lover is supposed to race in. However, a jealous Chaplin has kidnapped his rival for Mabel's affections.

Figure 4: Laurel and Hardy Youtube Channel. *Mabel at the Wheel.* Keystone Films, 1914. 10:55.

Mabel searches for her lover, realizing that something must be wrong. Her interaction with Charlie Chaplin, who grabs her, pulling away her jacket to expose the area above her breast is reminiscent of *A Beast at Bay* when the convict is accosting Mary Pickford in the shed. However, in Normand's film, the woman fights back more aggressively, stopping the unwelcome behaviour by biting her offender's hand.

Figure 5: Laurel and Hardy Youtube Channel. *Mabel at the Wheel.* Keystone Films, 1914. 11:16

Figure 6: Laurel and Hardy Youtube Channel. *Mabel at the Wheel.* Keystone Films, 1914. 11:18

Mabel realizes that her lover has not appeared to start the race and that it will be up to her, a proficient driver, to take his place behind the wheel. This shows confidence in her abilities not only to drive but, also, to perform mechanical repairs, which was required of race car drivers in this period. Meanwhile, Chaplin and his villains test her skills even further by throwing exploding cannonballs and other objects into her path, trying to stop her, all to no avail. Normand shows her skill with automobile technology, not only from behind the wheel but, also in carrying out minor repairs that she performs during pit-stops as she is cheered on by a crowd of men and women.

During Mabel's drive, the cinematography utilizes interesting tilts and angles to show the occupants of the race car as they begin to tip and roll over, shots from stationary locations around the course as Mabel passes, and shots from another moving vehicle capturing Mabel passing other competitors. These shots were some of the first of their kind, and the hood-mount was designed by Mabel herself for her car. It allows her to be both behind the camera and in front of it at the same time, which was not only an ingenious accomplishment but, provided a unique point of view shot for the theater audience. In comparison to *A Beast at Bay's* flatbed truck cameras utilized by Griffith, Normand's hood-mount shows more innovation resulting in better shots that convey much more expression from the characters in the car.

Figure 7: Laurel and Hardy Youtube Channel. *Mabel at the Wheel.* Keystone Films, 1914. 19:43.

Figure 8: Laurel and Hardy Youtube Channel. *Mabel at the Wheel.* Keystone Films, 1914. 20:09

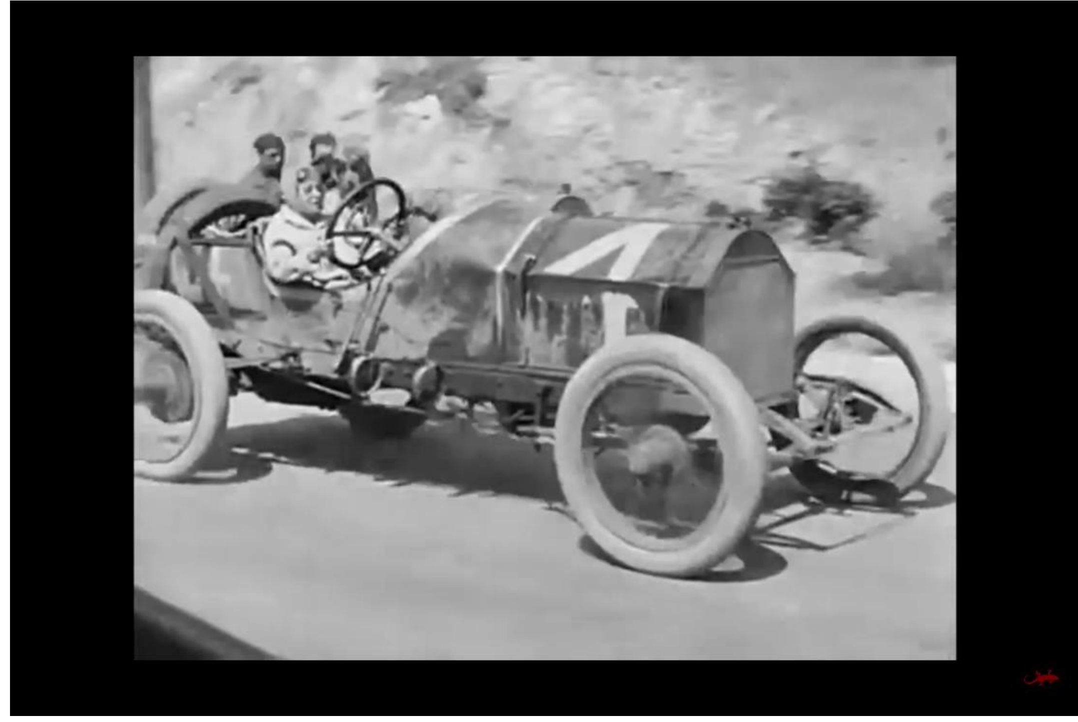


Figure 9: Laurel and Hardy Youtube Channel. *Mabel at the Wheel.* Keystone Films, 1914. 20:51

The close-ups of Mabel and her riding mechanic in the cockpit with the camera fixed onto the hood as she drives allow the audience to see Mabel's expression clearly, which ranges from deep concentration to pure joy as she pushes the car to its limits. Meanwhile, her riding mechanic looks alternately terrified and cheerful. It tells women that they are capable of driving and will enjoy exercising their skills. Mabel's expression tells women a lot about driving: it is a skill that they can master and enjoy immensely, even with the challenges they might encounter on the road. The effect is empowering women to take on technology.

Figure 10: Laurel and Hardy Youtube Channel. *Mabel at the Wheel.* Keystone Films, 1914. 21:17

It is possible that the woman race drivers in both *An Auto Heroine* and *Mabel at the Wheel* were based on the famous race car drivers such as Dorothy Levitt in Britain, and Joan Cuneo in America. Both women were known to have raced against the top drivers of their prospective countries and won. Cuneo was routinely barred from competing in the major road races. However, she would show up ready to race regardless, and pushed the sanctioning bodies for her right to compete (Nystrom 2013). Cuneo's apparel is not unlike Mabel Normand's, but rather more conservative than Alice Ramsay's New York society garb.

Figure 11: “Joan Cuneo.” Collection of Tanya Bailey.

Other than Normand’s wearing a dress, she is not performing any actions in the operation of the automobile that could be labelled as a gender performance ritual. Her use of the technology is the same as if a man were driving. She is a driver-cyborg, connecting with the automobile, showing great skill in making the car fishtail and spin, driving fast, and passing other drivers with ease. Normand was comfortable behind the wheel, smiling and laughing throughout her race. The spectating audience is also a mix of men and women, who appear non-plussed that a woman is behind one of the cars' steering wheel. Nor is she approached, as

Cuneo frequently was in real life, by a race sanctioning body questioning her right to drive or race the car. These factors all point to Normand's scripting of the woman driver as equal to, or possibly superior to the men she was competing against. The audience's acceptance of this representation of a woman driver in the film, notable by its lack of any protest against such a depiction, would suggest that the Pre-World War I woman driver was very acceptable to at least part of the American public, those who attended films. The next question perhaps is, do these films "naturalize the woman" as a driver or does the "naturalized woman driver" exist prior to the film's creation? This is a more difficult question to answer, and perhaps one which can not easily be ascertained. However, what does exist prior to the film's creation is the woman's skill using automobile technology. Mabel Normand's depiction of the woman driver is a representation of reality that already existed, rather than a fantasy.

Another interesting point is that the two films also point to the New York studios move west. While *Auto Heroine* was made, the larger automobile races such as the American Grand Prize and Vanderbilt Cup were held on the East Coast in cities such as New York and Savannah, Georgia. However, as with the film studios, these major races moved to the West Coast and were held in Santa Monica and Fresno, amongst other west coast locales (Bailey 2014). New York film scenes depicted more formally attired spectators and used real life professional drivers like Alice Ramsay. West coast race spectators appear more

casually dressed. Both, however, show an audience of both men and women enjoying automobile races together.

Ultimately, the films explored above further the idea that women had strong associations with the automobile. The woman filmmaker could even depict herself racing and winning against men. One can imagine that theater audiences received a strong message from these films which conveyed that women were capable drivers.

Male Gaze: A Different Woman Driver in the Eyes of a Man

While female powerlessness surfaced in *Race For A Life*, and *A Beast at Bay,* in the real world, women were offering new innovation and input to automobile manufacturers on design safety features as discussed in chapter three. The female driver was celebrated in songs ("The Lady Chauffeur") and in theatrical productions such as *The Motor Girl*. A popular series of novels for girls known at *The Motor Maids* encouraged female adventures behind the steering wheel to youths. The female racing hero became a favoured trope in films such as *An Auto Heroine* or *The Race for the Vitagraph Cup and How It Was Won* (1908) and *Mabel at the Wheel* (1914) which both featured women taking a man's place in a race while he was held captive by a villain. By winning the race, "the woman is transformed into the ideal Woman" (Doane 2000) and equal of man in relation to operating automobile machinery. The pre-World War I woman driver in film

depicted by a woman filmmaker like Mabel Normand is celebrated rather than punished as post-World War I cinema's "femme fatale". The automobile underscores women's desire to compete with men and connect with emerging technologies in the early twentieth century. However, the depiction of the woman and automobile technology are not so empowering when the scriptwriter and filmmaker are men. As Doane argues, "the conjunction of technology and the feminine is the object of fascination and desire but also of anxiety" (2013), which plays out in representations of women and cars in film. When male gaze is evident in the creation, a very different set of ideas emerges, and the inherent anxiety is expressed as a warning to women.

The 1912 film *A Beast at Bay* stars Canadian actress Mary Pickford, and it was produced by D.W. Griffith at Biograph, with the script written by George Hennessy and filming by William Bitzer. The film sends different messages about danger and independence than *Mabel at the Wheel* produced by Mabel Normand. One major difference is that *A Beast at Bay* serves as a warning of the problems that may befall the lone woman in public, as conceived by Hennessy. These troubles involving the threat to physical safety of a woman driver in the public space is in stark contrast to accounts by women of the period, such as Florence Hall of New York whose 1911 etiquette book applauded American cities for being a place where women could "go about the city safe and unmolested" (Hickey 2011). Another important theme that arises in the film revolves around

masculinity, connected to a woman shaming a man for his cowardice, much as women would be encouraged to do as World War I approached (Marks 2013).

Edith, the character played by Pickford, is the film's lead. In the opening of the film, she is seen as independent and aggressive. In fact, it appears that a reversal of male gaze is occurring as she ogles the handsome man in front of her, and whispers to her friend that he is her ideal suitor. She then approaches him and asks him if she can give him a ride to the train station in her car, again exerting her independence, and breaking free of the traditional roles of courtship where the man pursues the woman.

Figure 12: National Library of Congress. Digital Files. "A Beast at Bay." Biograph. 1:25 Link: https://www.loc.gov/item/2015600154/

Another traditional reversal of gender norms can be seen when Edith tries to take his suitcase from him to carry to her car. However, he only allows her to assist him, rather than letting her carry the bag herself.

Figure 13: National Library of Congress. Digital Files. “A Beast at Bay.” Biograph. 2:00

Perhaps the greatest taboo in the gender reversal seen in the opening scenes is when Edith becomes disenchanted with “her ideal” when he fails to respond to a drunk who begins to insult them for their wealth and kicks her car. After cranking the engine herself, she climbs into the driver’s seat, and takes Jack to the train station, stopping in front of it with an angry expression. She can be seen clearly mouthing the word “coward” in her exchange with him in front of the

train station. This is similar to how women were depicted in World War I propaganda which often used images of women shaming men for their cowardice if they did not enlist. Perhaps these ideas originated in film as there was not a strong sense of what consisted of "honour" in war prior to the Great War. In fact, at the turn of the century, on the heels of the Spanish-American War, men's ideas as fighters were still very much in flux, and "the script of the citizen-soldier had yet to be set" (Ostoyich 2017).

Figure 14: National Library of Congress. Digital Files. "A Beast at Bay." Biograph. 3:00

Figure 15: National Library of Congress. Digital Files. "A Beast at Bay." Biograph. 4:47

The relationship between fighting and masculinity are very clear in *A Beast at Bay* during the exchange between Edith and Jack after he ignores the drunkard. When Jack gets out of the vehicle, and Edith is left unaccompanied, the male gaze of J. Stuart Blackton comes into clearer focus with a man's ideas about a woman alone in the public space. While with Jack, Edith was safe, with the exception of the drunkard who kicked her car. However, once alone, Edith is subject to the dangers of assault and violence. This idea of women being in danger while alone is not simply a device to heighten the drama of the film. Ideas differed from the etiquette journals of Florence Hall to the real-life experiences of

Alice Ramsay, the first woman to drive from New York to San Francisco in 1909. While departing New York City, Mrs. Ramsay was asked by one of the men who had gathered to see them off: "Where are your guns? What about protecting yourselves?" (Ramsay 2005: 5). Ramsay replied that she was advised not to carry firearms. Women did not appear to have a great deal of concern for their personal safety; rather, men raised concerns about their being in danger. This is mirrored in *A Beast at Bay.*

Edith is likewise without any weapons, clearly not expecting that she might be in danger while alone on the road. However, as she is driving, she notices a piece of fabric on the road. Perhaps to avoid running it over and having it get stuck in her car's engine, she stops to retrieve it. At that moment, the escaped convict who has been seen throughout the film in crosscuts emerges from the bushes by her car, and the two separate plots merge. Several of the point of view shots of Jack, who is looking at Edith through his binoculars from the train station, are confusing. Jack should be looking at the back of the car, as he is behind Edith, who is driving away from him. But two of the point of view shots show the front of her car, focusing on the initial confrontation between Edith and the convict. This oddity was perhaps necessary for showing her expression: fear, and the expression of the menacing convict, in order that Jack could understand that Edith is in danger. Without these shots, Jack could not know what was going on, as the convict is dressed up in a stolen prison guard's uniform.

The final point of view shots corrects the misaligned point of view, and finally shows Edith's car departing and driving away from the train station. Jack realizes that the road travels alongside the train tracks, and after showing the guards what is going on in Edith's car with the escaped convict through his binoculars, they join forces. The guards help Jack get one of the trains to take him up the road to catch up to Edith. The employment of a more powerful transportation technology by Jack furthers the idea that Edith and her car are going to be overpowered by the strength and power of men.

The scenes between Edith and the convict clearly illustrate this change in the dynamics of her situation. Edith is completely disempowered and loses her autonomy over both her vehicle and her body. The underlying message is that perhaps this is a reparation for her audacity in attempting to take on the powers assumed to be reserved for men. Even as Edith attempts to trick the convict into believing that the car's engine has quit, she is punished with violence as the convict attempts to strangle her if she does not drive as he commands.

Figure 16: National Library of Congress. Digital Files. "A Beast at Bay." Biograph. 9:10

Edith is seen driving the convict from cameras placed on a flatbed truck ahead of the car, which also films scenes of the moving train, thus heightening the drama, and creating a fast-paced chase. As Jack and the guards catch up and overtake Edith's car on the train, she is being overpowered by more powerful transportation technologies and men with guns at every turn. As the convict spots them, he forces Edith to take a different road away from the train. He then forces her into the woods with him as a hostage, and they reach an empty shed. Jack and the guards have the train stop, and they get off onto the road, meeting a race car that takes them back to the turn off where Edith's abandoned car has been left. The men split up to search the woods for Edith and the convict.

Meanwhile, Edith is undergoing the greatest of the threats to her body: the convict's threat of rape. Griffith shoots the scene with the convict first insulting Edith's wealth and fine garments and then quite boldly gazes at her pelvis. He also uses the shotgun as a phallic symbol to stand in as a simulation of rape, as it is held erect in front of the convict's groin and then held straight out toward Edith's pelvis, as the convict leers at her.

Figure 17: National Library of Congress. Digital Files. "A Beast at Bay." Biograph. 14:23

Figure 18: National Library of Congress. Digital Files. “A Beast at Bay.” Biograph. 14:28

Meanwhile, Jack hears Edith screaming, and bursts into the shed to find her, showing his bravery as he wrestles with the armed convict. However, Edith has one final moment of strength when she sees Jack is losing the fight. She pries the convict’s fingers one by one away from Jack’s neck, thus saving his life. The other guards hear the ruckus and burst in, capturing the convict, and leading him away. Edith’s power and autonomy is not restored, nor is she completely a victim, or willing to be a bystander. She illustrates that women can be brave in the face of danger. However, her act is minimized both by only being able to pry away a finger at a time of a strong man, and eventually needing the assistance of other men to escape. Finally, Edith and Jack are alone and safe, and it is at this point

that she encourages him to kiss her cheek. Jack appears equally happy to have regained his manliness through an act of bravery. Quite interestingly, it is very much the theme of this film that will become a hallmark of recruitment for World War I. Ideas of masculinity and cowardice, particularly used in depictions of women shaming men into enlisting in the armed forces, would be widely used by western governments just two years after this film was made.

In the discussion above, the film *A Beast at Bay* highlights the difference in how a woman driver was portrayed by a male filmmaker in the pre-World War I period. This early example of "male gaze" results in a presentation of the woman driver as vulnerable when alone in a car, quite unlike Mabel Normand's empowered race car driver. Additionally, it suggests a connection between a firearm to male power, something that will emerge more forcefully as World War I approaches. The theater of real life was absorbed by the moving picture lens, and projected to the audience ideas of masculinity and fighting, particularly to protect a woman from rape, that would soon be used by governments to promote enlistment for World War I.

Conclusion

Why did the role of women as drivers and automobile labourers change after World War I? This central question does not have a singular answer—the relationship between humans and technology, whether as users or developers, is

complex. Many inputs can define this relationship, some of which are subtle and vary across geographic locations where differing values and norms exist. We can point to the gender aspects of this disruption by considering Donna Haraway's "Cyborg" and Judith Butler's "Gender Performativity Theory" as two variables at work in the evolution of gendering cars toward men in the post-World War I period. The cyborg-driver is the early driver at the adoption stage of technology. At this point, a technology user does not have preconceived notions, nor has the technology existed long enough for repeated traditions to be associated with it. However, the driver may have become a gendered being when immense and widespread crisis acted on Western society and government structures inserted ideas surrounding the body into technology relations.

Consideration of women's involvement in the development of automobile technology in a socially constructivist stage of technology, combined with filmmaking by men and women featuring women drivers helps to illustrate the challenges and successes of women and technology prior to the onset of World War I. We see the woman driver as a hero in *An Auto Heroine or the Race for the Vitagraph Cup and How it Was Won*, (1908) starring Alice Ramsay, Mary Pickford and Mabel Normand respectively.

If the early driver of an automobile was gender-less or gender-neutral at the earliest points of its introduction, perhaps it is also the same for the users of filmmaking technology, such as Alice Guy Blaché, Mabel Normand, and Helen

Holmes who were producing films in which they starred as drivers. However, cinematic representation may or may not authentically depict reality, and is subject to the filmmaker's perspective, and experience. It is challenging to determine how true a film might be as a reflection of actual norms because variability and intention must be accounted for. In other words, the archival evidence of newspapers and patents for automobile features and evidence gleaned from a filmic analysis need one another to create a cohesive conclusion of what may have occurred when women users and producers of the automobile began to be distanced or bracketed from automobile technology.

In the pre-World War I era, many new technologies were introduced. Perhaps the most impactful on humans in wealthy nations to afford cars was the automobile. There were initially no seatbelts that would need to be fitted over biological body parts that would make a person feel a sense of their own masculinity or femininity. Most of the earliest cars were small enough to fit a shorter stature, unlike the later automobiles built to many different sizes, fitting different bodies that might engender the driving experience. The hand-crank used to start the first models might be the one site where some would point to a disparity between a man and woman driver, as they were indeed cumbersome and dangerous. However, women could, and did crank those engines, and in its very early infancy, as seen in *A Beast at Bay* when Mary Pickford easily performs this task. However, the earliest women drivers appear free of gender performativity.

Cars did not have association to any gendered task, such as a mirror which could be used to apply lipstick or shave. The early driver was a genderless cyborg during the initial stages of the automobile's introduction. It did not consider connecting performances of femininity or masculinity to the tasks undertaken behind the wheel. The enormity of learning to drive and mastering the skill to operate this new technology might have taken up a great deal of mental space, possibly displacing notions of gender. At the introductory stage, society had not yet contemplated and accepted the technology, and people were still figuring out how it worked and fit into their lives in different locations, and amongst people of different socio-economic backgrounds. Therefore, there were few pre-determined meanings about who could or should be more suited to use this technology or limit how they chose to use it, whether to drive it, grind corn with it, or warm their hands over the engine in winter. The automobile was not technologically deterministic to its users, nor was it a gendered technology at the point of its introduction and adoption. Haraway's cyborg, a genderless being, is, therefore, a good way to think of the earliest driver, as no rituals of gender had yet been established during the operation of an automobile. Nor were there any performative ideas or actions associated with cars being taught from an earlier generation, because the automobile did not exist for them. The foot was simply an extension of the pedal, the hand of the steering wheel, as both McLuhan and Haraway would agree. It did not yet matter whether that foot belonged to

someone who might use a binary pronoun of “she/he”, nor if they were Black, Asian, Indigenous or White, nor if they came from upper, middle, or lower socio-economic backgrounds.

However, with cinema, there is a difference in how a man and a woman filmmaker portray the woman driver, even when the plot lines are similar. In *Mabel at the Wheel*, Mabel Normand chose to portray the woman driver as highly skilled, competitive and willing to fight back against a man attempting to physically harm her. This mirrored some of the real-life struggles she was having with Chaplin on the set. He was resistant to being directed by a woman. However, Normand prevailed, and Chaplin took her direction, and began to seek her counsel about becoming a filmmaker. J. Stuart Blackton presented Alice Ramsay as the “auto heroine”, yet Vitagraph would not even allow her name to be placed in the credits. Meanwhile, Florence Lawrence appeared in automobile films while simultaneously inventing turn and brake signals. Her technology achievements were ignored, as men in industry took her idea without crediting her for her design or allowing her any avenue for financial compensation. The controversial D.W. Griffith allowed moments of empowerment for the woman driver in *A Beast at Bay*; however, he had Pickford play Edith in a way that was a warning to women about the dangers they might face alone in public. Male gaze influenced how men making films chose to portray women, which was usually in a subordinate position to men, even if they were somewhat empowered in the plot.

This is, in turn, influenced audiences in subtle ways that contributed to ideologies surrounding women and technology. The women behind automobile innovations and the steering wheel, in real life, and in film, were clearly sending the message that women were technically adept, and this idea grew in the pre-World War I period, just as the successes of women filmmakers grew in numbers at this time.

Over time, however, gendered meanings would emerge and become prescribed to automobile technology, and for that matter, to filmmaking technology. Corporations producing automobiles began to gather information on who was driving their cars, how far they travelled, how fast they drove and what, if any, cargo or passengers they preferred to carry. Again, this aspect is not technologically deterministic; rather, it is closer to a social construction feedback where the manufacturers gather information from user's preferences to refine their products to fit people's needs.

For this study's purposes, the most interesting aspect of how the genderless cyborg relationship was impacted by events can be seen at the onset of World War I, a major crisis that impacted people from many parts of the globe in varying degrees. In Europe and North America in particular, World War I impacted the lives of the majority of people. One of those impacts was that it displaced the gender neutrality of technologies such as the automobile both in labour and use. One of the primary reasons, though not the only reason for this, lies in how the

state took control over bodies, and in doing so, imbued new meanings, including gender performance that would serve capitalist government goals.

This occurred in part because World War I was the first major armed conflict to have extremely powerful artillery being used against soldiers on both sides. This heavy artillery was used in such mass amounts that in the areas of heaviest fighting, such as the Zone Rouge in France, large swaths of land still remain in a restricted zone, prohibited from being entering upon, let alone carrying out normal land uses, such as farming or habitation, due to the presence of land mines and extremely toxic soils left over from the World War I. This fire power had an insidious impact on soldiers' bodies, leaving millions disabled, disfigured, and shell shocked. Meanwhile, governments quickly began to realize that they could be footing a very large bill to provide care and income to disabled soldiers for decades.

Western governments in the United Kingdom and North America were financially devastated by the Great War and looked for ways to rebound. Since the injuries were so prevalent, the costs of rehabilitation and pensions would be exorbitant, and possibly unsustainable. So, governments looked for ways to save money on the bodies they had sent into war to be broken. They did so by shifting responsibility onto the soldier to re-enter the labour force, and particularly onto women to remove themselves from it so the men would have jobs, which were

scarce in a post-World War I failing economy. In doing so, they imbued gendered meanings onto technology use and production.

At this point, chronologically, Haraway's cyborg loses its autonomy to simply perform and function as a genderless entity. New meanings are forced onto the driver-cyborg as it uses formerly ungendered technologies. Butler's idea of gender performativity and bodies begins to blend with Haraway's genderless cyborg, with governments pulling all the strings. Perhaps this may seem horrifying and impossible to proponents of both theories. Still, it is useful to understand that powerful government institutions and their support organizations sometimes create Frankenstein monsters when they try to impose capitalist financial policies on their population of human bodies. Automobiles, which were being produced for, and by women, such as the Galloway car produced in Kirkcudbright, Scotland, became sites of gender performance. Even the factory journal, which was formerly gender-neutral and cyborg-like, was named for a tool used by workers: *The Spanner*. This was changed to reflect the message that women should have no limits, as the new title "*The Limit*" suggests. Meanwhile, governments and organizations funded by them, such as the YMCA and Red Cross widely advertised the idea of "re-gaining manliness" to encourage amputees and disabled veterans to go through rehabilitation to prepare to go back to work. One YMCA poster urged people: "Don't Pity A Disabled Man – Find Him A Job." The idea of government savings on pensions are not mentioned. Rather the

argument is framed as assistance to help men return to a “normal” life where they are “whole” again, primarily through employment. However, this left women who worked in factories and needed their jobs to support their families out in the cold. In many places, women were shamed for “taking a job” from a man, and ideas of the priority for returning soldiers to have jobs was very widespread, as Galloway’s journal, *The Limit* illustrates quite candidly.

PART TWO: DOROTHIE UNDER FIRE:
Recruitment to War Work and Women's Empowerment on the Front Lines

Part Two examines the next stage, the inter-World War I years, focusing on the recruitment materials that fostered engagement with war work and women who chose to drive ambulances on the front lines, such as Dorothie Feilding. Public relations materials such as posters, magazine and newspaper advertisements were powerful coercions that enticed or threatened men to enlist and women to take up war work. These ranged from the Hely's Limited posters of the United Kingdom to The Christy Girls posters in America. War offices from across the world used these materials to influence acceptance of the war. Many of these were so persuasive that they altered ideologies about labour and gender in a very short time. In Britain, war propaganda used ideas of gender as a tool, with women initially being cast as weak victims who were in danger of being raped or mutilated by German soldiers. Governments produced studies such as the 61 page *The Bryce Report* (1915) which confirmed that such attacks were occurring on Belgian women and would surely be the fate of British women if the Germans won the war and invaded the United Kingdom (Grayzel 2002, 16).

Women were also used to shame men who did not enlist. Their images appeared in many propaganda materials, and they were tasked in real-life campaigns to shame men into enlisting, such as during the White Feather Campaign of Folkestone, England (Gullace 1997: 178). Women were charged

with finding men who had not enlisted in the military and handing them a white feather symbolizing their cowardice. This shaming was so powerful that the White Feather campaign became famous in literature and film, with the story re-appearing over and over until recent years.

Once the war began and enough soldiers were enlisted, the needs of the country changed. Suddenly, women were required to run factories producing food, munitions, textiles and other wartime goods. The Women's War Register of 1915 was created to help organize the efforts to recruit them and the message of women in peril was slowly abandoned. Instead, new themes of women's empowerment began to emerge. Posters and advertisements were created that proclaimed how strong, capable, reliable and skilled women were in order to entice them into war labour in factories and on farms. This matched the needs of industrial manufacturing owners, who wanted to keep their factories in production and secure lucrative government contracts to produce munitions or war goods. These owners were also aware, even while enticing women into the factories to work, that women would serve as "dilutees," less skilled labourers who would only temporarily replace men until the war ended. However, the case was somewhat different for women such as Dorothie Feilding, who began to use their driving skills, licenses and the equipment or money at their disposal to further ideas of women's driving capabilities.

Feilding was a key figure in the Munro Flying Ambulance Corps, a pioneer of sorts who set up the first ambulance stations and camps in Belgium (Hallam 2011). Feilding became a driver on the front lines during World War I, often finding herself under enemy fire and in the trenches, even when the doctors who treated her patients would come no closer than five miles. Feilding's journey on the next portion of the Yellow Brick Road highlights the pinnacle of women's skill, courage and confidence in their use of automobile technology. It is in this setting where the road travelled was rough, muddy, and filled with many dangers, including coming under artillery fire while transporting patients from the trenches to the field hospitals that were miles back. Yet, the woman ambulance drivers from the Munro Flying Ambulance Corps, the First Aid Nursing Yeomanry (FANY), and Queen Alexandra's Imperial Military Nursing Service (QAIMNS) persevered and were decorated for their heroism, alongside soldiers and military leaders (Luard 2017). Their stories were spread across the world in newspapers, impacting people's perceptions of what women were capable of when it came to automobile technology, patriotism and serving on the front lines.

War Recruitment and the Ambulance Drivers

This chapter begins by delving into the public relations materials that were used in both North America and the United Kingdom to recruit soldiers and war workers, and then focuses on the experiences of woman ambulance drivers on the

front lines. General recruitment of soldiers and workers was accomplished through the creation of posters, films, and newspaper advertisements which influenced people in Allied countries to embrace the idea of war. These materials were so prevalent and powerful that they drastically altered the progressive path that had begun to take root for women. The power of propaganda was realized shortly after the war ended. Baron Arthur Ponsonby began writing about this beginning in 1921:

The psychological factor in war is just as important as the military factor. The morale of civilians, as well as of soldiers, must be kept up to the mark. The War Offices, Admiralties, and Air Ministries look after the military side. Departments have to be created to see to the psychological side. People must never be allowed to become despondent; so victories must be exaggerated and defeats, if not concealed, at any rate minimized, and the stimulus of indignation, horror, and hatred must be assiduously and continuously pumped into the public mind by means of "propaganda." (Ponsonby 1928: 14).

Before war recruitment materials circulated on both sides of the Atlantic, women had begun to be seen as more capable, intelligent, and valuable in the labour and use of technology. This was a hard-won battle against ideas that existed before the turn of the century: a pervading perception of women as being more suited to remain in the private sphere and perform domestic labour (Grayzel

1999, 5). Early in the twentieth century, women began to fight for equality in voting rights; they yearned for a more significant role in public life and more variety in the labour they performed. They were driving and fixing their own cars, working behind the lens in film, and working with machines in textile factories. Thus, ideas about women's capabilities began to change from approximately 1905 through 1915, lasting for much of the inter-war years. Women started appearing more frequently in industrial labour settings and began playing a role in the use and development of technologies such as the automobile and film equipment (Darlington 2020: 467). However, as World War I approached, it became clear that women would be playing these roles in a reliable manner to an even larger degree, and the idea of women's capabilities expanded rapidly, albeit with the undercurrent of coercion into the fields of required labour.

Propaganda Coercions: Poster and Film

In the early 1900s, filmmakers began producing works that offered representations of women as significant users and producers of transportation technology, reaching the masses on both continents and helping form a foundation for progressive ideas of women's capabilities in a general sense. This encouraged women to further consider the options available to them in the field of technology. Employers, who had their own capitalist agenda, took advantage of these new ideas and growing interest. Particularly as the war approached, they created

advertising techniques that resembled propaganda to “entice” women into factory labour, subtly suggesting a future world of equality in labour. However, industrial employers were well aware that their women workers were only temporarily replacing men going to war and that unionized employment was likely to be restored when the war ended. For the most part, this was exactly how things played out as attitudes suddenly changed when the war ended. Unions and veterans’ groups sought to reassert men’s right to employment. Eventually, upon meeting resistance, they began to threaten women workers. These coercions were underpinned by those with the deepest pockets and most power of the time: the federal governments and labour unions who had longstanding but, clandestine agreements from the pre-World War I era to remove women from their jobs and reinstate the soldiers returning after the war. Governments also partnered with charitable organizations that had their own powerful public relations machines that provided them with great influence using the popular guise of altruism. This pairing of government and an altruistic appeal was particularly virulent and unrecognized by the masses for what it was: coercion that would cement a gendered labour standard in technology factories for decades to come.

During World War I, the coercive propaganda created by governments, unions, and organizations was particularly virulent due to its united structure. At the same time, the progressive era was waning partially due to the satisfaction of suffragettes who had won the right to vote in most Western countries, which

counterintuitively set women in a position to be coerced. In this context, this chapter examines coercive practices from the World War I era.

Women's roles changed during World War I on both sides of the North Atlantic when coercive propaganda emerged from Britain to disrupt women's labour in technology industries. Labour settings in each Allied country were indeed different from those of the other, but they shared common features that can be seen in an array of archival materials. Together, these provide a fuller picture of the changes women faced due to World War I. British propaganda posters were the most widespread material, with two and half million books, pamphlets, posters, and speeches published in seventeen languages by 1915 (Masterman 1915, NP). Propaganda materials reached even the smallest rural towns while films reached larger audiences in urban centers (Messinger 1992: 40). In the early 1900s, filmmakers had begun producing works that depicted women as a significant part of the factory workforce, reaching the masses on both continents and helping introduce progressive ideas about women and technology. Women were even cast in films such as *The Secret of the Submarine* (Mutual 1915) as the protectors of technology from the enemy (Clarke 2022: 84). In this film directed by George Sargent, the character Cleo, played by Juanita Hansen operates machinery in a boat that saves her companions from drowning. Cleo is framed as a woman of intelligence and bravery who possesses a strong understanding of the technologies her father invented. Employers, who had their own capitalist

agenda, took advantage of these new ideas and used advertising techniques of their own, which resembled propaganda to "entice" women into factory labour, particularly as the war approached. Women workers would replace men going to war and were known as "dilutees." (Innes 2020: 3). Women's labour roles changed drastically in the inter-war years, and they came to dominate the factory workforce.

The concepts of "duty" and "shame" were powerful coercive tactics used by the British government to achieve various labour objectives in the World War I era. Britain's massive propaganda machine was dominant in Allied nations, persuading Americans and Canadians to invest in British ideas about Germany even before World War I began (Gullace 1997, 714). Hanging propaganda posters around villages and towns was perhaps the most pervasive tool used to spread messages across the country. Posters could be hung at the postal centers, municipal buildings, and churches of even the smallest villages, making them a good tool for reaching isolated and rural communities where film and newspapers might not reach. Examples of World War I recruitment posters showcase recruitment coercions in Europe and North America quite clearly. In Ireland, the "For the Glory of Ireland" poster of 1915 used the image of an Irish woman holding a rifle in one hand while gesturing across the English Channel with the other to an image of Belgium on fire. Her question "Will You Go or Must I?" is directed to a well-dressed man in an attempt to appeal to his masculinity and

sense of duty and thus shame him into enlisting with the British military (Hely's Limited 1915). This was a very widespread form of propaganda in Britain, taking several forms.

Figure 1. "For the Glory of Ireland" (Hely's Limited 1915)

The poster depicts a young, working-class woman wearing what appears to be a domestic uniform. In the background, a man is seen being led to the waterfront by a woman and child, suggesting that they are seeing him off to a ship. Belgium is seen across the water in flames. The woman in the foreground is imploring the man

to join the war efforts to stop the destruction in Belgium, implying that if he is as strong as a woman like her, then he should join the efforts or he will be shamed if he stays home while a woman goes in his place to fight. The connection of the pride of the nation is also very prominent as the words "For The Glory of Ireland" are positioned across the top of the poster, which is typically the first place a reader looks for a message. This tells the viewer that this man's national pride is being appealed to by the woman who proclaims her own willingness to serve her country if he refuses.

This poster is geared towards young Irishmen such as the one in the poster. The viewer would be attracted by the young woman's beauty enough to read the poster and receive its message. It is coercive in several respects as it uses a young woman of an approachable station in life, dressed simply, but attractively. She serves as a representative of the young women who live in the viewer's own city or town, perhaps reminding him of a sweetheart or someone he is attracted to. While the message is indirect, as it is transferred through a proxy for the women the viewer knows, the young Irishmen are coerced into believing that this poster is telling them what the women familiar to them are thinking. In the pre-World War I era, young men were largely compelled by the action of appealing to notions of pride and manhood, which was even more powerful when the message was delivered by a beautiful young woman, conveying that the price for refusal was shame and a loss of pride.

A slight variation can be seen in the "Women of Lancashire" poster of 1915 that read: "Women of Lancashire. Do you realize that if you keep back a son or sweetheart you are prolonging the War and adding to the peril of those who have gone?"

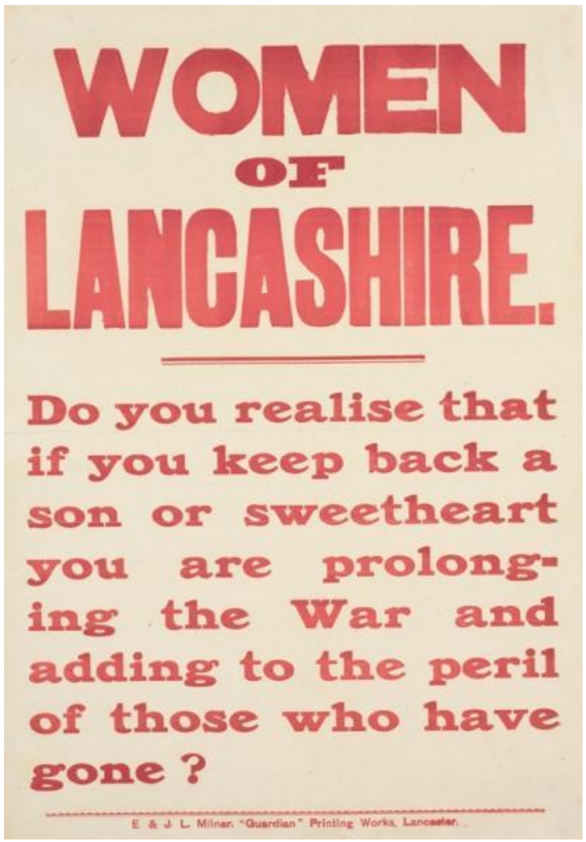
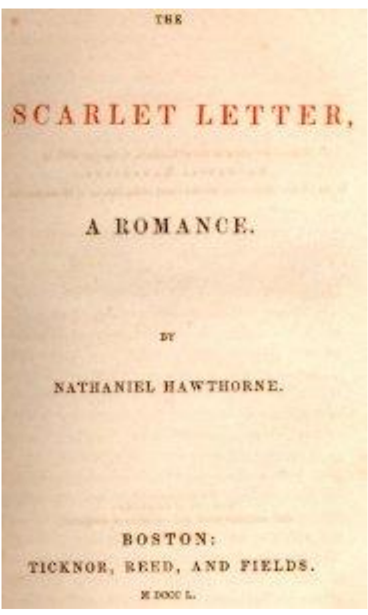


Figure 2. "Women of Lancashire" (Milner 1915)

This poster is free of images and simply uses large red letters to convey its stern and direct message, casting a pall of shame on valuing family life and love over duty to the nation (Milner 1915). Red is also a color that had been associated

with immorality and sin, particularly aimed at women. This poster could very well have been conceived to work as the first cover of Nathaniel Hawthorne's *The Scarlet Letter*, which tells the story of a woman scorned by society as an adulteress and temptress. In a way, the viewer becomes like Hester, confronted by scarlet words that brand her as immoral and living outside the expectations of society. Notably, *The Scarlet Letter* was adapted into a film five times between 1908 and 1917, directly before and during World War I; thus, the story was well known.



THE

SCARLET LETTER,

A ROMANCE.

BY

NATHANIEL HAWTHORNE.

BOSTON:
TICKNOR, REED, AND FIELDS.
M DCCC L.

Figure 3. *The Scarlet Letter* (Ticknor, Reed, and Fields 1850)

The message of the war poster is a direct accusation. A woman who was imploring a man in her family not to go to war would be confronted directly by

these words while stopping to read the poster in public, possibly in front of a community that knew she was holding back a man from service. The poster spoke to her, threatening society's disapproval and placing blame on her shoulders for being afraid to lose her partner, brother, or son in a bloody war with unprecedented fatalities. It did not allow for compromise, even in the case of those who had only one sole male support, caring for a large multi-generational family, disabled parents, or anyone who was not truly fit for the rigors of war. The result of such unapologetic pressure would certainly have caused division in communities where some may not have agreed with the war efforts, possibly even resulting in men and women being ostracized or condemned for having good reason to avoid going to war. However, these campaigns of intolerance against those who could not or would not go to war were not only confined to propaganda materials. Direct actions were also seeded into women's lives as early as August 1914 when they were introduced to a direct action of shaming men publicly through the Order of the White Feather.

The White Feather campaign was conceived by Admiral Charles Penrose Fitzgerald who deputized a group of women in Folkestone and gave them orders to pass out white feathers of shame to men who were not in uniform. This idea was based on the cock-fighting belief that a cockerel with a white tail feather was cowardly and would lose its match. (Gullace 1997, 178). The White Feather campaign was likely the most prevalent and robust form of direct action taken by

civilians to encourage enlistment, and it has been the subject of many books, films, poems, and even songs. In an effort to go beyond posters and public relations materials in communities, British women were encouraged to go out in groups and place a white feather on men in their community who were able-bodied enough to go to war but, were not signed up. Ultimately, this campaign exploited women by placing them in the role of the recruiter to the men in their community, thus representing another divisive tactic used by governments to recruit a substantial number of soldiers needed overseas. While it might have succeeded in doing so, the question remains: what were the consequences when some of these men who signed up after receiving a feather did not return home or came home disabled? The backlash against women who participated in this act, particularly as it occurred en masse, could not have been slight. These men experienced the trauma of war while in the military theater. The conditions they lived in were extremely harsh, and the artillery they faced was unexpected and terrifying, with daily horrors they had never experienced before occurring around them—tanks, air fire, and ground artillery. The bodies of men were mutilated as their brothers in arms watched, inflicting severe injuries to both. Consequently, once they returned home after the conflict ended, they would have likely contemplated how they came to be in such a position. If their traumatic experiences were linked to the women who had shamed or cajoled men into enlisting, surely tension and hostility toward them would be long-lasting and

impact relationships between men and women on a massive scale. Would the coercion of the government who had recruited women in the White Feather and similar acts of shaming men into enlisting have been recognized as being behind their actions? It is unlikely.

Yet, there were other even more abhorrent ways in which women were used to coerce men into enlisting. Film was still fairly new in the United Kingdom and North America, but, in the early years of the war, propaganda film was used experimentally to gauge its impact on the urban masses who had access to it. Once governments realized how powerful this form of media was in influencing people, they began hiring top filmmakers to create films that would sway public opinion, encouraging men to enlist and women to volunteer in positions supporting factories and war efforts. In its most powerful form, film was a factor contributing to the nationalization of society (Mosse 1966). The messages that such propaganda films presented were stark and frightening and typically ended with success in overcoming the enemy when the nation's people came together to fight. Among the most insidious messages were the "threat of rape" narratives that appeared in propaganda posters and films such as *Hearts of the World* (1915), a D.W. Griffith film starring Lillian Gish. Ultimately, film provided a place where audiences could see the horror of violence acted out on the screen, making it seem more real and proximate. As such, *Hearts of the World* was produced for the British government to make the rape of women more threatening to Americans in

the hopes that it would frighten them into joining the war. It was similar to Griffith's earlier Civil War films, however the "racism against African Americans seen in films such as *Birth of a Nation* is exchanged for anti-German attitudes" (Clarke 2022: 6). The film was a narrative based on the events outlined in *The Bryce Report* and the *French Official Investigation*, which "stated unequivocally that the Germans had, among other crimes of war, raped and mutilated women" (Grayzel 2002, 16).

Figure 4A. *Hearts of the World* (Griffith 1918)

Figure 4B. *Hearts of the World* (Griffith 1918)

The scene from *Hearts of the World* in Figures 5A and 5B depicts a large, burly German soldier entering the home of a Belgian woman. The mise-en-scene offers a look at a comfortable-looking abode, appearing somewhat bucolic and quiet. The home changes when the forceful soldier enters and tries to force himself on the woman who fights him. However, his size easily overpowers her small frame and strength. Only when another soldier arrives and interrupts the soldier to call him to an emergency is the woman left alone. These narratives were used to instill fear and loathing of the Germans. The protection of women's virtue both in Belgium and at home became a national concern (Clarke 2022: 6).

Propaganda materials suggested that those who did not want to participate in the war were uncaring rejects of society, living outside the norms of decent people. Posters, newspapers, and films confronted the morality of North American and British citizens, confirming that it was their duty to ensure women were not in peril abroad or at home.

Another example that showcases the use of the concept of women in peril as a coercion to entice men into enlisting is the *Women and War Leaflet* of 1915 from the British Parliamentary Recruiting Office. This leaflet used images of brutalized naked women to scare British women who might be holding men back from service. The leaflet further outlined that "all civilized societies protected women and children" and that the Germans did not. As with the examples of recruiting posters, women's equality in public life might have been impacted significantly by these visceral images and strong ideas that women's personal safety was tenuous and subject to the whims of men.

The possibility that women could no longer be considered "safe" in public life might have given rise to ideas that they should be kept at home under a man's protection. Such ideas contrasted the notions of the Progressive Era, such that women could enjoy independence and freedom of movement in public spaces where they might also find ways to be involved in public life, including industrial labour settings. In contrast, this early World War I propaganda was telling society

that women needed to be defended both from and by men, and that the safety and peace of the home and village rested solely on men's shoulders. The idea of women in peril, particularly under the threat of rape, created a new image of women as potential victims, and it certainly painted them as weak and in need of men to protect their bodies from being ravaged by the enemy, possibly leaving illegitimate children of enemy blood behind.

However, the sexual narratives surrounding women in World War I propaganda materials were not just violent in nature. They were also used seductively to entice men into enlisting. In other Western nations, such as the USA, the image of "Christy girls" began to appear in recruitment materials urging men to enlist, featuring pretty, young women who were sometimes clad in a soldier's uniform and posed in a coy manner. These images were often accompanied by suggestive statements such as "Gee, I Wish I Were a Man. I'd Join the Navy" or more direct calls to action such as "I Want You . . . for the Navy."

Figure 5. "Gee I Wish I Were a Man, I'd Join the Navy" (Christy 1916)

The Christy girls were created by artist Howard Chandler Christy (Scottish Rite Masonic Museum and Library Blog 2012). These images utilized beauty and the subtle suggestion of sexual reward, thus exploiting young women by suggesting that they were inviting a sexual encounter in return for a man's military performance. All of these narratives exploited women to encourage men to enlist. Since they were considered to have succeeded in accomplishing this purpose, the same tactics were later employed to convince women to take up war work while men were overseas. For some these positions included skills they had already mastered: such as driving, and for some women, they were willing and keen to use those skills alongside soldiers on the Western Front.

Empowered Spaces: Women behind the Wheel

The experiences of women serving as ambulance drivers during World War I provides a great quandary into the mystery of how the automobile became a male-gendered technology in the post-war years, a period that reversed their pre-war and war-time associations with motor vehicles.

Figure 6. British women ambulance drivers, 1917. *Nursing Clio*.

Before World War I, “spatial segregation of workers by sex led to the rigid gendering of workplaces and jobs” (Robert 2013, 324). In this period “men were portrayed in dark, smoke-filled foundries, mineshafts building sites and battlefields” while women “were depicted in domestic interiors, kitchens, laundries, dressmaking workshops, caring for children, working as servants, laundresses and needlewomen” (Robert, 324). However, this rigid division of gender did not extend to the space of the automobile. In the early years of the automobile, women were not only driving, they were conceiving and designing

parts for cars, racing, appearing in driving roles in film, testing cars, and writing instructional manuals on automobiling. It was these first connections that paved the way for British and American women to serve at the front lines of the war, using a combination of motoring and nursing skills. The space they occupied behind the ambulance steering wheel resulted in a militarization of these women, an entry into what was considered a "masculine" role, which was quite unprecedented. Krisztina Robert (2013) recounts that World War I created novel spaces that blurred ideas of the home front and front line, allowing women to participate in war labour roles that would have otherwise been denied to them.

While Robert focuses on the debates between women's war-time organisations and their supporters and critics (Robert 2013, 320), this chapter examines the impact of specific wartime locations. The aim is to include an exploration of the spaces women occupied at the front lines, namely, the interior of the ambulance, and the living quarters in close proximity to the front lines. I propose that these spaces provided a place for women to build on their well-established capabilities in automobile driving and use their familiarity with transportation technology to create new associations of gender and technology during war-time labour. Private organizations such as the Red Cross which was created in 1863, provided a place for women to serve in high-risk locations, initially with the support of the Belgian and French and later the Commonwealth militaries (Quiney 2017: 4). Such organizations provided an imagined private

sphere for women serving overseas, thus differentiating them from soldiers on battlefields. I argue that the battlefields themselves were a public sphere location, peopled by members of public military organizations who were contesting the space for their nations, while leaving soldiers exposed to shelling and gassing, unlike a private sphere home or barracks. Even though national leaders explained that an organizational private sphere at the front lines provided a permissible place for women to be employed, the public back home did not necessarily understand their work as being any different than that of the soldiers at risk on the front lines. In addition, in many cases, the women who served as ambulance drivers received widespread media attention, with the press on both sides of the Atlantic applauding their "heroism". In these instances, their work was seen as occurring in a public sphere. Many of these women also decided to record their experiences, thus providing a wealth of first-hand information which blurs the lines of public vs. private sphere labour.

Many of the women serving the FANY and QUAIMS as ambulance drivers came from North America. Prior to traveling overseas to serve, American and Canadian women began training with groups such as the National League for Women's Service Motor Corps and the Red Cross Motor Corps which recruited wealthier women (Richardson 2015: 58). Like the British groups, these organizations recruited women from affluent backgrounds, in large part because wealthy women could pay their own lodging overseas or had their own vehicles

and driving experience and could afford the chauffeur's license and vehicle registration. The Red Cross provided ambulance work across the United States and in October 1918 sent 300 women overseas to serve. The American group known as The Harvard Surgical Unit also sent women to the front lines with their medical school surgeons in 1915, including Canadians such as Wenonah Durant. Canadian women, such as Muriel Mina English who served from 1915 to 1917 in France, were able to train with the Women's Legion Branch of the British Royal Army Service Corps and the FANY. English provides an excellent photography collection showing the Women's Legion Motor Drivers in many scenes of the war, such as abandoned tanks, wounded soldiers, base camps, and the women in the ambulance corps with their vehicles. Hundreds of women answered the call from Canada, the United States, Australia, and New Zealand to join the British services providing ambulance training and an opportunity to serve overseas (English 1917: NP).

Numerous diaries and collections of letters detail the experiences and spaces of women who served as ambulance drivers. This service began primarily in Belgium under informal private groups such as the Munro Flying Ambulance Corps. Other groups were more formal and organized in a paramilitary fashion, such as the First Aid Nurses Yeomanry which served officially for the British military. The Women's Army Auxiliary Corps also hired women to drive and perform mechanical work later in the war. The women driving for these

organizations wrote prolifically about the challenges and critical moments which occurred at the front lines, such as the mustard gassing in Ypres in 1917. Amongst the earliest accounts were the letters of Dorothie Feilding, while Elsie Knocker and Mairi Chisolm describe personal and social concerns of the war work and how they believed they were perceived by others. Another very notable diarist was Kate Luard, who served with the British Expeditionary Force (BEF) under Queen Alexandria's Imperial Military Nursing Service (QAIMNS) from the start of the war; her account sheds light on the subject of the militarization of women ambulance drivers through her experience with some of the worst chemical warfare ever known. There are also many accounts of the women of the First Aid Nursing Yeomanry (FANY) who were based in France, providing depth to the examination of gender, class, and the militarization of women.

Regardless of which group or individual provided accounts of their experience, it is important to remember that their words had an audience, possibly resulting in the authors filtering, exaggerating, or subtly altering their stories; for example, family members might be worried about the safety of a daughter writing letters home, while the readers of a future book would need to be excited and impressed. The women serving had an interest in constructing their story in a certain way, even to avoid drawing accusations of impropriety or causing alarm that might result in their work being truncated. This was quite different than the freedom, or even necessity of women war correspondents who "carried the burden

of reporting the truth no matter how uncomfortable or gut wrenching" (Dubbs 2020: 360). However, even with these limitations in mind, the core of the women ambulance driver's accounts offers invaluable detail about the labour they performed on the front lines, as well as how this work impacted them, others around them, and larger audiences. Perhaps most importantly—how women transporting injured male bodies while under fire created unprecedented ideas of a militarized woman (Lee 2008: 17). This new woman, when later reconsidered, was deemed "dangerous" or "inappropriate" by a patriarchal society which arose after World War I, and thus their ambulance work at the front lines may have contributed to the ultimate distancing of women from automobile technology and labour.

This study also examines how woman ambulance drivers were militarized by examining the stories of women who served under The Munro Flying Ambulance Corps, QUAIMS, and the FANY. Their stories illustrate the idea that the transportation of men's injured bodies empowered women and showcased their strengths in transportation technology. The stories of the ambulance women and widespread media reports of their heroism and skills indicate a zenith for the woman driver's excellence in this field. However, this also pointed more clearly to the idea that women wanted to continue this work. Such a future for women would conflict with Allied government's post-war needs to reduce pension spending for injured soldiers by putting men back to work in the same type of jobs

(Bourke 1996, 42). Such ideas would need to be vanquished by governments, resulting in a push for women to forget what they had done before and during the war and embrace domestic roles.

In the following sections, this study explores dynamics of gender and space through the experiences of World War I women ambulance drivers, delving into the themes of their personal, social and political contexts.

Early Writing on Women at the Front Lines: Arthur and Helen Gleason

One of the most prolific writers of World War I, Arthur Gleason, spent several years covering the war from a shared residence with the woman ambulance drivers of the Munro Flying Ambulance Corps. Gleason was joined on the front lines by his wife Helen, and together they recounted their interactions with the ambulance drivers in his book *Golden Lads*. He spoke of the Belgian chauffeur who was driving Feilding. The chauffer had to get out while she

> "climbed into the front seat, drove to the dressing station and brought back the wounded . . . I have seen her drive a touring car, carrying six wounded men from Nieuport to Furnes at eight o'clock on a pitch-dark night, no lights allowed over a narrow, muddy road on which the car skidded. She had to thread her way through silent marching troops, turn out for artillery wagons, follow after tired horses. She was not a trained nurse, but, when Dr. Hector Munro was working over a man with a broken

> leg she prepared a splint and held the leg while he set it and bound it" (Gleason 1916, N.P.).

Gleason's account of Feilding's work is one example of how her work was described as challenging as men's war labour. Her performance of her war duties is revealed to be efficient, even during times when danger and uncertainty arose. Gleason clearly admired how Feilding pushed through adversity and displayed strength and competence. Feilding's perceived immunity to danger by the American journalist was related to audiences that included President Theodore Roosevelt at a time when the Americans had not yet entered World War I. Gleason praised her skills very generously:

> Lady [Dorothie's] attitude at a bombardment was that of a child seeing a hailstorm—open-eyed wonder. She was the purest exhibit of careless fearlessness, carrying a buoyancy in danger. Generations of riding to hounds and of big game shooting had educated fear out of her stock. Her ancestors had always faced uncertainty as one of the ingredients of life: they accepted danger in accepting life. The savage accepted fear because he had to. With the English upper class, danger is a fine art, a cult. It is an element in the family honor. One cannot possibly shrink from the test. The English have expressed themselves in sport. People who are good sportsmen are, of course, honorable fighters (Gleason 1916, NP).

It is disturbing, however, that in Gleason's attempt to glorify Feilding, he disparages BIPOC and all those excluded from the upper classes of England. His comments show how race and class were an important part of war ambulance driving. The tone of Gleason's reports was widely repeated throughout America's largest city newspapers. Feilding's work was described as, "…driving motorcars into the firing line to pick up wounded soldiers . . . on occasion pieces of metal discharged by projectiles bursting overhead have smashed Lady Dorothie's car" (Boston Post, 1915). These reports speak to the similarity of narratives used in Britain and the US to draw women into war labour. They are made even more compelling because they come from before the US joined the war effort. In this case, rather than a poster with a fictional woman imploring other women to join one organization or another, these stories were used to soften attitudes toward the war. Unlike accounts of bloodshed and death, reports of an aristocratic woman leading an ambulance team in the line of fire would not frighten people; rather, they had the potential to inspire Americans and create a sense that the Allies were noble and just in their fight. This can be seen in news articles about Feilding, which might even have inspired a sense of competitiveness, resulting in Americans feeling they would need to "step up to the plate" and join the war. In this way, the idea of a "courageous woman under fire" may become something like a siren calling a country to war, encouraging it to prepare soldiers to take risks and be killed or maimed in mass numbers.

Other women on the front lines with the Munro Flying Ambulance Corps included Arthur Gleason's wife, Helen Hayes Gleason, whose accounts provide some nuance and difference in perspective that at times shows more association with domesticity in the women's labour. Helen seems to agree with her husband's accounts of the bravery of the women:

> This war has been a revelation of womanhood. To see one of these cool, friendly creatures, American and English, shove her motor car into shellfire, make her rescue of helpless crippled men, and steam back to safety, is to watch a resourceful and disciplined being. They may be, they are, 'ministering angels', but there is nothing meek in their demeanor". (Gleason 1916, NP).

Gleason also emphasizes the women's immunity to fear, which according to Feilding's account was not wholly accurate.

> They haven't the slightest fear of being killed. Give them a job under bombardment, and they unfold the stretcher, place the pillow and tuck in the blanket, without a quiver of apprehension. That, too, when some of the men are scampering for cover, and ducking chance pellets from the woolly white cloud that breaks overhead. The women will eat their luncheon with relish within three hundred feet of a French battery in full blaze". (Gleason 1916, NP).

The nobility of the women and importance of conveying courageousness appear to be a critical component in media accounts. However, another motivation for this becomes clearer in Gleason's account, as she draws the dangers of women suffragists into comparison with the women ambulance drivers, perhaps subtly implying that both seek more freedom and powers by endangering themselves:

> Just before the war broke out I saw a woman suffragist thrown into a pond of water at Denmark Hill. I saw another mauled and bruised by a crowd of men in Hyde Park. They were the same sort of women as these hundreds at the front, who are affirming a new value. The argument is hotly contended whether women belong in the war zone. Conservative Englishmen deem them a nuisance, and wish them back in London. Meanwhile, they come and stay. English officials tried to send home the three of our women who had been nursing within thirty yards of the trenches at Pervyse. But the King of the Belgians, and Baron de Broqueville, Prime Minister of Belgium, had been watching their work, and refused to move them. (Gleason 1916, NP)

Gleason suggests that suffragettes were scorned in the period just prior to World War I. She raises the issue of women's desire for equality and how it threatens the perceived power of the patriarchal portions of society, namely conservative men. These same men also tried to block Feilding and her party from serving at

the front lines. By tying these ideas together, Gleason is suggesting that the women's work can be linked to the fight for equality that suffragettes were known for. Notably, Gleason is also pointing out that such ideas put the women in physical danger from powerful men who did not want to see women empowered or perceived to be their equal.

However, Helen Gleason's account does not necessarily champion women's empowerment through their war-time labour. Her account is quite different from the letters and diaries of the women who served as ambulance drivers, in that she turns the idea of women on the front lines into a domestic job, but, one temporarily requiring "masculine traits":

> This war gave women one more chance to prove themselves. For the first time in history, a few of us were allowed through the lines to the front trenches. We needed a man's costume, steady masculine nerves, physical strength. But the work itself became the ancient work of woman—nursing suffering, making a home for lonely, hungry, dirty men. This new thrust of womanhood carried her to the heart of war. But, once arriving there, she resumed her old job, and became the nurse and cook and mother to men. Woman has been rebelling against being put into her place by man. But the minute she wins her freedom in the new dramatic setting, she finds expression in the old ways as caretaker and home-maker. Her rebellion

> ceases as soon as she is allowed to share the danger. She is willing to make the fires, carry the water, and do the washing, because she believes the men are in the right, and her labor frees them for putting through their work. (Gleason 1916, NP)

This account is a back pedaling of sorts, where Gleason has gone from first stating that "hundreds" of women were serving at the front lines, to a "few". She appears to try to justify the ambulance driver's work, positioning it as domestic work, for which women are suited. Perhaps this is a result of her account being published in her husband's book, and his ultimate control over the content. Yet, Arthur Gleason seemed to have had no trouble endowing women such as Feilding with the performance of labour that was deemed masculine. This leaves his wife's account somewhat ambiguous. What did she really believe? Was she afraid of publishing words that suggest she personally saw the women as capable of performing the same work as men? Perhaps she worried that to convey that women were empowered and equal to men, might lead to social rejection after World War I.

Helen Gleason was a unique member of the ambulance party who brought some tension into the women's household. She was fictionalized by her husband in his book *Young Hilda at the Wars* which created a significant amount of animosity amongst the women when it was published in 1915, as Chisolm and

Knocker felt that the title implied that Helen (named Hilda in the book) was the leader of the group and performing the majority of the nursing and driving on her own. However, this was not exactly the case, as is seen in the passage below where the group of women were mentioned, albeit not by name, working together.

> Then began for Hilda the most spirited days of her life. They had callers from all the world at seasons when there was quiet in the district. Maxine Elliot, Prince Alexander of Teck, Generals, the Queen of the Belgians, labor leaders—so ran the visiting list. The sorrow that was Belgium had become famous, and this cellar of loyal women in Pervyse was one of the few spots left on Belgium soil where work was being done for the little hunted field army.
>
> The days were filled with care of the hurt, and food for the hungry, and clothing for the dilapidated. And the nights—she knew she would not forget those nights, when the three of them took turns in nursing the wounded men resting on stretchers. The straw would crackle as the sleepers turned. The faint yellow light from the lantern threw shadows on the unconscious faces. And she was glad of the smile of the men in pain, as they received a little comfort. She had never known there was such goodness in human nature. Who was she ever to be impatient again, when these men in extremity could remember to thank her. Here in this worst of

> the evils, this horror of war, men were manifesting a humanity, a consideration, at a higher level than she felt she had ever shown it in happy surroundings in a peaceful land. Hilda won the sense, which was to be of abiding good to her, that at last she had justified her existence. She, too, was now helping to continue that great tradition of human kindness which had made this world a more decent place to live in. No one could any longer say she was only a poor artist in an age of big things. Had not the poor artist, in her own way, served the general welfare, quite as effectively, as if she had projected a new breakfast food, or made a successful marriage. Her fingers, which had not gathered much gold, had at least been found fit to lessen some human misery. In that strength she grew confident (Gleason 28-29).

While the character of Hilda was modeled after her in *Hilda at the Wars*, Helen Gleason also wrote her own account of how she came to be in the war and offered an introduction to the other women with Munro's group in *Golden Lads*. This book also caused consternation from Knocker and Chisolm. Knocker and Chisolm's diaries relate significant anger and resentment about the book, perhaps tinged with jealousy. They felt that they were involved in the field ambulance service earlier and to a greater extent than Gleason. Meanwhile, Feilding did not mention the book, nor any ill feelings about it in her letters. In fact, Feilding related several positive interactions with Helen Gleason. Gleason described

working with Knocker and Chisolm and the dreamlike strangeness of her first days at the front lines.

> I crossed in late September to Ostend as a member of the Hector Munro Ambulance Corps. With us were two women, Elsie Knocker, an English trained nurse, and Mairi Gooden-Chisholm, a Scotch girl. There were a round dozen of us, doctors, chauffeurs, stretcher bearers. Our idea of what was to be required of women at the front was vague. We thought that we ought to know how to ride horseback, so that we could catch the first loose horse that galloped by and climb on him. What we were to do with the wounded wasn't clear, even in our own minds. We bought funny little tents and had tent practice in a vacant yard. The motor drive from Ostend to Ghent was through autumn sunshine and beauty of field flowers. It was like a dream, and the dream continued in Ghent, where we were tumbled into the Flandria Palace Hotel with a suite of rooms and bath, and two convalescing soldiers to care for us. We looked at ourselves and smiled and wondered if this was war. My first work was the commissariat for our corps. (Gleason 1916, NP).

The writing of Arthur and Helen Gleason introduce us to a media perspective of the first women appearing at the front lines to drive ambulances. Such accounts were of great interest to the people who lived in Allied countries.

Both Helen and Arthur Gleason wrote about women ambulance drivers and highlighted their accomplishments, but their perspectives are quite different as a man and a woman. Arthur's writing on Dorothie Feilding portrayed her as a hero, much as his "Hilda" was described. However, Helen spent less time heroizing the experience of women serving in World War I and highlighted the challenges and pitfalls of this work, along with a stronger view of the domestic work involved. Ultimately, media accounts would grow, and they would be enhanced by the first-hand accounts of the woman ambulance drivers. Their diaries and letters would create a record suggesting that women were at the pinnacle of driving skills and public recognition as war heroes during World War I.

The Munro Flying Ambulance Corps 1914-1918

After arriving into the Munro Flying Ambulance Corps, documentation about the work of these women spread through the media. Newspapers corroborate the public side of their labour. Feilding's letters and provided a heightened slant of heroism to her work during the early World War I years; this can be seen in papers such as the Boston Globe describing the inherent peril in ambulance driving, leading to her being decorated with Leopold's Cross, the highest military honour awarded in Belgium, by King Albert. A year later, Fielding was also presented with a military award by the King of England at Windsor Castle (Leicester Evening News 1916). She also received the Croix de

Guerre from France in February 1915. Meanwhile, some of the British newspapers tempered the accounts of her work with how novel the situation was: "The entire Brigade wishes to tender to Lady Dorothie Feilding the assurance of their deep gratitude and admiration. It is regarded in the French forces to be a great honour to be cited in an 'order of the day' for any special act of bravery and it may be regarded as somewhat unprecedented for this compliment to be extended to a woman" (Rugby Advertiser 1915, 43). Despite the aspect of militarization in this account, there were other newspapers which sought to include Feilding's domestic, aristocratic activities: "…Her five o'clock teas among the ruins of Pervyse have become famous and the Belgian officers greatly appreciate this little touch of civilization…she holds her receptions within range of the enemy's artillery for her ladyship possesses astonishing nerves and her coolness seldom deserts her" (Evening Star 1917). The description of a regimented British domestic chore being performed by Feilding reminds the reader that she is a British woman and a member of a class that serves high tea. However, even this act of domesticity is militarized to emphasize her similarity to "masculine heroes" of the front lines with the line pointing out that her tea service occurs close to the front lines during active enemy fire. One might contemplate whether this is a blasé look at death and dismemberment occurring nearby, which portrays the bodies of men at the front lines as expendable and therefore not worthy of too much consideration. The report might be implying that Dorothie is

immune or unconcerned about the suffering occurring in such close proximity—or perhaps it is more of an appeal to her potential for having "masculine" traits that were revered during war, such as nerves of steel. The heroic nature of Feilding's work was widely reported from the time she arrived in Belgium early in World War I, as seen in *The New York Times*, November 1, 1914, where she was featured in a photo spread on the war (below); this is notable since it is a report made prior to America joining the war efforts.

Figure 7. Dorothy Feilding, 1914. The New York Times.

Dorothie Feilding, the second daughter of the Earl and Countess of Denbigh, offers a vivid account of her war duties through her letters home. At the age of twenty-five, she entered a Red Cross Home Nursing program; however, she did not gain enough nursing experience to be sent overseas in that role (Salt Lake City Evening News 1916). She was fluent in French and knew how to drive, and

eventually she went overseas working under the Red Cross Ambulance Service in association with Hector Munro's Flying Ambulance Corp. As one of the first women to arrive at the front lines for this type of work in 1914, Feilding was overseen closely by the Belgian Prime Minister Broqueville. This afforded her more secure housing at some points during the war, housing which was often vacated by fleeing or killed Belgians. Feilding became widely known in newspapers in the United Kingdom and United States as "Lady Dolly" or, by some of her friends, as Dot (Atkinson 2010: 58).

Feilding and many of the other nurses were described differently than nurses working at home, based on a division between the home and western fronts. Words associated with these two spaces included "courageous" and "patriotic" when describing women working at the western front, as seen in the accounts in English newspapers. Their notion of courage is explained as nursing without emotions. "There is a great deal of affectational and emotional nursing going on. It is the constant fear of the professional that his elbow will be jogged at the critical moment by a fainting or weeping amateur, or that she will drop the swabs or spill the water. In France alas! There is elbow room to spare. Nor is the reality of affectional and emotional nursing one of the realities of the battlefield. Women with emotions and affections do not get very near the front." "A Jeanne D'Arc in khaki is French officers description of her". (The Sketch 1914). Like the American accounts, the British news also imply an elevation in Feilding's nursing

work, which is attributed to her performing labour at the front lines while under fire.

A key difference in the accounts is that the American reports appear to focus more on her ambulance driving as a primary activity, while the more conservative British news describes her work as “nursing” rather than driving. This is possibly because the act of driving was somewhat less of a woman’s activity in Britain than it was in America. However, the act of driving and repairing an automobile was not new to the British or North American women who served as ambulance drivers at the front lines, as many of them had been driving and even racing automobiles and motorcycles for years. Much of the prior research on women ambulance drivers during World War I does not recognize that there was a natural progression to this occupation from the earliest days of automobile production. Driving was not wholly a masculine endeavour prior to World War I, as even before 1910, the motor vehicle could be seen as a symbol of escape from the confinements of domesticity. Indeed, much has been written on automobile tourism in the early period which resonates with the use of the automobile to escape the home front for the war front. Erik Cohen suggested that people used the early automobile to “search for experiences” in tourism. It was “the striving of people who have lost their centre and are unable to lead an authentic life at home” (Cohen 1979: 180). The war may have caused a similar disconnection from life at home for the ambulance drivers, many of whom wrote

in their diaries and letters about the thrill and adventure of driving on the front lines. Going to join the war effort meant that they did not have to sit at home and wait for news, they could contribute and help the war efforts. Their place was behind the wheel, experiencing the war. However, driving an ambulance overseas added many other new meanings to women as drivers, as well, and connected them with technology in a variety of ways.

Figure 8. Feilding decorated by King Albert, 1914. Illustrated London News.

Amongst the women drivers, there was some competition and “a bit of jostling for roles, even seats in a vehicle” (Atkinson 68). Atkinson’s account, drawn from the diaries of Feilding’s colleagues, Mairi Chisolm and Elsie Knocker, highlights the beauty of the women of Munro’s Ambulance Corps, depicting them almost as public relations models; they appeared in many publications throughout the United Kingdom and America. While Atkinson highlights the male attention Knocker and Chisolm noted in their diaries, the letters of Feilding do not relate any stories of romance or interest from men up until her marriage in 1917. In other words, the women were all quite different from one another and came to the front lines with unique personalities, ideas, and motivations. While the three were housed together in Pervyse and other locations, these differences may have contributed to some of the tensions that arose from time to time amongst them. Atkinson discusses several cases where the atmosphere between Knocker or Chisolm and the other members of their household grew tense. This went beyond bickering between the women and frequently included frustration, anger, or annoyance at Dr. Hector Munro, who had high ideals for their mission but, perhaps did not always understand how to manage the mission or the various personalities he was working with. After several months at war, Munro’s efforts appeared to be much less appreciated than they were at the outset, and he was considered disorganized by his team of women (Atkinson 78). This matches the accounts from Dorothie’s letters and may have

been the reason Dorothie felt she had to take a leading role a few times when things were muddled from early on. On October 17, 1914, Feilding notes that while based at their initial post in Ghent, the city was taken by the Germans. She describes the chaos the ambulance team found themselves in, noting that she had to "run the whole damn show" (Feilding 13). In addition, Munro's financial intentions in selecting certain women from the hundreds who applied to become ambulance drivers was commented on by Knocker and Chisolm in their diaries. Moreover, Feilding recounts writing home for financial assistance, vehicles, and resources several times, while Atkinson's accounts of the other women's diaries point out that they felt that "Dr. Munro would not reject anyone who could bring a Rolls Royce and several other cars with them" (Atkinson 78).

During her first days on the western front, Feilding tells her mother that she is feeling "safe as houses" and having a great time (Feilding 13). At this early point, Feilding's letters indicate that she feels she has embarked on an exciting adventure, escaping the monotony of domestic life at home; this is similar to the reasons that some working-class men enlisted in the military, seeking adventure and the "opportunity to be paid for the excitement of fighting" (Sibley 2005, 69). However, the woman volunteers were not paid as the men were. Both men and women went overseas without a clear idea of how things would change, what dangers they would face, and how long they would be at war, and Feilding's first letters indicate this quite clearly. As the war ramped up, the content of her letters

changed drastically. By October 7, 1914, she noted that soldiers were dying in large numbers in the trenches, and she concluded that the ambulance team could do more to prevent this if they were allowed to get closer to the front lines to fetch them and bring them back for medical care. This seems to be a turning point, as the fighting comes closer to Ghent where she is stationed and she is about to enter the area of highest risk: the front lines of the Belgian battlefield, where ideas of gender roles begin to diminish as survival becomes of paramount importance and where she will begin to take on more of the ambulance driving herself.

Figure 9. Munro Ambulance Corps/Red Cross vehicle, 1917. Imperial War Museum Collection.

Once Feilding began her fieldwork, the first examples of gendered war labour roles began appearing in the media. Feilding noted that the Belgian doctor who was stationed to work with the group abandoned them at the five-kilometer proximity limit for ambulances: initially the vehicles, owned by the military, were required to come no closer than five kilometers from the front lines. However, she also commented that they were made aware of injured men closer to the front lines and insisted that they went on without the Belgian doctor to retrieve them. She went with one or two others on foot, walking the five kilometers with a stretcher to collect two badly injured soldiers from the riverbank. This sortie presented several challenges: the group had to find the ambulance in the dark and lost their way once; furthermore, the Germans fired on the ambulance once they found it. In her letters home describing the events, Feilding feigned a carefree attitude, noting that they had been safe the whole time because "they [the Germans] hardly ever do much shooting at night here so we weren't in any danger really". The Belgian doctor complained that they had disobeyed orders regarding the five-kilometer limit for ambulances, while Feilding argued that too many soldiers were dying when they simply required medical treatment which would save their lives: "So now we are arranging a new scheme—that we women of the party run the two large ambulances that are kept behind." The group came up with the idea of using "light" cars to get closer to the trenches to collect the injured and bring them back to the ambulances. The cars were to be operated as civilian

vehicles, while the ambulances remained part of the military equipment operated by The Red Cross; this put women such as Dorothie Feilding in both the civilian and military camp, as they drove both vehicles to carry out their work. It was not quite the uphill battle one might expect to gain public acceptance of this arrangement. As Janet Lee explains, "representations of gender in the masculine role of militarized ambulance transport driver-mechanic relied on a number of key social constructs that mediated and ultimately defused the subversive nature of their work" (Lee 2008: 17). Some of these included class as well as the additional freedom and release from accusations of impropriety that were enjoyed by the upper class.

A key aspect of the new social construction of these ideas was the prevalence of a media which used a "patriotic glamourization" to describe the women working on the front lines to their readers. As Feilding noted almost immediately after arriving, media numbers began to grow rapidly in Belgium (Feilding 8). A good example of this occurred only days after she began her work, when the British media began promoting her presence at the front lines: "Among the young Englishwomen who are braving the risks of war almost within the zone of the battlefield, none has shown herself to be more daring than Lady Dorothie Feilding" (Bradford Daily Telegraph 1914). This type of media reporting continued throughout the war, as can be seen in the headline "The Engagement of a War Heroine: Who has been in the firing line ever since the outbreak of the war"

(The Tatler 1917). The Tatler provided a full-page photo of Feilding looking serious and sombre—important traits to the image they were portraying, yet ones that seem at odds with the typical image of an excited, newly-engaged young woman and the assumptions that come with a married woman's domestic roles. The Tatler's article implied that Feilding would be a very different kind of wife due to her ambulance work; and her unique attitudes toward her duties could be seen in her accounts from the earliest days when she struggled with the men working alongside her on the front lines.

On October 10, mere days after the first rescue of the soldiers at the front lines, a positive change occurred for the women. Two more ambulances arrived, and rather than being taken to task for disobeying the five-kilometer order, the women were given permission to work on their own while the Belgian doctors remained at least five kilometers away from the fighting. However, Feilding noted with a touch of disgust that she discovered the men "in a café drinking beer":

> "As our ambulance passed them, I got out with another woman and hauled them out and said we were going to show them where the wounded were. So when we climbed in their car to pilot them in their cars they couldn't in decency refuse to go where women went". The next morning, they had to evacuate from Zelle when the Germans arrived, moving the wounded soldiers who were not in good enough shape to be safely moved and

> relocating them to Ghent. Fighting was going on in the streets around them as they traveled on. The war was ramping up rapidly, and the women got the wounded to Ghent and picked up more wounded soldiers from the fights occurring throughout the day (Feilding 10).

Feilding did display some early fear at this stage, mentioning that she was also picking up wounded German soldiers, which was far more dangerous: "You never know they might fire on you as you pick 'em up" (Feilding 12); in many cases, she stepped aside to allow the men to handle them. She outlined that she did not want to risk being shot while picking up Germans but, did not mind taking the same risk for an Allied soldier. This could be interpreted in two ways: that Feilding was indeed displaying fear, or that she was just being sensible. Her attitude brings to mind the early World War I propaganda materials which were created to entice people into war work; the primary tool to achieve this was to create a narrative of Germans as bloodthirsty violators of women. Feilding's account raises the question of whether her work was impacted by those messages. However, fear was not a subject she discussed frequently. More often, her letters imply that she was calm and steady:

> "As long as one has speed and action, one does not feel frightened. It's sitting still that is most unpleasant"; "Driving through the streets of Dixmude one night it was so hot with the houses burning on each side. I

> just had to drive through as quick as I could. How the tyres did not get cut to blazes by glass or burned by embers, oftener than they did, I cannot understand" (Feilding 22).

Most injured soldiers, except those imminently dying, were sent by train to hospitals away from the front lines. Feilding detailed her concerns for them:

> "Men with fractured legs racked by the jolting, without a stretcher or rug to cover them and shivering with cold in their mud and rain and blood-soaked uniform. Please God—I shall never see men in conditions like that again. It was too awful. If one hasn't just been working day and night and knew everyone was doing all they could to stop matters becoming even worse, it couldn't have been borne" (Feilding 20).

This type of account came up more frequently when the battlefield heated up and the ambulance party had to relocate suddenly, as they did only a few weeks after she arrived in Belgium, when she began to realize that "War is an utterly incomprehensible horror" (Feilding 14). This was a drastic change from her attitude when she first arrived, when she and other women had romanticized the war as an adventure; reality had begun to set in for all of them. Her patience with the Belgian doctor who had "cold feet and funks" whenever something happened caused her a great deal of stress, perhaps attributed to the need to act as a team or entrust your life to a group where everyone was committed to working earnestly.

However, the earlier years were not the worst ones recounted by Feilding. An entirely new and heightened risk would emerge with the introduction of gassing at the front lines. It is in this area where the women began to share the bodily harms of soldiers more prolifically. Feilding wrote to her mother about gassing in 1916, noting that the women had been gassed in their housing, where they had no gas masks: "It's dirty business gas and rather frightening, comes in great foggy waves and makes you cough your head off" (Feilding 206). Additionally, she describes the fear that she felt as she awaited the consequences on her body for a full day: "It didn't work on me until 24 hours after, at about 5 am I couldn't breathe except like a scared rabbit." Fortunately, Feilding came through the experience alive and well, but many did not. Nevertheless, even once she knew about gas and that the bodies of the men she picked up in the ambulance could expose her to the toxins in a second-hand way, she continued with her duties. This is important to note because it raises the issue of sacrifice, and perhaps points to one of the reasons why the ambulance drivers were so highly revered. Particularly once gassing became a regular danger for them, they chose to carry and nurse the bodies of victims which were still exuding the substance and infecting them, as Feilding described above. The soldiers themselves had no such choice, not knowing when a gas attack might occur; however, they were armed with gas masks, while the women initially were not.

Feilding's letters wind down late in the war when her engagement to an officer is announced. When Feilding gets married, she refers to her wedding as a funeral and the wedding ceremony as a cremation, despite proclaiming her love for her husband (Feilding 117-118). This is a rejection of the domestic life expected of married women and an expression of the loss of the independence and adventure she experienced through her service as an ambulance driver on the front lines. Her outlook on life appears to change at this time in many ways, including her ideas about patriotism at home, which she sees as quite different than how it felt when she was on the front lines:

> The shreds of beauty that the war brought out are like a gleam of gold in all the darkness and sorrow of the grim realities out there. The mentality of the country here at home and the corruption of politics and on all sides are very sad to see; war is, I suppose, sent as a purifier of the world but the longer it goes on the more all the sordidness of 'powers that be' at home and live only to pull the strings for their own ends drown the heroism and self-sacrifice of fighting men . . . oh Mother darling, I have seen so much of it that fears for the future haunt me as much as sorrows we have met already. (Feilding 221)

To understand the politics that Feilding might be referring to, the words of Theodore Roosevelt, President of the United States of America, can be recalled

from Arthur Gleason's book *Golden Lads.* His words provide an enlightening example as Roosevelt writes:

> "The proceeds from the sale of this book are to be used for a charity in which every intelligent American feels a personal interest. The training of maimed soldiers in suitable trades is making possible the reconstruction of an entire nation. It is work carried on by citizens of the neutral nations. The cause itself is so admirable that it deserves wide support. It gives an outlet for the ethical feelings of our people, feelings that have been unnaturally dammed for nearly two years by the cold and timid policy of our Government" (Gleason 1916, NP).

On the surface, Roosevelt's words might appear to be innocuous, inspiring, and even compassionate. However, there is no mention of the need of so many women to support their families in this situation, nor of women's sacrifices in war-time labour. Rather, it is focused on the training of the maimed soldiers, men who were otherwise owed a pension: the capitalist bill coming due, and women having to foot the bill. The number of injured soldiers was staggering in the United Kingdom and in America, and the self-interest that Feilding referred to in Britain was quite the same on both sides of the Atlantic. Women such as herself, with employment rooted in private industry and not the public service of the military or government, were not given pensions and were expected to step

aside from their employment to ensure jobs for men, particularly those who would otherwise have to live off government pensions.

Elsie Knocker and Mairi Chisolm

Elisa Knocker and Mairi Chrisholm's diaries also show the important path that brought them to the Munro Flying Ambulance Corps. They provide a unique perspective of their experience of serving with Munro. Their thoughts and ideas focus on areas that are not covered by Gleason's short account of women at the front lines in her husband's book, nor in Feilding's letters. Knocker and Chisolm took a different approach with their first-hand accounts, focusing primarily on their personal and social concerns and providing insight into what they valued as well as how they viewed themselves and their roles in the war.

The personal accounts of the women of the Munro Ambulance Corps offer compelling examples of how gender transformed during wartime. Not only are their diaries and letters evidence of the work performed by women like Feilding, but they also show how new meanings were created for women's labour.

Knocker and Chisolm were both avid motorcyclists and met prior to World War I in 1912 at a motorcycle meet in England. Both women were involved in competitive auto and motorcycle racing. When war broke out in 1914, they went to London together and joined the Women's Emergency Corps, where they were hired as dispatch drivers due to their unique driving experience. They started out

delivering messages around the city (Atkinson 11). During this time, when Hector Munro was preparing the ambulance corps in London, he saw Chisholm making a delivery. Her driving skills impressed him, and he stopped her to ask if she would be interested in joining the Flying Ambulance Corps. Chisholm shared their conversation with Knocker, and together they signed up to go to Belgium as nurses and ambulance drivers (Atkinson 2010, 4). However, like Feilding, they did not have enough training to be brought on as full nurses and would serve as nurse's aides. Their situation was somewhat different from Feilding, who entered primarily as a driver and assisted in lighter nursing duties less frequently.

The women had different life experiences and ideas than Dorothie Feilding, bringing additional interests and skills to the front lines. Knocker was a thirty-one-year-old divorcée and was nicknamed 'the Gypsy" due to her membership in the Gypsy Motorcycle Club and love of traveling (Atkinson 10). She was an orphan who was adopted into a medical and military family which influenced her interests and was trained as a chef; each of these elements contributed to the skills she drew on in the war (Atkinson 22). She had been married to an accountant ten years older than herself, who became very violent and threw her out of their home when she was two months pregnant. She returned to her adoptive parents and gave birth to her son, who stayed with them while she went away to war (Atkinson 27).

Knocker's time in Belgium began with a love interest. She quickly met a Belgian officer, George Suetens, and much of her diary relates her strong feelings for him (Atkinson 60). From her accounts, the attention of men was something she enjoyed considerably and was perhaps a motivator of her work. In addition to traveling, she seemed to value being thought of as adventurous and heroic by others and became quite upset when that did not happen. She was also a very big influence on the young, eighteen-year-old Mairi Chisolm.

All three women came from a more economically advantaged family, although Chisolm and Knocker did not have the great wealth Feilding enjoyed. However, their families had provided them with enough money to afford some luxuries. Chisolm's father purchased her a motorcycle for her competitions, and she learned how to do her own repairs, as mechanics were in short supply at this early technological stage of the motorcycle (Atkinson 10-11). Overall, there was a sense that the wealthier women had more to offer when it came to working with automobile technology. Newspapers spell this out rather clearly at times during the early years of World War I, as they reported on the work of the Munro Ambulance Corps. "Women of a humbler position might render equally valuable service, but, without means they cannot go out and organise an efficient ambulance service. They are obliged to volunteer for some recognized service or remain at home" (West Gippsland Gazette 1915, 3). Some of this would change later on in the conflict as the need for more ambulances and nurses opened the

doors that socio-economic position normally kept shut, particularly in the larger organizations.

Another mark of the socioeconomic commonality amongst the early ambulance drivers was their sense of adventure upon traveling to Belgium. Just as Feilding described her arrival with excitement in her letters to her mother, so did Chisolm and Knocker emphasize a view that almost comes across as a description of leisure travel in their diaries. Reality did not sink in prior to their leaving home or immediately upon their arrival; in fact, Chisolm describes having her hair done at salons in Ghent just days before the war arrived in that city, changing everything and bringing reality crashing in (Atkinson 60). Their sense of adventure did not entirely desert them, as they went on to do their work, however it was tempered by the discomforts and tensions of living in close quarters.

Notably, none of the women seem to relay that they felt they were going to be in any danger prior to beginning ambulance work, but, all of them claimed they would be ready if danger came and could withstand a great deal of personal risk. Another similarity in the women's accounts to Feilding's is the story of the Belgian doctor who left them to feign for themselves four kilometers away from the front lines. Like Feilding, Knocker details the hike to the river Schelde to retrieve a Major and Private while under fire in the dark (Atkinson 62). Clearly the women were not expecting the Belgian doctor to refuse to go closer to the

front lines, and they all seemed to view him as somewhat a weak character for his actions. They also relay a similar sense of being "courageous" and "strong" for the sake of others, namely the men injured and dying in the trenches. While Feilding relays a stronger sense of patriotic duty and her notes are more practical, Knocker and Chisolm focus more on their intimate feelings and emotions.

Chisolm's account provides a very different understanding of how fear and trauma from the horrors of war impacted her: "The sounds of blades being driven into men's innards haunted Mairi for years" (Atkinson 66). In fact, she seemed to take regular trips back home for breaks. Like the account of the soldier comparing Feilding to Jeanne d'Arc, Chisolm finds exactly the same comparison being made of herself when she returns to spend time in London with her mother. Her arrival causes quite a stir, as she is clad in dirty breeches and carrying a lance from the war, and she relates in her diary that she too "was likened to 'Joan of Arc', winning the hearts of London" (Atkinson 80).

The diaries of Knocker and Chisolm seem to end abruptly in late January and March 1915, a little more than a year after they arrived on the front lines. This sudden halt in diary recordings occurs for unknown reasons. The break in writing does occur around the time that Feilding received the French Croix de Guerre, which may have precipitated some emotions amongst the group. After a year, in 1916, Chisolm begins writing again and notes that "some unpleasantness" had

occurred which revolved around accounts in a French newspaper of Feilding being in charge of the camp at Pervyse, which seem to have upset Knocker and Chisolm (Atkinson 115). The newspaper accounts found in both America and England do seem to suggest the same thing, which may have divided the group. This again highlights the tensions and rivalries between the women, as well as their interest in how they were depicted in media. The media attention was considerable, as Feilding noted, and all the women appeared to have become an inspiration to people at home. However, this may have opened the opportunity for the government to use the media accounts of the women's stories to recruit soldiers. None of the women mention being aware of this during the time they were overseas; however, as noted above, Feilding did talk about politics and being disenchanted once she came to realize that things were not quite as she thought.

Figure 10. Two women ambulance drivers at Pervyse, 1917. Imperial War Museum.

It is also interesting to consider the different roles these three women had, or at least the way they seem to view or portray themselves in relation to their tasks. While Feilding clearly considered herself a driver first and foremost and one who went right to the front lines to retrieve the wounded, Chisolm and Knocker seem to view their nursing skills as the primary reason for their involvement at the front lines, although they did drive ambulances and emergency vehicles as well. This different emphasis on the importance of driving could be

quite significant to how they felt their gender roles should be perceived to operate within propriety. Feilding, as a member of the upper class and British Peerage appears to place more importance on technology and her understanding and relationships to it. As such, perhaps Feilding found that propriety was better performed by not talking about her emotions or personal feelings very much in her letters. Instead, she focused on subjects that displayed her education, something that was valued and expected of women of her station more than it was for women of the middle class. Whatever the case, the three women did eventually seem to separate into different units and domiciles later in the war.

Chisolm and Knocker remained part of the Munro Ambulance Corps; however, they were only allowed to remain working with the 3rd Division of the Belgian Military and needed to fund their work themselves. The Nairnshore Telegraph printed their story and asked readers to help fund them, which worked for a few weeks (Atkinson 133-134). Feilding also wrote home asking for resources. However, she did not characterize this as a thing she was required to do but rather as something she had thought of doing on her own. Nevertheless, the other women seemed to be resentful of having to find funding and work to stay at the front lines. Knocker did have some success in the fundraising endeavours when she returned to England and raised enough money to bring back a 75 hp Mercedes (Atkinson 138). However, she and Mairi still did not have adequate funds without pleading for financial assistance in the media.

In some ways, this need to raise funds seems like an implication that Knocker and Chisolm were meeting some form of resistance to working at the front lines. Indeed, Chisolm's letters finally point rather angrily to a person she nicknames "the snake" who she claims was trying to interfere with their work and particularly stop Knocker from working at the front lines once she married. Knocker had become engaged to a Belgian officer who was stationed along the front, and the women both note that it was not permitted for a wife to remain at the front lines with her husband, which was the source of concern for Knocker continuing her work. They also both relate being reminded that they were part of the Red Cross Ambulance group and therefore subject to the rules put forth with the group (Atkinson 138). Over time, this seemed to break down their resolve to serve, and eventually the women drifted apart into different locations and married or returned to the United Kingdom.

The experiences related above by the women of the Munro Flying Ambulance Corps show that they had a strong knowledge of the automobile. Their interest and skills were made apparent in these recollections, from Dorothie Feilding's descriptions of driving at high speed over rutted roads as bombs fell around her, to Elsie Knocker and Mairi Chisolm's diaries describing their motorcycle driving experiences which brought them to the attention of Munro in London. These associations with technology demonstrate that women's pre-World War I associations with the automobile were elevated during the war, to a point

where they saw themselves as the equal of the soldiers and men who performed other duties around them on the front lines. Their stories also suggest that being on the front lines, and sharing the danger with men working there was a large part of why they felt a sense of equality and confidence in their skills. Perhaps these feelings became even more heightened when the chemical warfare period of World War I began, and personal risk was at an all-time high for them.

Chemical Warfare Begins

In the first years of World War I, described above by the Gleasons, Feilding, Chisolm and Knocker, gas was not yet being used and therefore was not a central concern as women were deployed to the front lines. However, that changed by 1917 when gassing became one of the greatest menaces in the war chest of both the Central Powers and Allies. World War I is often considered to be a war of chemists because it was the first major conflict when toxic substances were produced in mass amounts and impacted tens of thousands of soldiers from around the world (US National Archives 2011). The Hague Declaration of 1899 and Hague Convention of 1907 both forbade poisonous substances from being developed and deployed (Vagts 2000: 32). However, despite this, it occurred during World War I, killing nearly 100,000 soldiers. Chlorine, phosgene, and mustard were the primary gases produced and served to endanger the health and

lives not only of soldiers serving on the front lines, but also of the workers producing them in factories at home. Chlorine gas was readily available, as it was a by-product of dyes used in textile manufacturing (Jacobs and Kovac 2020: 8). The German military's chemical warfare scientist, Fritz Haber, was the first to develop the diatomic gas, chlorine for use as a weapon. Its impact was eventually minimized, as it was easy to spot in the field due to its pale green colour and identify further by the taste of pineapple and pepper. The first major instance of chemical warfare occurred when the Germans released 160 tons of chlorine as a weapon against French troops in Ypres, Belgium, in April 1915 (Patton, No Date). It killed 1100 and wounded another 4000 soldiers. While chlorine was deadly, it lacked the secondary dangers of latter forms of gas and was mitigated by improved respirators and soldiers' ability to cover their mouths with water-soaked rags to prevent the chlorine from being inhaled. Since it was water-soluble, it was also dispersed by wind and rain and disappeared completely in those conditions.

Phosgene was developed later in the year and used again in Belgium by December 1915. This gas was more deadly and poisonous than chlorine, impacting the lungs and causing edema and suffocation. The effects were not felt for up to 48 hours, leaving soldiers and medical personnel in a state of anxiety as they waited for symptoms to emerge. The gas that was much more terrifying and emblematic of World War I was referred to as the "King of Gases": mustard gas, which was a desiccant. It was developed by the Germans and introduced in the

same location as chlorine, Ypres, in July 1917. It caused blistering on contact and was much more deadly not only due to the initial impacts, but, also because it persisted, laying dormant in ditches and on the fabric of soldiers' uniforms. A slow-action gas, mustard could take up to three days to kill, the effect coming suddenly on the victim well after being exposed (Cook 1999, 119-120). Gassed areas could remain lethal for long periods of time, so that even if fighting had ceased, the shells had an effect similar to land mines, resulting in soldiers being terrified to move through such areas for fear of disturbing the mustard shells and becoming ill or dying. Mustard gas was just as dangerous when disturbed or inhaled second-hand as it was when initially deployed, and this in turn could impact others exposed to the soldier during transport to healthcare centers: "Because of the volatility of mustard gas, a single gassed soldier could contaminate medical personnel, the ambulance, and other patients" (Fitzgerald 2008, np). Since mustard gas was new, military leaders and medical personnel had no training on how to deal with it, let alone understand the ramifications of the danger it presented when it was first being deployed. The Canadian military was the first to start a gas school to train troops, followed shortly after by the British. After some time, it became clear that while respirators could protect the lungs and face, other areas of the body were left vulnerable. This was the environment that ambulance drivers and medical personnel found themselves in by the summer of 1917. One Canadian soldier wrote home, explaining the dangers of mustard gas to

his wife: "You can absorb it through your skin by rubbing your clothes with your hands, in fact, any old way. It seems to be made so you can get gassed without the least possible trouble on your part" (Cook 1999, 123). Second-hand absorption of mustard gas from the patient's body and clothing meant that the ambulance drivers and medical personnel would share the ill effects. By sharing the effects of gassing, the women were sharing the dangers of the battlefield. This put them on equal footing with soldiers.

By 1917, the fighting in the trenches had reached a stalement which was alleviated by the introduction of chemical warfare. For the woman ambulance drivers and nurses, chemical warfare meant that the war became much more challenging, expanding in scope into areas that would require new strategies for carrying out their work safely. In general, gassing impacted the medical field because it "fueled the invention of techniques required to treat injuries" (Jacobs and Kovac 2020: 8). However, it also resulted in larger numbers of soldiers requiring transport and more nurses treating patients for lengthier periods. Treatment centers would keep the soldiers for at least sixty days if they were exposed to chlorine, or forty-five days if exposed to phosgene. During this time, patients needed oxygen and rest in order to recuperate before they returned to the front lines. (Jacobs and Kovac 2020: 8). The work of nurses and ambulance drivers entered an intense and exhausting stage as the numbers of soldiers needing

their assistance increased. Accounts of their service show the strain they were under in this period.

Kate Luard and the British Expeditionary Force, 1915-1918

In the decades prior to World War I, professional nursing schools were located on both sides of the Atlantic in Edinburgh, London, Philadelphia, Baltimore, and New York. Organizations such as Queen Alexandra's Imperial Military Nursing Service utilized these trained nurses. While QAIMNS was officially formed in 1902, their traditions go back to Florence Nightingale's work in the Crimean War in 1854. Initially, only upper-class, single women aged 25-35 were allowed to join the group; however, due to the size and magnitude of World War I, the organization opened its ranks to married and working-class women. Their ranks swelled from 300 nurses prior to the war to 10,000 by the end of it. This organization was much larger than the tiny Munro Flying Ambulance Corps and suffered larger casualties: over 200 nurses were killed overseas in the conflict (National Army Museum, NP).

Kate Luard of the QUAIMS working under the British Expeditionary Force, detailed the horrors and impacts of the gassing. She arrived at the front lines in France around the same time as the Munro Flying Ambulance Corps arrived in Belgium and was one of the most prolific members of the QAIMNS. She came to World War I with two years' experience from the Boer War of 1900–

1902 (Hallett 2016, 102). Like Dorothie Feilding, Luard had brothers serving overseas with the British military, and was also one of the first women permitted to serve overseas—albeit as a nurse, while Feilding was considered an ambulance driver and nursing assistant. Luard's father was a clergyman and provided his daughter with a good education, which was unusual for the time and prepared her well for her formal nursing training later. In 1915, Luard had already published her own memoir, a series of letters about her professional experience titled *Diary of a Nursing Sister on the Western Front*. Notably, she talked a great deal about entering the front as a nurse in the ambulance train, stating "Every man or woman stuck at the Base dreams of getting to the front but only one in a hundred gets the dream fulfilled" (Anonymous 1915, 88). Like the other women from the Munro Flying Ambulance Corps, Luard expresses the desire for adventure at the outset of the war. However, her words are much franker than those of the others, providing a darker look at the events that occurred around her. Her intention, according to Hallett, was to heroize the wounded (Hallett 105). This is quite different than the motivations of the other letters and diaries from the Munro Flying Ambulance Corps, focusing more on the men than on the work of the women. Yet, Luard's accounts go much further to describe the work of the nurses in the QAIMNS and those around them.

For example, Luard's letters detail the training she and the other nurses underwent as mustard gas attacks were beginning in Ypres where they were

stationed. In addition to referring numerous times to the constant fear of "Fritz" (Fritz Haber) and his "sausage balloons" which spied or delivered gas attacks, Kate provides insight into how women were trained for the attacks and coped during bombardment; she gives a vivid account of the events that highlighted how the women were truly integrated with the soldiers on the front lines, experienced losses of their own during attacks, and completed their work while under duress. Luard is perhaps the only woman to give a full description of the mustard gas attacks which do not minimize any of their horror:

> "The C.O. has been explaining to the new Sisters . . . which noise means a burst beyond you and which means a burst on your right or left and that the one that does you in you don't hear. We have been dished out gas-helmets and tin-hats" (Luard 2017, 175).

As explained above, the letters Luard wrote in 1917 from Ypres highlight moments that were turning points in history, particularly the use of chemical weapons which impacted men and women serving on the front lines before they even understood how deadly some of the gases were.

> We have had a Gas Drill tonight from an Irish M.O. . . .it is a beastly job and rather complicated and has to be done in six seconds to be any good: we all take about six minutes! The signal to put on the box helmets comes from the C.O.'s whistle and a loud hospital gong. Some grandmothers (15

> inch guns) on each side of us are splitting the air and rocking the huts and everything but the Field Gun drumfire which hasn't begun yet is joining in. Fritz is sending his over too, with an ugly whang. The illumination is brighter than any lightning: dazzling and beautiful. Their new blinding gas is known as mustard-oil gas—it burns your eyes. Sounds jolly, doesn't it? And comes over in shells. I wonder how many hundreds or thousands have only four more hours to live—and know it? (Luard 2017, 179)

Eventually, many more nurses were sent over to join Luard at QAIMNS bases in France and work in some of the most horrific battlefields of World War I. Unlike the accounts of Feilding, Knocker, and Chisolm, Luard did not shy away from stating the sounds, sights, and smells that were experienced in the war theater, nor did she underplay or minimise the loss of life and danger that personnel worked under. When she uses the name Fritz over and over to describe the aggressor arriving from the skies, Allied soldiers and governments would have understood that the nickname came from Fritz Haber and emphasized the terror his chemical warfare wrought: "He dropped bombs on the Field Ambulance beside us, and killed an orderly and wounded others" (Luard 199). There was a shared fear of this German chemist from the Allied camps, seen in newspapers perhaps as a way of marking who was to blame for the horrors the nurses witnessed and lived through and mark that these battles were different from those of the past before mustard gas was used: "They let us through and then dropped up behind and

before us and cut us to pieces with machine-guns. Gas-shelling going on heavily too. Officers and men say it is the bloodiest of battles" (Luard 200).

In her diary, Luard frequently describes the many soldiers and officials she worked with at the front lines, usually in great appreciation for being provided with safe and even "cozy" housing by her standards. However, she does not fail to mark the moments where loss of life was greater than on other days and how it impacted the women working with her on the front lines:

"August 22, this has been a very bad day. Big shells began coming over about 10 a.m. one nurse between one of our wards . . . and killed a Night Sister . . . and knocked three others out with concussion and shell shock. The piece went through her from back to front near her heart. She was only conscious a few minutes and only lived twenty minutes" (Luard 206-207).

Luard's account highlights another important aspect of the gassing of women at the front lines compared to that of men: the fact that it occurred in a "protected space", the private sphere domicile of the nuns. The nurses who were hit by shells and gas attacks were primarily located inside buildings, a domestic space thought to be safe for them while at the front lines. This is similar to the second-hand gassing of the woman ambulance drivers while they were transporting bodies; the drivers were exposed to gas that lingered on the clothing and hair of the soldiers who had been attacked on the battlefield. Thus, they too

were gassed, but, in an interior, private space. This marks a difference between how men and women were impacted by chemical warfare in World War I. Men were shelled and gassed while on the battlefields and in trenches in the largest numbers, although certainly convoys were attacked also. They were targeted for attack in public spaces where the enemy could kill or wound the most men, perhaps due to some associations of glory and victory that occurs when seeing the numbers of dead soldiers. However, the women serving at the front lines as ambulance drivers and nurses were attacked inside hospitals alongside dying soldiers, in their camps, and inside their ambulances. These are places which were not visible to the attacker and where the bodies of injured or dead women were therefore unknown to them; they were spaces that were considered safe for women to serve, and yet they were not invulnerable. Additionally, as Luard points out, the enemy was aware of the location of hospitals and camps, as they had maps showing these. Luard's account is frank and detailed, even regarding the most horrific events.

Luard's accounts offer a different perspective than those of the women of the Munro Flying Ambulance Corps. Her motivation to elevate the sacrifice of allied soldiers also highlights her own patriotism in ways that cannot be found in the accounts of other women, who were perhaps stung by the fact that they were never permitted to work officially under the British military as Luard was in conjunction with the British Expeditionary Force. Luard did not have to locate

funding for her own ambulances and equipment, either, which may help to explain why she did not work as closely with the media as Feilding, Knocker, and Chisolm who wanted word of their work and needs to reach the ears that could help them financially. She may have felt more restricted from working with the media due to her official status within the military which had its own public relations teams in place; this may also explain why she published her 1915 diary anonymously and why she was willing to detail more of the gruesome events occurring around her than the women who depended on giving a filtered account so as not to raise alarm which might cause them to be removed from their positions at the front lines. This is somewhat like the women war correspondents of the period who did not fail to offer frank accounts of the events. While there are certainly similarities between the women's accounts, the differences provide a great deal more insight into what each unit had to contend with to perform their duties. Luard also demonstrates that the women ambulance drivers could be seen as being very similar to the military. The structure behind her group was much more substantial and organized than the Munro Flying Ambulance Corps. Her words, being more forthright when it came to detailing death, are also more similar to soldier's accounts and war correspondents than to the other women ambulance groups, owing to her organization's official association with the British military.

In contrast, Dorothie Feilding does not go into such detail in her letters, possibly because they were written to her mother and she likely would have wished to spare her from the horrors of war and avoid causing too much distress by worrying her. Horrifying details could result in an anxious parent summoning her home, and she indicated that she felt it was imperative that she remain. Feilding does describe the coughing from gas while driving her ambulance numerous times in her letters, but never in a way that acknowledges how sharing gassing with a patient made her a victim of gassing as well. The proximity to the gassed male bodies and sharing of the gassing experience brings the woman ambulance drivers directly into the trenches and into the fight in ways that their former actions of picking up the shelled and felled did not. In a way, this brought the trenches into the interior of the ambulance, making the vehicle part of the battlefield. In this state, it was no longer a protected space, isolated from the fighting outside. When this transformation inside the ambulance occurred, gender roles were neutralized because the women were in control of the ambulance and everything within it. The normal divisions of wartime labour were turned upside-down in this specific moment and place in time. The change also occurred in a moving location: the interior of an ambulance where a woman with driving skills could ignore the oppressive socially constructed ideas regarding the risks she should take with her body.

Figure 11. Soldiers lined up for medical transport after gassing. Possibly a woman ambulance driver behind, top left. Date unknown.

First Aide Nursing Yeomanry 1916-1918

Woman ambulance drivers came to the front lines of World War I from various organizations, including the First Aid Nursing Yeomanry (FANY), who were stationed in France rather than Belgium. "First World War FANY were white British (or white British Commonwealth-born) women between the ages of 17 and 35 years old who created a relatively homogeneous organization in terms of national identity, class, and age. Most were single women, although married women did join the corps" (Lee 2008, 17). One difference was the homogeneity amongst the group compared to the Munro Ambulance Corps in which the women came from distinctive backgrounds, were different in age and in their perspectives, as were the women in the QAIMNS as they began serving in World War I. Another, perhaps more significant distinction between the groups was that

the FANY women were associated with both the nursing profession as well as ambulance driving. This distinction of the FANY as ambulance drivers was important because “nurses’ ambitions clashed awkwardly with deep-seated Victorian inhibitions about exposing feminine virtue to the brutalities of war” (Lee 2008, 17). While, as Lee points out the role of the ambulance driver may have encouraged ambition as well, it may also have been considered the safer of the two associations. Like the QAIMNS, the FANY was reliant on an official relationship with the British government and military who were much slower to accept women in roles near the front lines than the French or Belgians were: “British authorities, anxious to keep women out of militarized roles, rejected the FANY offer of service at the beginning of the war and only accepted it in 1916 after lengthy negotiations” (Lee 2008, 23). However, the British military did eventually concede and allowed the FANY to serve at the front lines, as they did with QAIMNS.

Grace MacDougall was one of the most vocal women of the FANY who openly reject gendered ideas of service and driving. While working in Calais, France, she tried to get on one of the trains reserved for troops and was told women were not allowed aboard; MacDougall proclaimed that she “wasn’t a woman, but a FANY” and got on the train (Lee 2017, 119). This proclamation challenged norms of the period, and the very existence of the FANY emphasized that new ideas were required and would be instituted by the group, regardless of

any resistance. Serving as nurses and ambulance drivers was a natural extension of the driving capabilities women had been promoting to other women for nearly a decade before World War I. Dorothy Levitt's book and instructional magazine articles in the years 1905–1909 were very influential and encouraged many wealthy British women to drive and repair their own vehicles when the technology was still very new and not necessarily male-gendered. In 1915, MacDougall helped to write a proposal to the British Army to allow the FANY to serve as ambulance drivers, which was rejected on three grounds: 1) the idea had no precedent, 2) it might cause a scandal, and 3) women were not as disciplined as men (Lee 2017, 120). Since the FANY had already served in other battles and women had been serving in the same role since 1914, the FANY made a strong written argument in reply. They emphasized that they were educated women—in other words, women of a certain class—who were above reproach. They also explained that "Having been themselves in the firing line, and having witnessed the horrors of warfare, the FANY do <u>not</u> ask the War Office to send them into the line of fire, but they do most earnestly urge that they be extensively employed at the Base Towns." This statement, along with reminders that the FANY had trained under military supervision, answered the concern about women's military discipline, providing proof that the British Army's critique was groundless (Lee 2017, 121). Nevertheless, the Army was unmoved by the response of the FANY and declined their offer of service. MacDougall simply waited, reconnecting with

several friends in the military and asking for their support. The British Army eventually gave in in December of 1915.

The FANY furthered, rather than challenged, ideas about women and automobile technology. Many members had driven automobiles prior to joining the organization. While Lee feels that women cranking an engine or mending a tyre would have been scandalous, it was not really that unusual, as women's driving manuals championed this task nearly a decade prior to World War I. Automobile manufacturers certainly developed electric starters with the woman driver in mind, as many advertisements can attest, and a safe car was a major priority (Bailey 2016). However, Lee is correct in her proposal that the FANY women were "breaking new ground and venturing into male space" (Lee 2017, 132); having begun their military transport work with horses, the organization had switched to automobiles for World War I. Given the heavy death toll and chemical warfare present, it was a wise decision, and likely a natural one, made at a time when automobiles were being developed to suit women. Were the FANY participating in a masculine activity, or would it be more accurate to suggest that they were performing a type of recognized women's labour within a male venue of artillery and fighting?

Perhaps more significant is the type of vehicle the FANY were permitted to drive: an extremely large, armoured military vehicle. As Lee notes, the FANY

drove the Army nurses from the front lines to base camps. A significant factor here is that one of them, Beryl Hutchinson, regularly drove the Army's Wolseley Lorrie to do it: "It seems she caused a bit of a stir as no woman had driven such a vehicle before. Hutchinson reported that for the next month a procession of 'Geraniums' or 'Red Flannel' (senior British military officers) came to Calais to see the extraordinary sight of a woman driving such an Army vehicle" (Lee 2017, 136). This was when the true unprecedented driving activity occurred, so much so that it became an attraction for British officers serving in the region. But, why? What made this driving activity so different from ambulance driving that officers would travel a distance to see the FANY operating an armoured vehicle? I propose that the reason is that this Wolseley armoured vehicle was an important military resource. It was very large, heavy, and unwieldly, particularly for this period when few vehicles of this size existed; it was also very unlike the automobiles that were being produced for woman drivers and the light cars and ambulances being driven, which were mainly converted cars. In the case of the Wolseley, the woman driving had the vehicle's size, weight, and complex setup to contend with. Larger vehicles had been a huge attraction in the motor racing world when Fiat, Renault, and Mercedes raced ones that were five feet or more in height (Bailey 2014), drawing hundreds of thousands to some races. However, a massive vehicle which was associated with the military and covered with the same materials used to

build armoured cars was an extremely rare sight, and possibly something that not only thrilled but, also terrified the military men who witnessed it.

Figure 12. Wolseley lorry. Date unknown.

When Hutchinson drove this vehicle and military men lined up to watch, it turned her labour into a spectacle of sorts, and perhaps brought traditional ideas of men's and women's roles into question. Only a few years earlier, American race car driver Joan Cuneo found herself in a similar position, having thousands of men turning out to see her race while at the same time having to fight racing sanctioning bodies for the right to race against men. It seems that while people were interested in women's driving efforts, organizations challenged the appropriateness of the activity. This was based mostly on a skewed sense of

gendered power where organizations run by influential men feared the idea of women proficiently performing activities that they hoped to see men flourishing at. This is mirrored in the initial reticence of the British Army to allow the FANY to work with them in an official capacity on the front lines, a place they viewed as a male domain. Meanwhile, the Belgian and French authorities were much quicker to accept the help of women at the front lines in the role of ambulance drivers and nurses. However, it should be noted that it was quite rare for Belgian or French women to fill those roles; thus, it is possible that they only accepted this arrangement if the women filling these roles were from other nations rather than their own, who perhaps lived by a different set of rules and expectations, not unlike the British perspective. Of the Allied groups, only the Americans seemed keen to send their own women overseas to serve near the battlefield, although Canadian women were accepted as ambulance drivers and nurses through British organizations.

The idea that driving was a masculine activity was not as firmly entrenched in British society as some accounts report. Afterall, Queen Alexandra had been driving since 1901, Dorothy Levitt was publishing instructional articles for women drivers from 1905 onward, and women such as Levitt, Knocker, and Chisolm were permitted to enter car and automobile races before the war, which they frequently won in front of large cheering audiences. On top of that, there were technologies such as electric starters developed with the women drivers in

mind. Resistance to woman drivers seems to be more prevalent in military circles, particularly the British Army. This might imply that the military was more invested in promoting a connection between ideas of male power and the struggle to hold onto some forms of superiority. It may also have been connected to the public relations narratives created by the military to recruit soldiers, namely the need for men to enlist to protect women who were portrayed as helpless and vulnerable. The FANY did eventually overcome the objections and its members served as ambulance drivers and nurses on the western front, as they had proposed. But why would the FANY want to work with the British Army at all? Perhaps, as Lee suggests, their desire to be endorsed by the military was rooted in their class allegiances and traditions (Lee 2017, 125). Moreover, while the idea of male dominance was cherished by the British Army, it was not so firmly entrenched that a few well-placed voices championing the FANY could not overcome such views, at least temporarily. There is also the notion that the ambulance may have been viewed as a domestic space because caregiving could occur within the vehicle and its purpose was to move bodies to places where they could be healed. This idea is also supported by the difference noted when Beryl Hutchinson of the FANY drove the Wolseley Lorrie, a vehicle with a military purpose rather than a domestic one. A woman driving the Wolseley aroused curiosity to such an extent that it indicates it was viewed as something very

unusual, a spectacle, whereas the driving of ambulances did not evoke this response, indicating normalization.

However, ideologies about women's technology skills would change when World War I ended, and the widespread change occurred rather quickly. After the war, there was no longer a need to recruit, reward, or applaud women for their work; instead, they came to present a threat to employment for the men returning from war. The erasing of any sign of the former glorification of women's labour at the front lines occurred fairly rapidly, perhaps fueled by different values of the public sphere work of the military soldier and the private sphere labour of women working for private organizations or in more domestic-oriented industries, such as nursing. The fears of what may become of women who worked in any form of automobile labour, let alone overseas, was expressed by Beauchamp in 1919, shortly after the war ended: "The uncongenial atmosphere of the garage, yard, and workshops," as well as the "alien companionship of mechanics and chauffeur" were seen as likely to cause serious damage to a woman in terms of her "mental outlook" and would not only rob her of feminine charm but, worse still, would "instill into her mind bitterness that will eat from her heart all capacity for joy, steal away her youth, and deprive her of the colour and sunlight of life" (Beauchamp 1919, 156-7). This view being published such a short time after the work of women ambulance drivers was so lauded is an early sign that women were suddenly being distanced from the associations they had built for more than

a decade with the automobile. Worse, the account comes from a woman of influence, who was writing to audiences of other women. It signaled that efforts were beginning to push women back toward domestic life and rewrite the history they had made at the front lines driving ambulances. Yet, the experiences of the FANY that are described above tell us that women ambulance drivers on a second front were displaying the same bravery and skill working at the front lines as the women of the Munro Flying Ambulance Corps in Belgium. Meanwhile, a closer look at the tasks they carried out will provide even more insight.

Women's Rescue and Care of Injured Men's Bodies

The proximity and handling of men's bodies by woman ambulance drivers and nurses at the front lines created a change in ideas about gender powers. While the women's stories often highlight a pragmatic description of the jobs they did and their surroundings at the front lines, their work with men's bodies should also be considered in terms of ideologies about bodies, gender and how they transformed in [imagined] spaces. The space where armed conflict occurred was singular in the effects it had on soldiers. When men left the home front for World War I, part of the justification for soldiers to enter the battle was the presumption of their physical strength and endurance. The public relations narratives enticing men to conscription included themes that those who went into battle would prove

they were strong, heroic, and patriotic. Accounts such as Arthur Gleason's book *Golden Lads* provide vivid examples of this:

> "They are happy soldiers—happy in their brief life, with its flash of daring, and happy in their death. It is still sweet to die for one's country, and that at no far-flung outpost over the seas and sands, but just at the home border" (Gleason 79).

The idea of strength and heroism is reversed when the soldier's bodies were damaged and "weakened" by cannonballs, shells, bullets from rifles, bayonets, gassing, and shellshock. The environment of the battlefield, particularly the trenches, was very unexpected and therefore shocking to men arriving at the front lines. The trenches were no more than filthy, damp holes in the ground, full of vermin and disease. Soldiers were trapped in these spaces with the extreme noise of artillery sounding off around them, often while they were forced to watch other men in their units suffering from injuries and shellshock. To compound this environment, they had no physical or emotional freedom to move about or show their fear and suffering; military command structures denied soldiers such liberty. Large numbers of men were badly injured, which was when the woman ambulance drivers entered the battlefield environment as they attempted to retrieve and treat them. In some ways, this can be viewed as a transference of the power over the soldier's bodies. Prior to injury, the men were under the control of

their military command structure which decided where they would fight, eat, sleep, and perform every bodily function. However, after serious injury occurred and the ambulance drivers arrived, the soldiers' bodies were taken over by the women and the power over them was transferred to the medical team.

These various aspects of transferred powers over the bodies caused a temporary change in ideas of the woman's body and power. In some respects, the woman ambulance driver/nurse replaced the military commander, taking charge of the soldier's body and making new decisions for how he would be handled, transported, and treated. This occurred primarily within the ambulance or near the battlefield in medical treatment areas or hospitals. Therefore, the woman's body at the front lines went through the opposite process to the men: the women entered the war arena in a state of perceived weakness and inferiority that they had to disprove. The ideas of their weakness were partly the result of earlier advertising for enlistment which enticed men into war under the pretext that they needed to protect helpless women from being harmed by the enemy. A good example of this is the series of Rape of Belgium propaganda. "Stories of women being ravaged, breasts being cut off and children's hands being amputated were widespread and depicted the German enemy as inhuman and impossible to negotiate a ceasefire with. The truth of these atrocities is difficult to ascertain but these horror scenarios nevertheless played an essential role in the construction of German atrocities for propaganda purposes" (The world of the Hapsburgs 2023).   We also

see that the ambulance drivers behaved very differently when they first arrived in Belgium, where they stayed in hotels and considered the entire mission to be a great adventure while shopping and having their hair done in salons. Once their service began and they were removed from their luxurious accommodations, they experienced something closer to what the men on the front lines lived through. They were moved to the edges of the battlefield to live in abandoned buildings which had been shelled. Once there, we see their discourse begin to reflect a different set of values as they came to understand what the trenches entailed for soldiers and what they truly faced in their mission to move men's bodies out of this environment and attempt to heal them or get them to hospitals.

The accounts in newspapers which outline these activities point out a new idea about women that was not part of the pre-World War I narrative. The awarding of medals for valour indicates the strength of the women in ways that is similar to the soldier and this suggests that the space of the battlefield and the ability to move injured bodies out of harm's way changed the way that the women were perceived. This remained quite unique to the women on the front lines and was far removed from the norms of how women were perceived back home. However, because this change occurred in various places and amongst different units of ambulance drivers in France and Belgium, it is not quite an "othering" of just a few women. Furthermore, since media reported widely on their work and portrayed their strength and heroism quite liberally, the idea of the strength of the

women at the front lines became quite widespread in the United Kingdom and North America. However, time limited this change in attitude to a narrow period, and the strength suddenly attributed to the women could not be assumed to live beyond the war years. Perhaps in some ways this was why Dorothie Feilding lamented getting married and leaving the battlefield when the war ended; Elsie Knocker struggled similarly when she was to be married. Harm, injury, and mutilation of the soldiers' bodies created new ways of thinking of men's bodies while endowing women's bodies with strength and heroic associations of their capabilities when using transportation technology on the front lines. Therefore, the different actions of men and women on the battlefield temporarily inverted ideas of gender and strength in this setting while such actions were occurring.

The other major reason that men and women's labour at the front lines was viewed differently was the division of labour between public entities, such as official and direct roles in the military and government and roles where individuals worked for private organizations that were not under the direct control of the two institutions. This distinction allowed governments to evade being financially responsible for paying pensions to any who served in the war under a private organization. However, it also created a gendered idea where men's labour was valued more highly than women's, even in spaces where both faced exactly the same amount of risk of bodily harm and had the common goal of protecting the homeland. While this may not have been noticed or felt while the war was in

progress, upon the return home, some of the women who served at the front lines remarked on how saddened they were when ideas changed, and their work overseas became viewed in a negative light. This was a manufactured response: governments, unions, and organizations supporting veterans worked overtime to reverse the idea that women were quite proficient behind the wheel, under the hood, at the front lines, and of course working with machinery in factories.

The Militarized Woman in the Ambulance Space

The act of driving an ambulance contributed largely to ideas of the militarized woman participating in war activities on the front lines in Belgium and France. It was not solely their ability to steer, brake, navigate roads, or repair vehicles that pushed women into the role of wartime drivers; what propelled them into what people at that time considered a "masculine military role" was the place they inhabited. In the geographic location along the front lines, they were sharing the experience of being under artillery fire with soldiers while driving and removing injured male bodies from the trenches of Belgium and France. As Feilding recounted: "Yesterday quite a strafe up at N, a powerful lot of noise but luckily very little result" (Hallam 2010, 188). Moreover, the interior of a motor vehicle is another space with both real and imagined meanings that contributed to these new ideas about women's military work.

The interior of the ambulance and the automobile had much in common. Both moved people and cargo from one location to another, and the chosen design was based on individual needs. Like the fully enclosed car, the interior of the ambulance was associated with the private sphere. Users frequently customized this space, although these changes were largely unseen by those looking at the vehicles from the outside as they moved over public roads. Tinkering was done to both automobile and ambulance, which "allowed motor travelers to not only redesign the car but, at the same time, to re-negotiate their cultural identities and their relationship to the public space in terms of gender and technical expertise" (Franz 2005: 3). We see a strong example of this re-negotiation in the women ambulance drivers and how they designed and used their vehicles to transport injured bodies. Ambulances in Belgium and France were quite varied in their style, and both men and women at the front lines participated in creating the interior that worked best for their uses, with some carrying multiple soldiers, stacked above each other on racks, and others carrying only two or three patients. Very few had a hard exterior that offered protection from the elements and mortar fire. The majority were covered in fabric, sometimes bearing inspirational messages intended for the injured men being transported, wishing them good health. In some cases, the drivers could separate themselves from the men by pulling down a cloth divider. The vehicle was very much like a large car, with a hand gear and brake system, and the women carried a spare tire strapped to the

side of the vehicle in case they needed a repair. This is somewhat like the first fully enclosed cars which were built about five years before the start of World War I; in addition to providing shelter from inclement weather and safety from a variety of perils, these vehicles offered new social experiences—such as allowing people to hear one another speak—as well as a way to avoid the dirt of the road. Women, in particular, found new ways to use the interior: it became a place where one could warm a baby bottle, store their personal belongings and purchases, or touch up their cosmetics. The interior of the ambulance offered similar opportunities for nursing, as it was just as much a private space as that of the automobile. This malleability was perhaps due to the variability of ambulance types, ranging from trams running on rails across the front lines which carried two bodies, wagons lined with nothing but straw, ambulance trains and of course the smaller motorized ambulances driven by woman ambulance drivers (Haller Jr. 2011, 152-153). Ideas could be shared between these types, and the drivers and their colleagues could retrofit as needed to perform different work at different times.

While we can understand the uses and arrangement of the various forms of ambulance that were used, it is important to note that the women drivers discussed in these pages did not describe their vehicles in their accounts. The reasons for this lack of engaging in descriptive writing about the ambulances could indeed be quite dark. Afterall, the images we look at are often of empty ambulances, or

ambulances waiting to be put into service after having been cleaned from prior uses. During their use they would have held bodies that were maimed, that bled within the interior, left pieces of rotting flesh behind and smelled of death. The ambulance while at work, carrying bodies was a morbid site. The fact that the women do not discuss these aspects tells us quite a lot about how disturbing they were. It also reminds us that communicating something so grisly in writing might have had negative consequences, possibly stopping the womens' missions on the front lines. The images we see are quite sanitized, and if we look at photos of the remaining ambulances in museum exhibits, such as the Museo Storico in Italy, we are seeing an ambulance that is clean, restored and looking perfect. The images and objects we are able to view do not convey the horrors of what those objects did, nor how that impacted the women driving them or the occupants. The truth of how these interiors felt during their most tragic sorties is perhaps the ultimately private space, hidden even from the accounts of those who shared moments within their spaces.

The motor ambulance was unique because it traveled through or across public roads and spaces actively in dispute of national ownership. Passing through such areas or being in close proximity to the battlefield presented mortal and moral dangers. Unknown dangers of a location created a dichotomy of sorts, contributing to the blurring of lines between the spheres. The same blurring of private and public spheres occurred as the British began to fear an invasion

bringing the battlefield to the home, and the ideas of spatial division were threatened. Ideas of gender “norms” are associated with these spheres and can differ based on what objects and activities are occurring within a given space, such as an ambulance. In this case, the presence of weaponry in the area where women drove meant that there was great risk in travelling through this space. The battlefield provided the threat of bodily harm to both occupants of the ambulance, regardless of gender. Therefore, the women were at the same risk as front-line soldiers, which created new discursive ideas of women in “masculine” heroic narratives. The Evening Star reported on Dorothie Feilding’s work in an article titled *Heroic Dorothie Feilding*, which described how “Belgian soldiers worship the young English aristocrat, who for their sakes, has set aside the comforts of a ducal home to face the dangers of the battlefield” (Evening Star 1917).

There was also an accompanying confusion when women were frequently mistaken for soldiers while wearing their ambulance uniforms. “In the case of the FANY Corps working for the Belgians, Officers rank will be denoted by one or two stars of the Belgian pattern on the lapel of the coat and NCO’s by stripes on the cuff” (Popham 2005, 39). These similarities in the FANY military uniform, which displayed rank according to the Belgian military arrangement, changed how people saw and interacted with the women, eventually accepting them as front-line personnel and thus opening the door just a crack to the possibility of a gender neutrality on the front lines via the ambulance. Additionally, the titles used

by the FANY imply a military connection and proficiency with automobile technology. For example, Mary Baxter-Ellis joined the FANY in April 1917 as Corporal Mechanic, a title implying both military structure and mechanical leadership (Lee 2017, 163). The FANY also insisted on retaining their military uniform after the war, as they strove to continue to be seen as a competent force, rather than as woman volunteers. “This insistence in the Corps uniqueness and individuality led later to charges of snobbishness and arrogance; but within the context of the period, it was no different from the sense of being members of an élite which was felt by army officers who had been sent to Sandhurst” (Popham 2005, 48). The FANY members were arranged in a structure that relayed their power and autonomy. They did not want to be viewed in terms of their gender, but as competent, independent and dedicated to their cause. Perhaps, assuming that those who belonged to this organization were gender free entities, associated only with being a FANY.

Figure 13: Grace MacDougall in FANY uniform 1915, Imperial War Museum.

Perhaps what was even more of a potential gender neutralizer in the World War I setting was when the women ambulance drivers transported the bodies of men gassed and, due to the lingering nature of the toxin, were gassed themselves. This situation put women in a similar situation to men serving side by side in the trenches and is worth deeper consideration. The women knew they would be gassed second-hand, while the soldiers did not. Many earlier accounts of World War I describe these dangers and the physical suffering of the women. The ambulance drivers were, therefore, just as willing as soldiers to risk their lives for their country and for their military. "Lady Dorothie is attached to an ambulance party in Belgium whose duty consists of driving motorcars into the firing line to pick up the wounded . . . daily she moves amongst the worst horrors of war and

frequently escapes death by a hair's breadth" (The Evening telegram 1915, 7). While the media had reported this in many accounts in Britain and North American during the war, such accounts would not be repeated after the war when governments and unions prioritized men's labour and pushed women out of jobs to make more opportunities for men, thus devaluing women's contributions and skills.

Conclusion

World War I broke out amid an era of progressivism in women's labour, which was disrupted by massive shifts in people's perceptions of gender and work under the influence of powerful coercions. These coercions came in the form of propaganda created by Allied countries' war offices, which were designed to entice and threaten men and women into certain roles that changed at different points of World War I, namely the entry, inter-war years, and post-war period. British and American war propaganda materials provide a timeline of the tactics employed to change people's ideas and values to suit government and military needs for women in war labour in the inter-war years. These massive perceptional shifts came in rapid succession, bringing diametrically opposing ideas about women's work to people living in Allied nations in a few short years.

The propaganda materials that were circulated at post offices and town halls consisted largely of posters, some of which were reproduced in newspapers

and magazines. As noted shortly after World War I in Baron Ponsonby's *Falsehood in Wartime* (1928), there was a deliberate use of psychological manipulation in these materials. War offices knew they must spread propaganda materials far and wide, and continuously to achieve their goal of coercing men to enlist and women to take up factory jobs. A variety of themes were used in these materials, which included concepts of duty and shame, appeals to masculinity, and threat.

In Britain, posters circulated appealing to men's masculinity, as protectors of women and children. The threat of peril was a key component of this. First, by not enlisting, men were warned that they were adding to the peril of their own soldiers who had gone to serve and needed their help to achieve victory. The second type was the peril to women which threatened that if the Germans won the war, that British women could be subjected to rape and mutilation, as the Bryce Report described. Only men enlisting and fighting the Germans in Belgium and France could prevent such a horror. Women were used in even more diabolical ways to manipulate men into enlisting, including in the White Feather Campaign. Admiral Charles Penrose Fitzgerald charged the women of Folkestone, England to hand out white feathers of cowardice to men who did not enlist. Together, these coercions helped Allied governments recruit an enormous "volunteer" military force. In America, which entered World War I later, additional narratives were employed using women. The Christy Girls propaganda posters provided a

seductive device to entice rather than threaten men into enlisting. Men who enlisted were subtly promised sexual favours or the promise of adoration of women through these materials.

Perhaps the most horrific, was the visual horror of war, intended to frighten men into enlisting. Films allowed people to see rape being played out in front of their eyes. The scenes from *Hearts of the World* by D.W. Griffith instilled a fear and loathing of Germans. This film depicted women being sexually assaulted and beaten by German soldiers. It was created with the intention of manipulating Americans into embracing and entering World War I and was very successful in doing so. However, men and women arrived in the war theaters of Europe, impacts would be felt from the coercions that placed them there, and new ideas would arise as a result.

The new ideas about labour roles that emerged in the inter-war years were a major outcome. As women from the United Kingdom and North America served at various front lines of World War I as ambulance drivers, they provided a service for which their pre-war driving and maintenance experience had prepared them. In many cases, particularly those of the first women responding to conduct such operations in Belgium, their experiences were well documented and spread by media on both sides of the Atlantic; this resulted in changing ideas about women's capabilities with automobile technology in connection with a

temporarily anointed militarization of these workers. However, this only occurred when they were close to or within the front lines and while performing their roles in the interior of the ambulance. These spaces allowed the woman ambulance driver to challenge the ideas of feminine weakness which had been firmly set up to entice men into conscription.

At the front lines, these women used their skills in automobile driving and nursing to help save lives and thus began to be seen as heroes, not unlike the soldiers fighting. This valorization of militarized women was a temporary tool of national propaganda, which created new ideas of the private sphere and women's place within it, while subtly shifting ideas about the public sphere also. The public and private spheres overlapped and blurred in the spaces of the western front and the interior of the ambulance, allowing women to perform duties which were formerly denied to them. Moreover, it is notable that it was the Belgian and French militaries that first allowed such opportunities in their countries; the British Army initially refused and remained steadfast that it was inappropriate for women to serve at the western front for several years. In part, it was due to the structure and power of organizations that this began to change. Organizations such as the Munro Flying Ambulance Corps the First Aid Nursing Yeomanry, and British Expeditionary Force under Queen Alexandra provided a path for women to serve overseas as ambulance drivers and nurses. These organizations helped to cloak their gender and provided an imaginary safety net from the battlefield;

however, this was merely an imaginary idea that helped the military and citizens at home accept women in these roles overseas. The media were only too happy to write glowing reports of the women, outlining the danger they were in and heroizing their work while cementing these ideas by printing photos of them being decorated with war medals by national leaders. Yet, these photos and stories hid the darker truth of bloodied bodies and death found within the ambulance interior during the women's missions. This sanitization of the woman ambulance driver's sorties was a necessity as it kept the public onboard with having women working at the front lines.

Many of these women took the time to record their daily experiences and the operations carried out in diaries and letters, which provide a wealth of knowledge of how they lived, what dangers they faced, and how they felt about the many things happening around them. Their accounts are quite different from one another, particularly amongst the three primary groups—the Munro Flying Ambulance Corps, the British Expeditionary Force, and the FANY—the members of which served in various locations around Belgium and France at different points of World War I. This suggests that a more widespread idea of women's capabilities was taking hold in different places, amongst different groups of women from different countries and diverse backgrounds. Kate Luard's account was somewhat different in that it offered much more detail of the severity of injuries and horrors of gassing, as she strove to illustrate the heroism of the

soldiers she treated. She published her account anonymously, perhaps due to military restrictions associated with the British Expeditionary Force. In contrast, Feilding, Knocker, and Chisolm kept darker descriptions out of their letters and diaries, perhaps as they had to worry about losing their funding or being sent home if the British public knew the true extent of the danger they were in.

Yet, even with these differences, all the women experienced some degree of acceptance as capable drivers, gratitude for their service, and acknowledgement that they faced mortal danger as they assisted in the war effort. While the women from these groups came from the upper middle class or higher socioeconomic stations, what was unique amongst them was their personalities, outlooks, and motivations. Lady Dorothie Feilding, perhaps the most conservative of the earliest group of women to serve in Belgium, provided a set of letters that detail her experience from the beginning of World War I to its end; they also describe her emotions in the post-war years when she felt her work was dismissed and women were beginning to be rejected from many of their hard-fought roles. Meanwhile, Elsie Knocker and Mairi Chisolm's diaries show very different concerns and motivations. These women, who had been involved in racing prior to the war, wanted more of the adventure, risk, and attention they had enjoyed back home. Nevertheless, these differences did not change the fact that all the women were put on a pedestal by the media, resulting in new ideas of women's capabilities amongst larger audiences. The FANY provides another nuance to the role of

woman ambulance drivers in that they tried to emphasize that they were drivers in addition to being nurses. This was in part due to the backlash their members felt against women in the nursing profession, which was still relatively new. This was perhaps not felt as deeply by the QAIMNS members under the protective name of Queen Alexandra and with the association of the British Expeditionary Force. Grace MacDougall of the FANY wrote prolifically about her experiences, particularly highlighting the reactions to her driving the military Wolseley lorry. The description of high-ranking British officers traveling to see a woman driving this vehicle underline that something significant and unusual was occurring that caused excitement and interest among military men. How they would process these events after World War I may be a key part in understanding why women were pushed away from such occupations so vehemently in the post-war years.

When the women from these groups drove an ambulance or provided medical care at the front lines, they changed the idea of domestic work into a new form of “militarized women’s labour”. This was not simply because they could operate and repair the vehicles; militarization occurred in large part because the women were often in mortal danger or under fire. The space they inhabited within the ambulance became part of the battlefield when they were fired upon, or when gases from the bodies and clothing of the soldiers permeated the air of the ambulance. The women shared the same danger soldiers did when they were near the battlefield or experiencing artillery fire. Thus, the interior of the ambulance

and the battlefield locales became a "space" with real and imagined meanings of gendered military labour. The interior also became a space where the women were traumatized, and thus injured by the shared war experience occurring in this space.

A critical component in this analysis of the uniquely gendered labour of the woman ambulance drivers was to also consider the injured male bodies that were discovered on the front lines, transported, and treated, if possible. World War I was a unique time in the formation of ideas about wounded and disabled men's bodies, where the risks and sacrifices of war helped to create new socially constructed ideas. The value of the male body which underwent the rigors of war was elevated out of a sense of patriotic gratitude and promoted by governments and military organizations. This is underscored by the many recorded words of the women, who frequently claimed it was their duty to try to save or salve these patriotic injured men. The connection between their own militarization and portrayal as courageous patriots making sacrifices equal to men could not have occurred without the valorization of military sacrifice and endurance of war wounds that mark such sacrifice. While the large number of wounded and disabled men brought about new social constructions in this area, they also required mediation by governments which would have to pay for the injuries or deaths incurred during World War I. This meant that capitalist objectives became intimately tied to war injuries and linked to one's capacity to be economically

productive (Withers 2016, 30). The women driving ambulances and nursing at the front lines were ultimately supporting governments by reducing the financial burden when they were able to help the men heal. Their presence and the widespread media reports of their courageous acts trying to save men told the public that their government valued soldiers, understood their risk and sacrifice, and were doing everything possible to heal them, including putting these extraordinary women on the front lines to save as many as possible. Three countries —England, France, and Belgium—recognized the importance of this message and awarded the women with the highest honours they could. However, the idea of their heroism would be dismissed after the war ended, and ideas surrounding the male body were the tool that allowed this to occur.

When men first enlisted, they did so in association with a public relations narrative that they had superior physical strength and needed to protect women who were physically and emotionally weak and therefore vulnerable if the enemy should attack. However, this idea of strength was turned upside-down when large numbers of soldiers suffered life-altering and catastrophic injuries from the heavy artillery and gas used in the war. In an injured state, the soldiers were deemed weak and had no physical or mental freedom over their own bodies; instead, their command structure controlled every aspect of their lives. Meanwhile, the woman ambulance drivers were empowered with ideas of physical and mental strength as they carried out their duties at the front lines and within the ambulance's interior.

This transference of power from the suddenly weakened man to the empowered woman is a significant symbol of the ambulance drivers' and nurses' equality to men. It also elevated these women temporarily to the status of military commander, as they took control of the injured soldier's body and decided where he would go and how he would be treated. However, any equalization the women felt, or hoped would continue in the future, was erased when World War I ended. The associations of women and their capabilities with the automobile, which had been built from the pre-World War I era and continued throughout the war years when women were needed to perform the transportation labour they were qualified for, would soon be reversed. A rewriting of women's history with transportation technology resulted from the high-handed efforts of governments, unions, and veterans' groups who had a powerful and fickle media machine at their disposal.

PART THREE:

DOROTHÉE THE VISIONARY:

The Post-War Creation of a Gendered Analytic in Automobile Use and Production

Introduction

Part Three of this study examines women's aspirations in automobile use and production — and how they were crushed — through our final Dorothée: the visionary who wished to lead women into automobile engineering education and careers in the United Kingdom. Like the first two Dorothies, Dorothée Pullinger raced cars and was keenly interested in their design. Her interest started when her father, Charles Pullinger hired her as a draftsperson for the Arrol-Johnston firm (Clarsen 2003: 334). She impressed the management of the company so much that her father, who had at first been adamantly opposed to her undertaking this type of work, came to feel that perhaps women could play a much larger role in other factories. When the Tongland factory was opened after the start of World War I to produce munitions, Pullinger set up a women's engineering school nearby to train them, with the intention of eventually creating an all-woman engineering workforce comprising of educated women who were interested in automobile technology. She started the Women's Engineering Society in Britain in 1919 and was inducted into the Institution of Automobile Engineers in 1921

due to her work during World War I, heading the Vickers automobile factory (Heald 2020: 96).

Pullinger is the visionary Dorothée that many technically inclined women in Great Britain hoped would lead them to a future where they could become engineers and technicians (The Autocar 1917: NP). As a woman engineer and natural leader, she was selected to become the Chief Executive Officer of the Galloway Autoworks in Tongland, Scotland after it ceased wartime production. The factory employed a nearly all-woman workforce and trained women for engineering in a school nearby. Pullinger's story highlights the final World War I period, which began with high hopes by many women that they would continue to work in factories and expand their studies in areas such as engineering.

The Galloway factory's journals, *The Spanner* (1918) and *The Limit* (1919), illustrate the hopes as well as the challenges of the women engineers in Tongland. While the earlier journal, *The Spanner,* which was produced in 1918, contains many positive and hopeful accounts from the women working in the factory, the journal was short-lived. The reason given for its demise was that the paper needed to print the journal should be rationed during wartime. Editors of the journal published their opinion of being asked to shut down the journal. They did not feel it had anything to do with rationing paper, and instead indicated that forces existed that wanted to stop the efforts to showcase women's factory work

in a positive light. Ultimately, the Galloway Auto Works started a new journal, and titled it *The Limit*, indicating that the title was intended to mock those who felt that women working to become engineers and run a factory building cars surpassed "the limits" of decency. *The Limit* went on to produce a bimonthly journal for almost a year, peppered with stories about women's successes in the factory. However, shadowy undertones also crept into the publication in the announcements sections, where accounts were given of women leaving the factory to return to domestic life, because it was their "duty." Long editorials and testimonials decried the efforts to squelch women's aspirations to become automobile engineers. They also spoke with increasing frequency of the local efforts to remove women from the factory in favour of giving jobs to soldiers returning from war. This is very ironic, particularly given that women had been serving on the front lines while under fire driving ambulances. How could it be that in just a year or two, their heroic actions would be forgotten and swept under the carpet? Sadly, the same governments and unions which had previously touted women's capabilities attempted to ignore their contributions and the dangers they had faced in their war work. It was in these early post-World War I years that government and union need came into conflict with ideas of women's continuing or expanding their opportunities in the world of automobile production. As a result, women were suddenly removed from factory jobs, and disabused of their ideas of using and working with technologies such as the automobile.

A lengthy passage from 1919 issue of *The Limit* detailed the hopes of the woman engineers at the Galloway Autoworks.

> The future of women in engineering is a problem of enormous interest to we who are being initiated into the profession at Tongland – yes, one of vital interest. So many difficulties present themselves as we ponder over the words – "Are we to have a future in engineering?" "How are we to overcome the almost antagonistic feeling of the men's Unions towards us?" "Are we mentally and physically capable?" and "Are we trying to prove our capabilities?"
>
> Why should we not have a future in engineering? There will, as soon as the inevitable period of transition from production of war materials to that of ordinary commercial goods is over, be work enough, aye and to spare, for every machine in the country. And there will not be enough skilled men enough to man the machines. Are we to be denied the right to fill the gaps, and assist our country not only in its work of reconstructions, but in its stupendous struggle to recover its place (in the world's trade) temporarily lost through war? None of us wants to keep a man out of work, but we must live.
>
> Before women were allowed to practice in the medical world objections were raised by the other sex. Every difficulty was put in their way. Their

mental power was questioned; their powers of physical endurance was questioned; every excuse was made so that men might monopolise that noble profession. How did they break down all the barriers put in their way? This was before the days of women's suffrage, and they could not look for help from this source. Theirs was but to plod on methodically and prove slowly but very surely to their objectors that they could and would make efficient doctors and surgeons. And one need not discuss the results of their labours. Is it not up to us to labour on also for our rights in our chosen profession?

The question of mental and physical capability is a little difficult, particularly the latter aspect. There is absolutely no doubt about it that woman has the brain-power if she is keenly interested in her work, and harnesses her brain and attention to it. She must make herself thoroughly realise that to become efficient and successful at any branch of engineering her thoughts must be centred on her work. Otherwise some of its various details will be missed, and success allows no "over-looking." To allow her attention to be divided between her work and anything else – be it the latest fashion or the newest dance, a novel, or an interesting flirtation – is fatal, and full of disaster to her being able to prove her power of concentration and mental capacity.

Difficulties crop up from a physical point of view, but there are ways and means of overcoming many of these. Her powers of endurance need no further proof than the knowledge of the long and strenuous day in the life of a nurse. There is abundance of light mechanical work of which she is entirely capable, from a physical point of view, of setting up, machining, or fitting quite unaided, and her more delicate touch goes a long way to overcome the difficulties of intricacy and fineness required. No master would call for a woman to undertake work requiring physical strain equal to a man's, and a fellow-workman who would calmly stand and watch women lifting heavy loads does not deserve the name of "man." Such a man is one of those who is endeavouring to close the door to the woman engineer. Let me not be misunderstood, for a woman who will not attempt to help herself to the utmost safety limit is not doing her best to fit herself and prove herself fit for the profession.

And we at Tongland must and will prove to all that there must be a future for us – that we are capable. Our interest will increase, showing itself not only in the careful attention to our own particular job, but in our inquisitive watching in its various stages of development up to its final fitting into position, be it engine, pump, or whatever the contract is. All jealousy and unhealthy rivalry must cease, for the success of our cause is not furthered by any selfish secreting of the ways and means by which

> another might benefit. We must continue, sharing one another's successes, and benefiting by one another's mistakes. Thus, alone can we win the confidence of our employers and instructors, and not only that, but the respect from a business aspect of those men who work among us and who are ever ready to criticise. (*The Limit* 1919, 8).

The letter above indicates that courage, optimism, and tenacity were traits valued and displayed by the woman workers of the Arrol-Johnston-turned-Galloway factory of Tongland, Scotland. This is something observed in various forms of women's labour in the World War I era. When personal accounts such as the letter above are viewed along with public relations materials, much is revealed about how the war introduced forms of coerced labour which impacted women's associations with technology. The Galloway factory's journals, *The Spanner* and *The Limit*, offer many examples of the common values discussed above, while highlighting how the women were attempting to keep their dreams of a world with women automobile engineers alive in the post-World War I era. However, the valorization of these traits in men and women was part of a larger theme of war propaganda. These journals were a part of this insomuch as they attempted to sway workers and the British public that the work of women engineers at the factory should be embraced. During the course of this propaganda, at times, some of these words were disseminated overtly through text, whereas at other occasions, they were subtly suggested in actions through illustration. The goal of

all of these materials, whether they originated from the factory journals or the British and American governments and military propaganda posters, was to coerce men and women into wartime labour. This propaganda succeeded in influencing the key narratives in the public and private sphere, and driving women, in particular, toward its ideals in the home, the workplace, the community, the nation, and even the church. It should be no surprise that the woman workers of the Galloway factory were not immune to the advertisement of these ideals as is evident from the letter in *The Limit.* However, the undertones of affrontery and exasperation of the workers found in later issues of *The Limit* display a deviation from these popularized norms, as if the women of the factory could not quite understand why their past achievements had been forgotten or were simply not good enough to assure them a permanent place in the engineering world.

The letter that begins this chapter highlights the conundrum that the Galloway women faced and how it relates to a larger understanding of the distancing of women and technology labour and use in the post-World War I years, ultimately seeking to understand precisely what occurred. At first, women's confidence in terms of their capabilities in technology production was raised to unprecedented levels; however, later it was forced to come crashing back down to a point where they were forced to fight for jobs that they should have been fully entitled to keep. Many women were left as the sole providers after a war that killed over seventeen million men: their fathers, brothers, husbands, and sons

(Grayzel 1999, 2–3). As a result, women needed income just as much as men returning home from the war. So, why was this rallying cry to keep jobs at Tongland necessary? Why were the economic needs of women ignored and put second to those of men? What had women done before and during the war that demonstrated a difference in how their work was viewed and valued?

The answers to the questions concerning changed value in women's labour lie in the coercions performed on women before, during, and after World War I. These took many forms, including the socially constructed idea of duty to the nation that forced both men and women into their wartime roles, which would ultimately leave lasting consequences. When women such as those working in Tongland resisted and strove to keep their jobs, keeping an eye on the future growth of women's industrial labour, veterans' groups and labour unions responded with threats. Women were subjected to intimidation and were enticed by ideas of traditional values and post-war male healing into leaving their jobs so that men could replace them. Each of these coercions was underpinned by those with the deepest pockets and powers of the time: federal governments and labour unions who had longstanding but, clandestine agreements from the pre-war era to remove women from their jobs and give those jobs back to returning soldiers after the war. Governments also partnered with charitable organizations that had their own powerful public relations machines which provided them with great influence through the use of the popular guise of altruism. This pairing of

government and an altruistic appeal was particularly virulent and unrecognized by the masses for what it was: coercion that would cement a gendered labour standard in technology fields for a century or more.

Two forms of coercion were at work in the World War I era, significantly impacting the automobile labour setting for the women at the Tongland factory. These forms are described by Michael Gorr in his article *Toward a Theory of Coercion* (1986). The first, he says, is the form that would "entice someone by means of an especially enticing offer" (Gorr 1986, 384); in this case, women were enticed to enter a technology labour setting where a hidden capitalist agenda to avoid unionized labour lurked behind the touted benefits. This put the women workers in an unforeseen situation as they entered the factory workforce. They were unknowingly put in conflict with male workers who were unionized and/or away at war. The second form of coercion, referred to by Gorr as coercion of "threat," was a product of the first type of coercion and fulfilled the opposite goal. Threats were used after World War I ended to coerce women out of their factory jobs, with the hidden objective of alleviating government spending on war pensions. Several groups, including veterans' organizations, actively contributed to this coercion of threat to women workers as it suited their own financial interests. These coercions were so prevalent that they drastically thwarted the progressive ideas that had begun to take root before the war. While coercive

propaganda emerged in many forms to disrupt women's labour in North America and the United Kingdom, it was especially prevalent in technology industries.

The two primary forms of coercion considered in this chapter are strongly related to one another. They operate in a "pull-and-push" manner. The "pull" represents enticing someone into a labour setting, while the "push" can be equated to forcefully pushing them back out of the same position. These forces are demonstrated in the following case study on the labour of the Arrol-Johnston factory of Kirkcudbright, Scotland from 1915 to 1925. The factory was designed to eventually become an automobile plant with an all-woman or nearly all-woman workforce. However, initially, most supervisors who trained the women were men. The factory's leadership hoped that it would become a model for women in technology engineering and help spread the notion of women as an alternative labour force across the United Kingdom. However, during World War I, like most factories, the Arrol-Johnston plant was built to produce war products—to be specific, aircraft parts. Later, it would produce farm tractor parts before finally reaching its zenith as an automobile factory, where women would attend classes in production methods while working in the factory to become engineers. Accordingly, the factory was eventually named the Arrol-Johnston Galloway Car Works.

During the 1915–1918 period, as much as 80% of men in Allied countries, aged 15–50 years of age, had gone away to war. The vast majority of young men who populated cities and towns across Europe left their families, homes, and jobs to support the war effort (Boehnke and Gay 2020, 1). This would have left factories idle in the absence of an alternative able-bodied and available workforce, but, that scenario was averted as women, particularly those under thirty, compensated for the loss of men working in the country's factories. However, prior to World War I, women had limited exposure to factory work, largely confined to the textile industry. Therefore, factory work wasn't a spontaneous choice for the majority of women who were more familiar with domestic labour in their own homes or the homes of the upper classes. As such, there wasn't a considerable "back-up" population of workers who were comfortable applying for factory jobs when men left for war. Factories could not remain idle, and the situation was particularly urgent as the need for war products increased. Hence, they had to find ways to entice women into factory labour. It is noteworthy that while the factory owners and governments were working to entice women into the factories to keep up production, they were also secretly working with unions to ensure that these women would not be able to keep those jobs when the war ended, and men returned from overseas expecting their jobs back.

A duality existed in their intentions—simultaneously positive and negative, which was problematic. While women were being enticed into wartime

labour in factories, plans were secretly underway to later remove them using force if necessary. This hidden agenda highlights that the positive enticements into labour were a form of coercion and should not be ignored as mere benefits, as they evidently lacked permanence and were not designed to truly remove labour barriers for women permanently. This is sometimes forgotten when enticements into labour are considered. Typically, the benefits and positives obscure the coercive aspects.

The two forms of labour coercion, "enticement" and "threat," operate in complex ways: some are subtle, while others are overt. One example of a subtle threat is evidenced in the disturbing poems that were published in the newspapers at the time. These poems threatened that factory women might be injured or killed while operating factory machinery, although they were phrased as literary jokes. On the other hand, other threats were more overt, including those made by veterans' groups who harassed women in public and demanded that they leave their jobs so that soldiers returning from World War I could be employed. However, at the time when they were entering the workforce, women did not have any idea that they were being put in conflict with returning soldiers, veterans, or unions, and they did not expect to receive such threats after the war when the hidden labour laws were unveiled and made official.

A special emphasis should be placed on the enticement side, keeping in mind that a particular "pull" that entices a worker into the workforce will end with a threatening and possibly violent "push" out of the labour setting at a later time. This phenomenon was fairly widespread in many types of factories of the World War I era, owing to the British government's *Restoration of Pre-War Practices Act of 1919* (Rubin 1989, 926).

Two things are worth noting about the *Restoration of Pre-War Practices Act of 1919.* First, as the Act was put into law after the war ended in 1918, it operated retroactively, with no say being given to women who had worked in the factories throughout World War I. Second, the Arrol-Johnston factory in Tongland should have been exempt as the Act covered only factories that existed before the war. The Arrol-Johnston plant was not in operation until after the war commenced, so the people they employed should have been exempt from giving up their jobs after the war as there were no former employees. Therefore, considerable emphasis is placed on the *Restoration of Pre-War Practices Act,* because even in the absence of the power to legislate this factory, a unique form of threat needed to emerge to remove women from their employment as government orders were not applicable. This may have been instrumental in the creation of a particularly virulent environment for the women who encountered groups trying to coerce them out of their jobs in a wild-west fashion, where no law could be leveraged for that purpose. Veterans' groups

and unions came up with their own ways to threaten the women who fell outside of the laws of the Act.

The double helix for women's war labour by Margaret and Patrice Higgonet has been both touted and criticized. Certainly, it offers great benefits; however, the current understanding of gender as a more fluid matrix makes the theory quite problematic. Furthermore, critics have stated that the "female" side of the Higgonet double helix was subordinate to the "male" side and dismissed the use of the metaphor on those grounds. Indeed, their article "Double Helix" indicates that "masculine always relates to feminine as superior to inferior, so that when, in wartime, women step up into previously masculine roles, it does not change their gender status because at the same time, men have stepped up into a super-masculine role as soldiers" (M. Higgonet and P. Higgonet 1987). The assumption of the female as subordinate to the male due to military service is provocative and negative. Moreover, it does not consider that women were also performing dangerous services for their country, including handling toxic chemicals in factories, driving ambulances along the trenches in the war theater, and working in factory settings that might be major bombing targets for enemy forces who wanted to halt munitions production. Furthermore, the empowerment of women in the Arrol-Johnston/Galloway engineering school and factory illustrates that the women entering this labour and educational setting did not consider themselves inferior to men whatsoever; rather, they were striving to

prove the very opposite: they were just as capable at being engineers and machinists as men and intended to continue with this line of work after World War I. These women's experiences, as highlighted in *The Spanner* and *The Limited* journals of the factory, frequently discussed their goals to build a world of women engineers, and their initial optimism regarding the possibility of achieving this is quite clear in their firsthand accounts featured on the journals' pages.

The Higgonets' idea of women's labour inferiority is rather problematic to a study that recognizes that women were industrial workers and labour activists in the pre-war and inter-war years (Horne 1991, 223). However, there are other areas of agreement with the Higgonets. For example, the outcomes of coerced labour on gender inequality in labour have moved down through generations for over one hundred years. In an interview, Higgonet said, "The simple metaphor of a 'double helix' aimed to make visible persistent social and gender hierarchies, not to support them" (Hammerle and Higgonet 2018).

Discourse and image analysis were employed to understand the meanings found in the archival materials pertaining to the Galloway factory. The intended audience of the factory's journals *The Spanner* and *The Limit* is an important consideration because the journal was intended to uplift workers and tout their efforts to the surrounding community. Unfortunately, the journals were short-lived as they had the opposite effect outside the factory: they enraged the local veterans'

groups and increased tension and conflict between the women and these groups who aimed to help returning soldiers seeking jobs.

Notably, women workers were shamed and harangued out of their jobs as described in detail in issues of *The Spanner* and *The Limit*. These coercions stemmed from the perceived differences of the body and mind.

A number of variables can be considered in World War I propaganda materials. The materials include films depicting factory labour, promises of labour benefits at the Galloway factory, and public relations materials such as the factory journals touting the great experiences of women working in the labour setting. On the negative "push" side are the *Restoration of Pre-War Practices Act*, actions of labour unions who were exacting promises from the British government to remove women from labour settings after the war, the Kirkcudbright Comrades of the Great War, and the subtle threats of violence from anonymous sources in regional newspapers.

The Beardmore News, a newspaper published in a neighboring town with a sister factory in the Arrol-Johnston family, is the source of the following example.

> A self-willed girl was Lizzie Green,
> She would work in her skirt,
> Till she got caught in her machine

And was severely hurt,
That ne'er again will she be seen,
For, like her name, her grave is green.
(Beardsmore News 1919, 2)

This might be considered weak because it is anonymous and is not a direct threat; instead, it serves as a subtle "joke" of a threatening nature. In contrast, articles from the *Restoration of Pre-War Practices Act of 1919* are much stronger forms of coercion as they embody the intent to legislate women's removal from factory labour settings. Although some variables are weaker than others, may be tenuous, and should not be overemphasized, they should still be made visible. When considered with stronger examples, they effectively illustrate the intersection of war, labour, and gender in the Arrol-Johnston-Galloway setting during World War I.

Three major coercions led to the situation women experienced in the post-World War I years at the Galloway Factory in Scotland. The first major coercion of men and women during World War I can be found in military recruitment propaganda, which exploited women by presenting them as victims needing men to save them from sexual violence. The "women in peril" ideology was created to provoke fear and a response that would control men and women's labour decisions. The second coercion occurs shortly thereafter and appears in the materials used to recruit women to take up men's industrial jobs or auxiliary work

to support World War I. This coercion stripped women of their human value by ignoring the fact that they were in mortal danger while working with munitions, not unlike men in the war theater; however, women were ultimately deemed less deserving of maintaining permanent labour opportunities for their wartime sacrifices. The final coercion forced women out of jobs via the *Restoration of Pre-War Practices Act of 1919* and the united efforts of charitable organizations, unions, and veterans' groups. Unlike other minority groups, such as black men in Detroit, who had been recruited to run automobile factories, the women of the munitions and automobile factories at Tongland, Scotland, were shamed and harangued out of their workplace as noted in many firsthand accounts in the factory's journals *The Spanner* and *The Limit*. Georgine Clarsen, Nina Baker, and Louise Innes have provided excellent research on the Tongland factories, the Galloway car for women, and the factory's CEO, Dorothée Pullinger, paving the way for this analysis on the impacts of wartime coercions on women's labour and use of automobile technology.

During the Progressive Era (1896–1916), which was characterized by high levels of optimism that equality for women would be permanently achieved, some gains in the area of gender neutrality in technology labour and use were noted. Women made significant contributions to automobile technology as inventors and were described in many media materials in both the United Kingdom and America for their adept use of the automobile. This likely led to expectations that women's

roles in technology would continue to flourish and expand. However, this optimism would unfortunately “decline with the start of World War I and the consequent demise of optimistic beliefs in the powers of human rationality to bring about moral progress” (Norlock 2019).

In return, this impacted labour ethics significantly, owing in part to the widespread use and normalization of coercive tactics in labour. The ways that governments entered, endured, and ultimately rescinded wartime labour opportunities created an environment of exploitation where citizens were controlled, and women suffered. Control was achieved when the Allied governments introduced ideas of sexual violence and emphasized the concept of women in peril to draw soldiers into war. Further, labour organizations employed ideas of duty to encourage women to take up work in factories. The same ideas of duty later shamed women back out of those labour roles to make room for soldiers returning from war are connected to the conclusion of a progressive era for women’s labour and use of technology.

Women’s roles in automobile labour and use were particularly diminished after World War I ended. Prior to that, the early automobile sector offered many opportunities to women both as drivers and innovators, with America and the United Kingdom having the most women involved with the technology. Even the Girl Scouts of America introduced an Automobiling Badge as of 1916 to

encourage girls to obtain a driver's license and perform simple maintenance on cars (Robertson 2018, NP). As a form of transportation technology, the automobile was viewed quite differently than earlier transportation technologies such as the train and bicycle. A key reason for this is that the train was strongly connected to governments as a path to economic power and promoter of ideas of nationalism. Trains transported cargo in capitalist ways and people in democratic ways. More of everything and everyone could travel on a train, reaching further and faster than prior transportation technologies. Train lines were also used to build other infrastructures such as communication lines. The train was tightly connected to government power as it became a symbol of nationalism, connecting a country's regions with tracks stretching from border to border and linking major economic centers to one another. People of different ages, gender, class, and race traveled together on trains, creating a democratic sense of equality among transportation technology users. However, this was an equality that was ultimately controlled through government regulation (Pocock 2021, NP).

In contrast to the train, the automobile was an individual, private mode of transportation that connected more to capitalism and class than to government structures and power. Railways brought social, political, and economic changes to Britain in ways that were quite different from the changes the automobile brought (Pocock 2021). If the train and bicycle were non-human actants that impacted the way the use of the automobile was socially constructed initially, their equality-

related impacts were perhaps felt most strongly in areas of gender use as cars were expensive and out of reach for those in the lower socio-economic strata. There was one area where governments did seem to have played a role in encouraging gender neutrality in automobile use at the highest levels, and this occurred very early in the automobile's appearance in the Western world: influential women embraced the automobile.

In Britain, Queen Alexandra started driving from 1901 onward (Harris-Gardiner 2020). Automobile racer and promoter Dorothy Levitt claimed that women in Britain and the United States were the most prolific drivers of the pre-World War I era, and she devoted a chapter in her book to list the many "distinguished" women of Britain who drove motor cars (Levitt 1909, 85–92). Notably, these were wealthy women. Across the ocean in America, Edith Bolling Wilson, wife of President Woodrow Wilson, was the first woman to drive an electric car in Washington, D.C., beginning in 1904 (Edith Bolling Wilson Birthplace Foundation 2018). Both Queen Alexandra and First Lady Edith Bolling Wilson lived in the era of first-wave feminism, which was a time that introduced many ideas of what equality for women in suffrage might look like, particularly in the areas of welfare and reproductive rights. First-wave feminism also attempted to bring women into the public sphere, where men worked in the fledgling industrial economy that arose on the heels of an agricultural economy, which heartily welcomed women workers. Both Queen Alexandra and Edith Bolling

Wilson promoted the automobile to the women in their nations (Wilson 1938). As high-ranking women of the state, their involvement in these endeavors would suggest that Western governments had at least some level of interest in promoting the automobile as a gender-neutral technology.

Initially, women's labour with the pre-World War I automobile comprised learning to maintain their cars, with a few innovative women designing new parts for them. The automobile did not appear to be construed as a danger to women or too complex to maintain or operate. The earliest films, such as Cecil Hepworth's *Explosion of a Motor Car* (Hepworth 1900), provided a highly exaggerated and comedic depiction of erratic driving causing death rather than a frightening warning about the dangers of the automobile. In fact, women in many European and North American settings were driving cars and writing manuals about their skills behind the wheel and with the spanner, and they were traveling unaccompanied in many rural and urban environments. Examples of this are seen in the accounts of Bertha Benz's 1888 road trip with her children from Mannheim to Pforzheim, where she needed to make stops along the way to come up with spur-of-the-moment ideas for repairs, such as using the sole of her shoe to make a brake pad for the Benz vehicle when it showed wear along the way (Mercedes Benz Group Media 2008).

Prewar examples of women drivers were featured in film, and accounts of women driving were abundant in newspapers and magazines in Europe and North America up until World War I. However, it is notable that women were somewhat more concerned with safety while operating or riding in automobiles. This priority of safety could be noted in early automobile advertising that focused on the safety features of cars marketed to women, and the significant number of women who have invented safety devices for the automobile allude to this as well, including Europeans such as Benz and Levitt and North American women such as actress Florence Lawrence, Charlotte Bridgwood, and Mary Anderson. The relationship of women with the automobile is laden with meanings that suggest they enjoyed the freedom of movement from place to place, the freedom of choice of where they could travel, the freedom of education to learn how to operate and fix a car, and the freedom to choose their driving companions. The freedoms women enjoyed with driving and maintaining their cars highlight that they would have hardly needed much enticement to feel comfortable in the automobile factory or become drivers in the war effort.

As the war began, the labour unions in the United Kingdom approached their government to preemptively protect men's factory jobs from being taken away permanently by women. They wanted to ensure that those jobs would be waiting for them when they returned from the Great War and that the practices of industrial labour went back to their pre-World War I configurations.

The *Restoration of Pre-War Practices Act of 1919* was established after World War I ended and was based on promises made by the government to labour unions to ensure that once the war was over, men would be entitled to return to their jobs in the factories again, using the divisions of labour, techniques, and practices that had been in place before the war. The agreement originated in the March 1915 Treasury Agreement, when the British government encouraged labour unions to abandon some of their restrictive policies to accommodate war work. “By following a policy of dilution of labour, lesser skilled and female labour would be recruited on work formerly undertaken by skilled labour. The latter would then be allocated to those tasks which only they had the ability to accomplish” (Rubin 1989, 927). This effectively meant that women would be recruited to take over the jobs of skilled labourers doing only some parts of their jobs; at the same time, plans were being made behind the scenes to fire them from these jobs at the end of World War I, regardless of their need to support themselves or their families.

It is important to note that many of the women who would take up such jobs were young women whose sweethearts, husbands, and brothers had gone away to war and who would live as single women for the rest of their lives. No considerations were made for women who might become the sole financial support of their families. Pensions and death benefits were scant and subject to a vigorous review by the Ministry of Pensions to see who qualified (Bourke 1996,

42). Sweethearts and widows were not guaranteed to receive any income for their partner's military service if they died during the war or were left badly injured and unable to work. Yet women could not have had any hint that this might ultimately be their fate when they agreed to take on factory jobs during World War I.

In the United Kingdom and North America, women were recruited to support various public and private entities as World War I began. Granted, it should be noted that women had already worked in textile factories and had done some office work before the war (Downs 1995, 48). Women's work in the industrial sector was not an exception to the rule of men; rather, it was part of the beginning of women striving to live in both the public and private spheres. Many women were attracted to new technology, allowing them to create and envision themselves as innovators, skilled workers, and engineers. These ideas were perhaps encouraged and deepened through women's war opportunities with organizations they joined, including the Women's Army Auxiliary Corps (WAAC), the Women's Land Army of Britain, the First Aid Nursing Yeomanry, the National League for Woman's Service, the American Red Cross, the Canadian and US federal governments and the YWCA Land Service Committee of the United States of America. These organizations recruited women for numerous jobs, such as farmers to provide food, secretaries and stenographers, nurses, domestic workers, social club and canteen workers, and, quite notably, drivers to operate ambulances, automobiles, buses, and trucks both overseas and at home.

The underlying message of recruitment posters and campaign materials highlighted the message that it was a woman's "duty" to serve the war efforts and her community and country by serving in one of these organizations. However, for many women in this era, performing public service or labour was very new. Only a fraction of women in Western nations had worked in factories, offices, or service organizations. To the vast majority who had not done so in the past, the idea of service would have been foreign and perhaps frightening to those who had never left home. Meanwhile, other women reveled in the sense of freedom, independence, curiosity, and adventure that war work offered. The need to appeal to women with these different ideas of public service required the use of various coercion tactics, which can be seen in the recruitment posters.

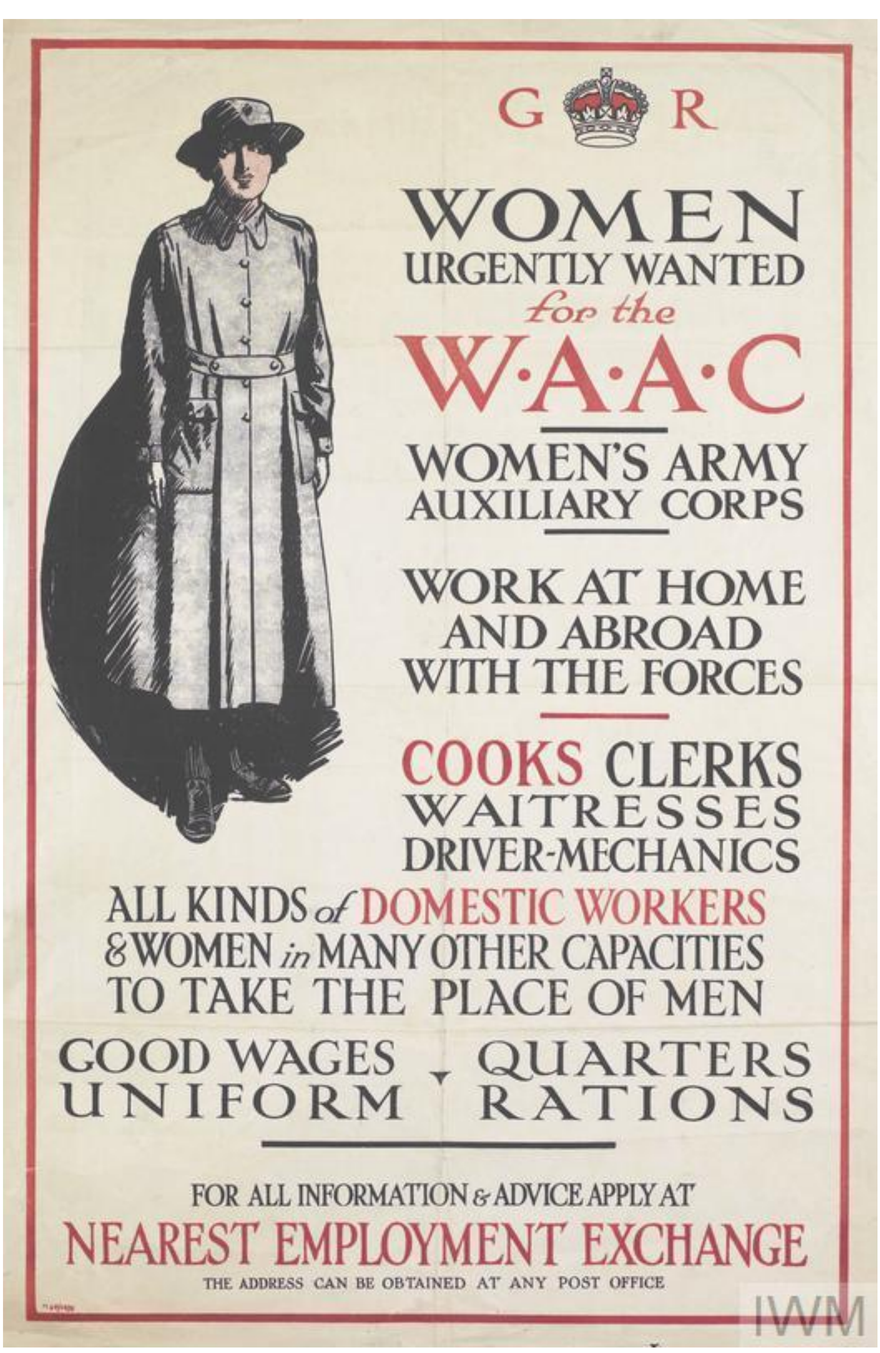


Figure 1. "Women Urgently Wanted" (WAAC 1915)

The WAAC used a direct appeal and description of the type of work required (Women's Army Auxiliary Corps 1916). The jobs listed included domestic workers, drivers, mechanics, nurses, and more. Hence, a variety of skillsets was appealed to, and the organization itself as an army auxiliary was a more subtle appeal to women to perform their duty to the nation.

Likewise, the British Women's Land Army used very subtle appeals to duty and reward. The National Service Land Army's message was simple: "God speed the plough and the woman who drives it". This message was accompanied by a picture of a serene farm with the sun setting as a lone woman drives a horse-drawn plough (Hawthorne 1917).

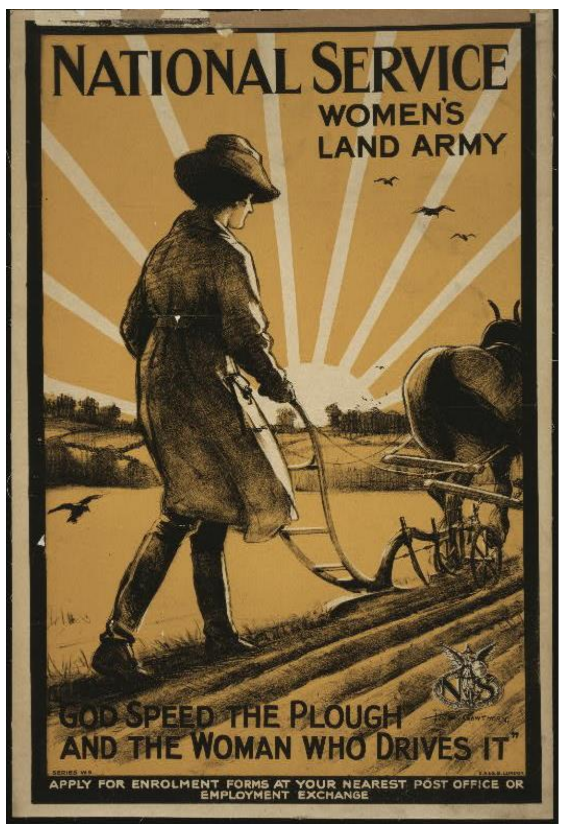


Figure 2. "God Speed the Plough and the Woman Who Drives It" (Hawthorne 1917)

This bucolic image is a strong contrast to the violent images urging enlistment and those depicting combat in the war theater. In this poster, the woman is quietly, but, purposefully working hard, with the suggestion that this work is "divine" as indicated by the blessing of the church. She is a "good citizen" and a dutiful woman doing her part for her nation. On the other hand, American recruitment of women for their auxiliary forces was more animated and forceful. The National League for Woman's Service created a poster with the

headline: "Help Her Carry On!" The poster depicted Uncle Sam being approached by Miss America who is saying to him, "Miss America Reporting for Service, Sir!" (Gibson 1917).

Figure 3. "Help Her Carry On" (Gibson 1917)

The poster gives specific dates of service from September 17–28 to run canteens and social clubs. It also outlines that the organization was recruiting

women as secretaries and drivers of ambulances and trucks, as well as “training women for camouflage work for the government,” suggesting that more adventurous roles overseas were available. Employing the patriarchal Uncle Sam image and a public figure known as Miss America, this poster sought to encourage American women with varying interests to join this group. North American and British women were considered to have broken free of the Victorian ideals that emphasized their delicate health and need for physical restraint. The idea of a more vigorous woman arose in the progressive era, and this image was drawn upon in the recruitment efforts for World War I.

Another very colorful recruitment poster appealing to women to fight the kaiser is the poster recruiting stenographers to Washington, DC. In bold letters, the title reads: “Stenographers! The Kaiser is Afraid of You!” (Ordnance Dept USA 1917, NP). This is followed by a story-like narrative: “There is a shortage of 5000 stenographers in Washington. The fact means a lot to the kaiser. He knows that as long as this shortage exists, the war preparations of the United States Government will be delayed. The more delay the better for him. Uncle Sam wants you and 4999 other capable stenographers to go to Washington NOW at $1100 a year.” This text is accompanied by an image showing the profile of a woman typing with a frightening German soldier waving a saber at her in the background. Again, the sense of duty to the nation is symbolized by Uncle Sam. However, the coercion here is quite direct. It is an almost ludicrous idea to suggest that it is the

fault of women stenographers that the Kaiser is winning the war because not enough of them are assisting the war efforts in Washington. Also, the statement that the war will be won once 5000 women are recruited as stenographers is another extreme exaggeration.

Overall, the coercive propaganda aimed at an audience of women was a mixture of subtlety and overt calls to action, where a great diversity of roles for women in war work were required in different regions of the world. Automobile labour was of particular interest to many women in Britain and America who had been compelled to learn to drive and maintain vehicles for well over a decade on both continents.

The Woman Driver and Auto Factory Worker in Scotland

With the increased need for women drivers throughout the war, a need for more of the smaller-style cars that women preferred arose (Clarsen 2008, 40). Such cars included features designed for women, including brakes and gear shifters within easier reach and a shorter distance to the pedals and steering wheel made possible by an adjustable seat, electric starter, and more comfortable interiors. Perhaps as a nod to Dorothy Levitt's advice, the Galloway car was the first in Britain to have a rear-view mirror installed. The labour opportunities available for women workers in the inter-war years gave birth to the idea of carrying on with this work and continuing to train women for permanent

engineering jobs at Tongland, Scotland. This may have been a popular idea for women who faced the prospect of being single for life and needing to provide for themselves financially. The Galloway Engineering Company Limited was founded in 1916 and opened as part of the wartime Arrol-Johnston aero engine plant outside of Dumfries, Scotland. This new factory was intended to provide women with the opportunity to develop their skills in engineering with engine and transportation technology during and after the war. A new four-story brick factory was built on reinforced concrete framing, each wall filled with large panes of windows bringing in tremendous amounts of light (28dayslater.co.uk, NP).

Once World War I ended, there was no longer a need for the aero engine parts, and the Galloway factory at Tongland opened in its place in 1918 with the goal of making tractor engines. It was at this site where women engineers and machinists built a car for women modeled after the Fiat 501 (Innes 2020, 2). The factory was staffed by an almost all-woman workforce trained at their own local engineering college. They were considered "diluted labourers" and were trained by men who had many years of experience in this field. The men became supervisors and taught the young women as apprentices to perform specific-skilled labour tasks that they would perfect over several years while attending engineering classes. Local women also joined the factory as wartime ended, and some had moved on or had been encouraged to leave jobs for soldiers returning from war.

Since the Arrol-Johnston—later Galloway—factory at Tongland, Scotland, was built in 1916, it was officially exempt from the *Restoration of Pre-War Practices Act of 1919*, which only restored labour practices for organizations that existed before the war. Galloway was headed by Dorothée Pullinger who began her career as a draftswoman for the parent firm, Arrol-Johnson. She had become a supervisor to 6000 women workers at the company's Scottish munitions factory in 1916. Meanwhile, her father, Thomas C. Pullinger, was CEO of the Arrol-Johnston factory and figured largely in starting the Tongland women's engineering school and factory. Pullinger visited two of Ford's factories in America to gather ideas for the factory's design (Innes 2020, 2). His reasons for agreeing to women workers were complex. One primary reason, however, was Pullinger's anti-union stance:

> I have quite made up my mind after the way the ASE has treated me, never to have another one of their men working for me if I can possibly help it, and I shall use every means in my power to keep them out. I hope shortly to be in a position to know all the ASE men in this district and perhaps I shall be able to keep our shop free from their contamination. (Tolliday 1986, 9).

However, avoiding unions was not necessarily an easy feat. In this regard, many men belonged to unions that were very protective of industrial workers.

Moreover, if one could not find a reasonable supply of labour from men who were not unionized, one had to look elsewhere. The choices were scarce, particularly during wartime in Britain: it was restricted to women. In the USA, some of the same issues had occurred during the war, and Detroit had looked to increase black labour in its automobile plants, with 79% of the black male population, largely recruited from the South, working in factories (Peterson 1979, 177). Women in North America and Britain had experience in textile factories, thus making it plausible to teach them the skills needed in a munitions or automobile factory. They had also been advocating entering this area of work.

Thomas Pullinger's daughter, Dorothée, had tenaciously fought to be trained for engineering work, and her father eventually complied. Through his own personal experience, he saw that women were quite capable as engineers (Innes 2020). It could not have escaped his notice that this would also allow him to sidestep union labour and that the factory labour costs would be cheaper since women earned less than men. Thomas Pullinger's opinions about whether women would make more docile workers who deferred to management more than unionized men did are not recorded; however, certainly, his daughter felt that part of her objective was to encourage equality and a sense of empowerment to women engineers. Dorothée was skilled at marketing, and under her leadership at the Kirkcudbright factory, she established two journals that promoted women's labour at the Arrol-Johnston and later Galloway factory. The first publication was *The*

Spanner, which allowed the Galloway women to record their triumphs and challenges in a way that would inspire other workers. This came with a heavy dose of signaling respect for the soldiers returning home to the region as noted in the introduction of the first 1918 issue.

> We have a place in our hearts not only for our fellow workers at the three works also for those who having left the easier task to us now, dressed in khaki now bear the greater burden for our Empire. Our hands will reach out for theirs in our pages, and our open arms await their return when justice and peace are secured. (The Spanner 1918, 4)

The Spanner also opened on a respectful tone toward the choice of some of the factory's workers to leave their jobs for domestic life. "Our far-reaching tentacles have reached the rumour of an engagement in the Drawing Office. Congratulations—and may she happily change the drawing office for the drawing room" (The Spanner 1918, 10).

The initial optimism that *The Spanner* relayed in January of 1918 was very short-lived. The journal's publication was not well-received by some groups, which included some of the men returning from war. The Kirkcudbright Comrades of the Great War group were adamantly opposed to a factory employing women in industrial roles when men were returning home from war and struggling to find jobs (Clarsen 2003, 346). The next issue, published only

one month after the premier issue of *The Spanner*, opened with a very ominous tone:

> We are concerned more with the future than with the past. Insuperable powers have levelled their might against our little efforts. We use in one month paper equal in quantity to that which would decorate a fair-sized room, or that which would cover the cigarettes smoked in an hour in Dumfries; but it is too much and publication must cease. (The Spanner 1918, NP)

The statement of the editorial staff indicated a plea to these resistant groups to be considerate of others, namely the women working in the factory who were deeply affected by the hostility that was leveled at their work. They even pointed out that some lost their financial support with the death of the men in their lives who had gone to war.

> In case this be the last opportunity for voicing our thoughts, bear with us a moment concerning a much wider, bigger subject than the running of a magazine. Changes are occurring in all the works, involving personal disappointment, and possibly loss to some; but if the benefit is going to accrue therefrom to our country, Empire, civilisation, who is going to be so bold or so small as to complain? Though we now may look forward to bequeathing a peace to our children free from the nightmare of a war even

> bloodier than the present one, many sacrifices must yet be made. Some have given a son, a brother, a husband – shall not we be able to boast to ourselves in the coming years that we cheerfully sacrificed some smaller thing? Helping the other fellow generally means some trouble for ourselves. The other fellow may be our homeland, or one of our Allies; or for us in the works, the other fellow may be a girl trying to do her bit, an unskilled workman, a semi skilled staff man or even a manager. Pack up our troubles and smile. (The Spanner 1918, NP)

Here, the idea of "helping the other" is raised as a universal need to bring communities together. It is highlighted that young women employed at the works are trying to do their part and that sacrifices should be made for these women also. The plea is to put aside hostility towards the workers and allow them to continue their employment for the good of all. Unfortunately, these pleas fell on deaf ears. The publication was shut down, and the women workers continued to be badgered as they carried on with their work in the automobile factory over the next few years. Ultimately, however, the all-woman factory would begin to falter under social and economic pressures.

With these comments surrounding the local debate about women continuing to work in the factory as men seeking jobs returned from war, a number of the women began to buckle under the criticism and leave their jobs. In

this regard, the news section of *The Spanner* highlighted three of the 96 women engineers, one of whom felt that it was her duty to give up her job as men returned from war:

> … Miss Pringle who has left the works since our last issue.
> Miss Bowes who was head of the Galloway Office at HeathHall . . . found it her duty to return to her home.
>
> Wish goodbye and good luck to Miss Cowan one of our draughtswomen…she is improving her position with a move to London. (The Spanner 1918, NP)

Each of the three examples above indicates a woman leaving the works, but, for different reasons. The commentary about Miss Pringle is quite vague and does not explain why she left. It could be that her reason was unknown or that she was not a good fit for the factory. We do not have any indicator one way or the other. The other two references offer greater insight into the women's changing roles in the factory as the war ended. The specific phrasing describing Miss Bowes's departure, which related her decision to duty, provides a bold and meaningful statement that allows us to understand how some women felt about their work as the war was coming to an end and soldiers were returning home looking for work. Likewise, Miss Cowan's move to an "improved" position in

London may also imply a return to pre-World War I ideologies of rural versus urban life.

The latter two women's stories, beginning with Miss Bowes, may be a red flag of sorts, indicating that the hostilities aimed at the women workers provoked women to leave the Galloway factory. Perhaps, they also illustrate the first hints that the possibility of the war ending was enough to prompt changes surrounding notions of women in the public and private sphere and rural and urban environments. These ideas had been largely suspended during the war years. We see this particularly in Miss Bowes's case as she is reported to have returned to the domestic sphere because she "found it her duty to return to her home." Bowes was not simply a worker on the line either. The report indicates that she was the "head" of a department. It is a reasonable assumption to view her position as the accomplishment of a dedicated, hard-working, and talented worker who stood out in the labour force. Yet, even such a successful career women could change her mind about her role as a labourer. Since we know that the men's labour unions and local veterans' groups were pushing hard to promote the idea of women returning to domestic life, we can see that their pressure tactics were beginning to succeed in introducing a patriarchal order in the post-war industrial labour before the war even ended. The report on the third woman, Miss Cowan, is somewhat different, but highlights changes in ideologies that are equally important.

Miss Cowan's reasons for leaving indicate a reassertion of prewar ideologies of urban versus rural norms for woman workers. Cowan's decision to leave Tongland for London could suggest that more labour opportunities existed for women in the city or that some women preferred working and living in a larger city, something that may not have been safe or plausible in the inter-war years as large cities were targets for attack. In those years, Tongland was an isolated fishing village that lacked a large population to support a factory. A labour force needed to be brought to the town, and this involved finding housing in the surrounding areas. Galloway set up housing for the women in the educational institute that taught them to become engineers and technicians. This was an unusual arrangement as most factories were located in busier cities that could more easily provide the factory with adequate labour resources. However, munitions factories had different needs, including the need for safety from attack via concealment. These industrial centers were placed in locations that were difficult for the enemy to locate and reach. While they were afforded a bucolic and safer environment during World War I, some of the young women working at Galloway may not have found a small village particularly interesting or exciting. This, perhaps coupled with the return to industrial growth in larger urban centers where labour was easier to procure, may explain why women such as Miss Cowan left for larger urban centers as the war wound down. Additionally, a return to the United Kingdom's pre-World War I ideologies of rural life may have begun to be

reasserted, with women being encouraged toward domestic labour choices, where ideas of freedom were more restrictive.

However, these additional reasons do not discount the importance of the idea/ideology of "duty" as a strong and repetitive coercion that was used to remove women from their jobs just as it was used to encourage them to take these jobs at the beginning of World War I. The idea that it was a woman's "duty" to give up her wartime job for men returning from overseas and needing work was heavily promoted. Yet, it appears that groups pushing for this did not consider or acknowledge that women were living in an unprecedented time, often becoming the sole income providers of their families as widows or permanently unwed daughters living with an extreme shortage of marriageable young men due to the death toll from the war. In essence, women had been praised heavily for their honor and skill in taking on jobs in factories and with organizations that supported the war only to be later shamed for wanting to keep them so that they would leave. Many women had limited options for providing for themselves in an era dominated by single women trying to subsist through oppressive ideas that distanced them from opportunities such as those they had found in industrial labour during World War I.

As the munition's factory activities wound down after World War I, the Galloway factory arose in its place. *The Spanner* had been discontinued after the

two 1918 issues were published. However, a new journal came out a year later for the automobile factory, titled *The Limit*, referring to the attitude of some who felt that those women working in industrial roles in the Galloway factory were pushing the limit of what society could accept or perhaps of what the Kirkcudbright veterans could accept. The pages of *The Limit* contain even more examples of women leaving the factory, often with mention of it being their "duty" to give up their job and go home to their parents for financial support or marry a man who could support them.

The struggles of the women working in the Galloway factory a year after World War I ended are made clear in *The Limit*. Comments from the editorial page highlight the hard work and growing engineering skills of the women; however, it is written strategically, using the "sandwich" technique for delivering bad news. This technique involves offering an opening compliment, followed by delivering bad news and concluding with optimism again to finish on a positive note. The passage reads:

> I have often been astounded at some of the work I have seen done . . . operations that before the war I should not have thought possible for anyone to undertake other than the most highly skilled man . . . The future of engineering for women at present is very hazy, but there is a future for you . . . I am going to give you a little advice . . . you have got to get the

> same production from your machines as men do . . . as you must remember that you will have to compete with them. . . of your skill I have nothing but good to say but your output is not high enough . . . be more self-reliant and try and decide if a job is correctly set up and or correctly machined yourself . . . in conclusion I appeal for more enthusiasm in your work and a determination that you *will* succeed and make yourselves competent engineers. (*The Limit* 1919, 2)

This passage indicates that the women working at skilled jobs were still in a learning phase. They were training as apprentices for only three years compared to the five years expected of men before World War I. This meant that they were still increasing their efficiency and honing their skills. Due to the costs of materials, they had to handle their machining tasks very carefully as mistakes were costly. Thus, many were slower in their output than men. The editor, who was quite possibly passing on these words from Dorothée Pullinger herself, was also trying to prepare the women for future competition for jobs where they would need to increase output to the same levels as fully trained and experienced workers. The editor pleads for women to strive for self-reliance, an ideology that was connected not only to the automobile production environment they worked in but, also to driving cars. Much of this editorial statement matches earlier materials written for an audience of potential woman drivers, telling them that they could be

capable drivers and encouraging them to drive and perform the maintenance of their own vehicles.

The comments of the editor were mirrored down the chain of command at the Galloway factory. The men supervising and training the women as engineers echoed the same themes. While offering some general mechanical tips and directions, one trainer wrote, ". . . girls stick in what you do, say you will do it, are going to do it, and prove to all and sundry that what our Employer said was true: that Female labour could and would be a success" (The Limit 1919, 5). This appears to show that men and women at Galloway's leadership were united in being invested in the success of the woman workers. They used the same method of offering constructive criticism followed by promises of successful outcomes. Then, how did the workers perceive their jobs and the opportunities being presented in engineering? A new worker's insight helps illustrate this. Marguerite E.G. Stocker wrote a passage entitled "A New Girl's Impressions" for the journal that gave a general sense of her views:

> Are you subject to apoplectic fits? Tell novices that, if they put their hand on the belt when the machine is going, they may lose their arm; but I think it is far better to let them learn that for themselves. This was done in my case, and I am not likely to need any further warnings! The feud between the machine shop and the fitting shop is rather amusing, and reminds one

> forcibly of that between the Infantry and "those blinkin' idiots in the Artillery" before the war taught them to know each other better. (*The Limit* 1919, 11)

This passage is less encouraging and indicates gendered biases in the questions she was asked in her pre-employment interview. These are not questions that would have been asked of a man applying to the same job and relate to the idea of women as emotional. Furthermore, the concept of "women in peril" is raised here. Stocker indicates that novices are "warned" of the dangers of the factory in a way that is reminiscent of the threat of peril narratives that were used in recruitment propaganda for World War I. This is not an isolated warning, and similar subtle threats were being made to women working in other Arrol-Johnston factories in the area. One such example, as discussed earlier was the The Beardsmore News poem about a woman named Lizzie Green who died in the factory which was published only a few months before the passage written by Miss Stocker of the Galloway firm.

The poem addressed the clothing worn by women, the skirt, as being dangerous in a factory setting. However, there is an underlying threat here that women do not belong in factories because their customs put them in deadly peril. The worker described in the poem, Lizzie Green, dies from her skirt being caught in a machine, implying that women don't know that they must wear appropriate

clothing to work and that the factory employing women is not taking care to ensure their workers have safety practices and standards to follow. Since the Town of Beardsmore was strongly connected to the Arrol-Johnston firm as its headquarters, this poem was likely intended as a subtle threat to the women working at the Galloway factory.

The ideas that the management of the Tongland factory put forth in their journal were intended to empower women as tensions rose and the fight to remain employed became clearer. However, some mixed messages were also given that likely confused some.

> Every woman who has been employed on engineering work during the War will agree that the first people to be considered are those who have been fighting their country's battles abroad, but with the vast amount of reconstruction that will be necessary for the patient building up again of all that has been so rapidly demolished in the past few years, and in the need to make up the leeway in the manufacture of both necessaries and luxuries of life that has resulted from the diversion of machinery from peace time to war time production, there must in time be work enough and to spare for all. (*The Limit* 1919, 11–12)

The recommendation to put returning soldiers at the top of the priority list for jobs flies in the face of requests for women to fight for their jobs as it is these men whom they are being asked to fight in later passages.

> It is up, then, to the women who wish to make a future for themselves and for the coming generations to demand with no uncertain voice the right to be allowed to continue on work for which they have shown, or can show, themselves to be fitted, and it is also up to them to try to discover how the employment of women can be made profitable speculation for both the employer and employed in the various industries that have been opened up to them during the war. (*The Limit* 1919, 11–12)

These words are a call for women to act to defend their right to work and their skills. However, one aspect must have appeared somewhat puzzling. The line about women discovering how to make their work profitable to their employer should have been beyond the scope of their understanding and jobs. Rather, this is more likely a nudge for women to continue to increase their efficiency so that they can produce the same output as skilled men to be as profitable to the firm as the men. The idea of profit is more clearly raised here, and the role of capitalism in determining whether women would be able to keep their jobs or not emerges quite clearly.

The pressure on women workers at the factory continued to worsen throughout 1919, and by June of that year, all of the women would most certainly have become very aware of the hostile opinion of some men's groups against their continuing to work as directly expressed in *The Limit* journal:

> The future of women in engineering is a problem of enormous interest to we who are being initiated into the profession at Tongland – yes, one of vital interest. So many difficulties present themselves as we ponder over the words – "Are we to have a future in engineering?" "How are we to overcome the almost antagonistic feeling of the men's Unions towards us?" "Are we mentally and physically capable?" and "Are we trying to prove our capabilities?" (*The Limit* 1919, 8)

Various markers tell us the source of hostility toward women in industrial labour settings, and examples of such sources include newspaper articles and reports of meetings of union men. The unionized men likely had a double reason for resenting the woman worker: First, she was merely a dilutee, an inferior worker who had to be trained by experienced men. She would not earn as much as a man for the same job, but she might have the chance to become just as proficient at the same tasks. This created a threat to men's work and their wages because if factories such as Galloway chose to employ women to save money and avoid working with unions, then unionized men could lose their jobs to cheaper labour.

Second, women working in industrial settings were perceived as taking jobs from soldiers returning from World War I. Part of the push to have women return to domestic labour was linked to ideas of healing and a return to the earlier gendered arrangements of labour, which had women working primarily in domestic settings. However, the prevailing view, as seen through the passages in *The Limit,* seems to have been that soldiers had sacrificed more and risked more than women at home or overseas. Trench warfare was not yet a memory, and its witnesses and victims were perceived to have paid the highest price a human could pay. It was widely believed that men returning from World War I would only heal once they re-established a life similar to the one they had before the war and that this was owed to them, particularly by women who stayed home and for whom the war was believed to be fought to protect. However, as this study has demonstrated, the idea of women in peril was a form of coercion invented by the government to get men to enlist. No thoughts were given to how this exaggeration would later impact women, such as the ladies working at the Galloway Factory who simply wanted to remain employed in the industrial setting or continue striving for a future of expanded opportunities for women in automobile engineering. The pre-World War I coercion was directly connected to the anger and backlash these women suffered from British society.

The difference between "male" and "female" bodies in this period of a perceived gender binary also contributed to furthering ideas on the inferiority of

women workers and was used as a rationale for oppressing women. One writer explained this view in *The Limit*: “No master would call for a woman to undertake work requiring physical strain equal to a mans’, and a fellow-work*man* who would calmly stand and watch women lifting heavy loads does not deserve the name of ‘man.’ Such a man is one of those who is endeavouring to close the door to the woman engineer” (*The Limit* 1919, 8).

The writer seems to have had a keen awareness that some men wanted to use physical strength to measure women’s capabilities. The fact that this occurred only six months after the end of the war highlights the desire to return to a patriarchal society where women remained in the domestic sphere was fairly swift. This desire was tied strongly to the ideas of nostalgia and the need to bring back the good old days for post-war communities to heal. The idea that women are physically weaker than men was mirrored in other industries as well. Every possible excuse or reason for ejecting women from technology jobs was being sought and dragged into the public eye to rationalize these actions in Britain. Meanwhile, the physical and mental strength of soldiers returning home from war became the next and final coercion that would contribute to the removal of women from technology labour in the post-World War I years. The number of disabled soldiers returning home to the United Kingdom reached over 300,000, 41,000 of which had amputated limbs (Bourke 1996, 33). The weapons used in World War I were unprecedented, and their impact could not have been imagined.

The number of men who had injuries requiring amputation, often with replacement by prosthetic limbs, was enormous. This shocked the nations of these soldiers when they returned home. The people of Allied countries saw their strong virile young men come home with severe injuries that horrified communities and aroused sympathy, pity, and a resolve to assist them in returning to their lives. In America, by 1919, major efforts had been undertaken, focusing on "reconstructing" disabled male bodies. However, men needed to be convinced to invest the effort to "become whole again" in many cases. Again, the idea of using women in this regard was conceived by organizations that had previously experienced success by using ideas such as women in peril and women in need. This led to yet another exploitation of women in publications to help persuade men to seek help and "close" the World War I years.

A young woman is pictured on the cover of the journal *Carry On: A Magazine on the Reconstruction of Disabled Soldiers and Sailors* (*Carry On* 1919). Below her picture are the following words: "The best reason for reconstruction." This journal was published by the Red Cross for the Surgeon General, US Army. Inside the front was written the following: "The Creed of the Disabled Soldier. Once more to be useful – to see pity in the eyes of my friends replaced with commendation – to work, produce, provide, and to feel that I have a place in the world – seeking no favors and given none – a MAN among MEN in spite of this physical handicap." The woman on the cover fit into this creed as the

figure to be provided for. The woman in this setting was no longer one capable of skilled labour, of providing for herself and her family. Rather, the role of the provider was placed firmly on the shoulders of the soldier. His path to being made a man again was to learn to provide for a woman again. This was an insidious coercion that all but closed the chapter of the woman worker, particularly in the fields of technology. This narrative would be extremely difficult for women to fight against. In a world where men had returned but so many were injured in ways that created a visceral public image, where organizations joined forces to push them back into the workforce as the only way to recover physically and mentally, the cost that the women auto workers had to pay was hardly considered. Instead, women were swept aside, particularly as economic weakness forced factories to close, including the Galloway factory at Tongland in 1922.

Conclusion

World War I introduced a gendered analytic of labour that has persisted for over a century, causing inequity in women's technology labour. The post-World War I period brought a different set of needs that was in complete opposition to those of the inter-war years, the priority of keeping factories going by employing women workers changed to a need to put returning soldiers back to work. The coercion in this is the reason: it lessened the financial costs to governments of supporting veterans. However, the people in the allied nations also felt a strong

desire to heal and nostalgia for earlier times before World War I, thus compelling many to return to pre-progressivist ideas, which became attached to the war itself. Many people simply wanted things to go back to the earlier days when the labour roles of men and women were based on a set of patriarchal ideals. This allowed for a re-empowerment of soldiers and men, pushing them from the roles of heroic warriors protecting the nation to the roles of the labourer rebuilding the nation. Ultimately, this occurred at the expense of women, and much of the progress achieved in women's labour before the war was lost. Such is the case of the women engineers of the Galloway factory in Scotland.

The woman engineers of the Galloway factory, along with many working women in other British industrial settings hoped that they would continue to have opportunities to interact with technology through use and production. Women's labour opportunities had begun to expand in the pre-World War I years, in step with the suffrage movement that encouraged women's roles outside the private sphere of the home and domestic work. In some cases, such as with the Galloway Works, a long-term plan was established for women engineers before the outbreak of World War I. Women were involved in pre-World War I labour activism and organizations that encouraged women labourers to join unions. However, wartime coercions disrupted these ideas, and a systemic barrage of enticements and threats was used against men and women of Allied nations, negatively impacting women's labour and use of technology. The impact of coercion, whether

performed by the employer, the government, or unions, resulted in losses to women's ability to work in the industrial factory setting and also limited their use of technology, perhaps as a by-product of associations with factory machinery. The coercive elements sought to remove women from the factory machine—from behind the steering wheel and other technologies—to provide more opportunities to men returning from war. The exploitation of women was so strong that many gendered-technology ideologies have lasted over a century, leaving women in the minority in some labour sectors, particularly transportation and computer tech.

Women were exploited in several ways during World War I in the pre-war, inter-war, and post-war years. First, they were framed as victims or "women in peril" that were illustrated in fear-inducing propaganda to coerce men into enlisting in both the United Kingdom and America if they wanted to keep the women in their lives safe from the Germans. The narratives in these materials revolved around threats of rape and mutilation of their sisters, sweethearts, and mothers. This presentation of women as weak and needing protection contrasted vastly with the progressive era view of women as strong, independent, rational, and capable people.

However, the progressive era's optimistic views of women's empowerment were brought back later in a second stage of propaganda after World War I began. This time, these views were used to entice women to accept

factory jobs or perform war work for other labour organizations, including jobs such as ambulance drivers on the western front, farmers, and army and military auxiliary positions. These recruitment materials underscored women's sense of their strength, honor, and capabilities, emphasizing the view that they had the skills to do these jobs. The idea of duty was interjected as a further enticement in most materials to continue recruiting men and women by creating a sense that good citizenship and nationhood were critical to victory in the war and would provide a path to peace.

A major oversight in this era was that some of the jobs women were engaged in were equally as dangerous as the work that men did in the field, including driving ambulances and nursing on the western front and working at home in munitions factories where women's skin turned yellow from toxic chemicals that were poisoning them. The risks women took with their lives in these jobs were not valued as highly as that of men in combat roles, and there is no evidence to indicate that governments felt that women labourers deserved any consideration. This was made clear in the case of the Galloway factory. As World War I ended and munitions factories returned to their original planned production uses, the Galloway Automobile factory in Tongland, Scotland, opened to produce cars designed for women and built by women as originally planned when the factory was opened. Unfortunately, the idea of women as engineers and industrial labourers was greatly at odds with the narratives of the time, which pushed for

men returning from World War I to take up all the available jobs as Western economies slowed. Once again, the idea of duty was employed to encourage women to leave their jobs. Propaganda materials, such as newspaper articles, and veiled threats to women working with machines began to circulate as the war ended, encouraging women to get married, return home to their parents, or go back to domestic labour, leaving factory jobs to soldiers returning from war. The idea set forth in a new wave of post-war propaganda proposed that healing the injured men would heal the nation.

The *Restoration of Pre-war Practices Act of 1919* made it official: women were to leave their jobs in factories where they had replaced men, although the truth was this arrangement had been unofficially set in place years earlier. Governments were also motivated by financial savings, and they attempted to pare back the costs of pensions, using women's jobs as a path to do so. Groups of veterans, such as the Kirkcudbright Comrades of the Great War, were hostile to women workers in Tongland, angry that they were taking jobs from men returning from war. This sentiment was worsened in Tongland by the fact that this group of women was actually exempt from the *Restoration of Pre-War Practices Act of 1919* because the factory opened during wartime rather than before. The attitudes of the veterans' groups and society, in general, exerted extreme pressure on women, shaming them for working by pushing the idea that men who had gone to World War I should be prioritized in jobs. This was based on a lopsided

perspective that only men were in peril during the war and that their sacrifices and the life-threatening risks they had taken held more value than the risks women faced in factories or even in their roles in the war theater.

Under these societal pressures, women who had been drivers and factory workers began to change their minds about the automobile factory. Galloway became a critical site where women were striving to become engineers for several years after the war. They saw this field as a career for the future. However, their numbers began to dwindle as threats and community pressures increased, and the number of women taking engineering courses arranged through Galloway shrunk. Part of this occurred as a result of efforts to “reconstruct men’s bodies,” with a massive, united push from the Church, healthcare industries, secular organizations, unions, military veteran groups, and governments. While trying to push the remaining women out of factories, a new image of women was also being presented to urge injured soldiers to seek mental and physical care as they recovered from the ravages of the war.

Unlike the plight of women working during the inter-war years, other minorities, such as black men in the USA, were unaffected by the drive to put returning soldiers into jobs. The number of black male workers continued to grow in the factories in Detroit through the 1930s. Finally, the Galloway factory of Tongland, Scotland, was shut down in 1922, mostly due to the failing economy

and the failing automobile industry as people could no longer afford cars. However, the damage inflicted on the ideologies of women in technology was severe and would lead to lasting misperceptions of women's capabilities. Women's associations with the automobile, both as users and producers, changed drastically, and within a short time, the car became known as a man's technology, both in terms of its use and production. Women no longer had the heart to fight to keep their place behind the steering wheel or factory machine.

Ultimately, the role of women working in the automobile factory could have turned out very differently, particularly in the area of women engineers. In the case of the Galloway factory, the idea of training women in engineering was conceived before the war, and it was a long-term goal. If not for World War I, what might have become of such pre-World War I movements that encouraged women to enter the technology and industrial fields and expand their use of transportation technologies? Indeed, the world we live in today, where women are still struggling to enter or survive in certain male-dominated technology fields, could look very different if not for the coercions and politics of World War I. This unknown possibility highlights the heavy impact that crises such as war can have on minorities. It suggests that during times of crisis, there is a potential for inequities to be introduced, which can last decades or possibly even centuries. Therefore, decisions made by governments and organizations and accepted or adopted by society during such times of turmoil should be strongly interrogated to

avoid negative consequences that impact minorities and disadvantaged groups. Finally, uses of coercion to entice or threaten populations into taking on or giving up certain roles should be avoided to ensure labour and technology are equitable areas for all to enter.

FINAL CONCLUSION:

How Governments and Unions Wrestled the Steering Wheel Out of the Hands of Three Dorothies, Launching a Century-Long Disconnection of Women and Technology

This study began with a question about the 1939 film *The Wizard of Oz.* Why was Dorothy provided with a pair of high-heeled shoes for a long, dangerous walk to Oz, instead of a car? The discovery of three Dorothies in the World War I era establishes women's strong associations with the automobile and illuminates the point at which women reached a pinnacle in this use. Women in the World War I era traversed a changing "road" as they attempted to establish themselves as competent drivers and technology labourers. This journey began shortly after the automobile was introduced, at the turn of the century. The three Dorothies: Dorothy Levitt, Dorothie Feilding and Dorothée Pullinger each highlight a different point in the World War I era, and together their stories form a trajectory that could have ended quite differently.

Dorothy Levitt's pre-World War I experiences indicate that cars could be found in increasing numbers by 1910, and this was the case both in Britain and North America. It is during this period that women began to have strong associations with the automobile. This can be seen both in real life and in film. The short American film *Auto Heroine* (Vitagraph 1908) provides one of the earliest examples of what many early drivers and automobile manufacturers

expected: that women were becoming primary users of the automobile, were just as capable as men and that their skills would grow and expand. We can see how this played out by looking at the Pre-War period, when women drove, invented automobile parts, and were found in film excelling behind the wheel.

Dorothie Feilding provided further insight on the inter-war years, when the pinnacle of women's driving was reached, further cementing women's associations with the automobile in the World War I era. The woman ambulance drivers of the Munro Flying Ambulance Corps, the First Aid Nursing Yeomanry, the British Expeditionary Force and Queen Alexandra's Imperial Military Nursing Service all demonstrated to the world that their driving abilities were second to none, even in the most challenging environment: on the front lines, while under fire. During World War I, these women's driving skills were touted in newspapers around the world. The woman ambulance drivers' work was celebrated and rewarded with medals of honour. With so many glowing accounts of the ambulance drivers' skills, it must have seemed a certainty that women would continue their journey with the automobile, taking on more roles in its design and manufacture alongside its use. This was the hope of many educated women in Britain, such as Dorothée Pullinger, who aspired to create a permanent role for women in automobile engineering. It was Pullinger who would learn that the costs of war and government coercion could derail even the strongest road that women could build to carry them into a prolific future in automobile use and production.

The Pre-World War I era produced a wide array of women drivers in real life and film, such as Dorothy Levitt, Alice Ramsay, Joan Cuneo, Mabel Normand and Mary Pickford. Levitt led British women to the automobile and taught them how to drive, and how to repair their vehicles. She began her education of women drivers with a column she wrote for the British newspaper, *The Graphic*, later compiling these columns for her book "The Woman and the Car: A Chatty Little Handbook for All Women Who Motor or Who Want to Motor" (Levitt 1909). This book encouraged women to get behind the wheel and take on minor repairs, all while assuring them that cars were not nearly as complex as many believed.

Joan Cuneo, a famous race car driver in the golden era of auto racing, also advocated for the automobile to an audience of American women. She was a prolific racer, and her reputation made her a very persuasive writer for magazines such as *Country Life* (1914). She brought attention to the numbers of men driving and encouraged women to get behind the wheel more often. Like Levitt, she sometimes had to fight to be allowed to enter certain races, and she often succeeded in changing the minds of officials who tried to bar her from entering. When she did race, she was very successful and revered for her driving skills, as she even beat top drivers such as Ralph de Palma, an Indianapolis 500 champion. This resulted in her being very renowned in America and demonstrated to women that they too could drive as well as men.

Alice Ramsay offered similar examples as a driver for automobile manufacturer, Maxwell. She took a famous coast to coast drive in the Maxwell in 1909, demonstrating that women could travel without men for long distances in America. Ramsay wrote a book about this trip, from the diaries she kept during the event. The book, *Veil, Duster and Tire Iron* offers excellent descriptions of her journey, including the challenges with the vehicle which she had to solve. She also highlighted that personal safety was an issue on such a trip and recommended carrying a gun or traveling with a dog for protection. Ramsay was also connected to the early film depictions of woman drivers. It appears that Ramsay is the uncredited actress in the film *An Auto Heroine* (Vitagraph 1908), which depicts a woman racing and winning one of the major road races of the period, despite attempts to interfere with her car and the racetrack. In the end, she won the silver trophy, and was congratulated by a group of admirers, further introducing the idea that audiences enjoyed seeing woman drivers on the silver screen.

Several films which depicted women racing or driving were the product of early woman filmmakers, such as Mabel Normand. Normand's work demonstrates a parallel to the literature that women were producing to promote the automobile. Her films establish that a significant difference existed in how men and women portrayed the woman driver in cinema. The film, *Mabel at the Wheel* (1914), offers an example of a skilled woman driver, who is competitive and confident in her ability to win the race, despite sabotage attempts by men.

The controversial filmmaker, D.W. Griffith, introduced other themes for the woman driver that did not showcase her with the empowerment that Normand's racer possessed. Mary Pickford played Edith, the woman driver in *A Beast at Bay* under Griffith's direction. In this film, Edith is kidnapped and nearly raped when she goes off alone in her automobile, sending the warning to women that they might face significant dangers while driving solo. This was quite different than the independent and spirited woman behind the wheel that Mabel Normand created for *Mabel at the Wheel*. The ideas presented by newspaper columns, magazine articles, books and film, all worked to influence society to see women as capable drivers. They also prepared the world for the next stage in women's associations with the automobile: the era of woman drivers on the front lines of World War I.

The inter-war years of World War I began with a flurry of coercive propaganda in Britain and America, first introducing themes of women in peril to threaten men into enlisting, and later moving toward themes of empowerment that enticed women into war work. Propaganda materials in the form of posters, magazines and newspaper advertisements were very prevalent in the early years of the war as governments realized they needed to recruit large numbers of men to enlist with the military. Posters such as those seen in Ireland, and Great Britain deliberately manipulated the image of women to threaten men into joining the war efforts. They cast women as weak, and in danger of rape or mutilation by the

Germans if the war was lost and they invaded the United Kingdom. These ideas originated in the Bryce Report of 1915, which outlined the atrocities that German soldiers had purportedly committed against women. Posters depicted women shaming men, saying they would go to war themselves if needed. Such threats were intended to appeal to a man's sense of masculinity and courage. To refuse would be unmanly and unpatriotic.

Likewise, posters were circulated that threatened women who were encouraging men to avoid enlisting. They sent a direct message of blame and warned that such women were responsible for the deaths of British soldiers who needed as much help fighting overseas as they could get. In America, the Christy Girls posters seduced men into enlisting by suggesting that they would be very manly and irresistible to beautiful women and would thus be rewarded with sexual favours after serving. Such images and themes of gender were coercive and caused changes in the ideologies of women's empowerment which had only recently arisen in the progressive era.

Once high enlistment numbers were achieved, governments began to pay more attention to other wartime needs: the need to produce munitions, food and textiles while men were away. This fell to women. Suddenly, women were being enticed to enter factory labour where they found themselves in just as much danger as soldiers overseas. Chemicals used for those munitions poisoned them,

turning their skin yellow. Women were just as much in mortal danger as men in factories and on the front lines. The women working in these factories came to be known as canaries due to this yellowing. From a modern standpoint, it is easy to identify the courage and strength of women taking on these duties. The war could not have been fought without their help. However, women's work was not restricted to labour on the home front. Many served as nurses, support workers and perhaps the most dangerous role: that of the ambulance driver in the trenches. Dorothie Feilding was amongst the first women to take on this role.

Feilding was a pioneer in ambulance driving, famous for her courage and skill while driving on the front lines under fire. Like many of the woman ambulance drivers, she came from the upper class, which meant that she had access to a car and could afford a driver's license. Feilding was the second daughter of the Earl and Countess of Denbigh, and her brother was serving overseas. She was selected by Munro from a large pool of applicants due to her driving and organizational skills, as well as her money. Like several of the other women, she could find financial resources for the ambulance corps from friends and family. Glowing accounts were written about Feilding in newspapers in Britain and North America, including reports from Arthur Gleason, whose wife served alongside Dorothie. Feilding was not alone as a pioneering ambulance driver on the western front. Many women served in a similar role and on different

war fronts for the Munro Flying Ambulance Corps, the FANY, and QUAIMNS amongst others.

Feilding arrived in Belgium early in World War I, working for the Munro Flying Ambulance Corps. She was organized and capable and was instrumental in setting up the first ambulance stations for the women on the Munro team. Throughout her time, she encountered in-fighting amongst the women, and occasional resistance to the idea of women serving on the front lines. However, she prevailed, and even when she found herself under fire while carrying injured soldiers from the trenches, she continued with her work. Eventually, Feilding and the other women of her company were awarded with medals usually reserved for military service. Meanwhile, the dangers for women serving on the front lines continued to escalate as gassing was introduced.

Kate Luard detailed the impacts of gassing and how they affected ambulance drivers on the front lines in France with QUAIMNS. Some of the gases were able to infect the ambulance drivers as they transported dying soldiers, as they remained active in the air around the soldier's clothing and body. This put the women directly into the line of fire in a sense, in that they were sharing the experience of being gassed. Inside the space of the ambulance a zone of equality was established where the soldier and ambulance driver were both under attack and fighting to prevail. This led to new ideas of a "militarized" woman, who not

only dressed similarly to the soldiers, but who experienced the war in the same ways. Their stories were recounted worldwide, changing perceptions of women's abilities, and skills, particularly in their associations with the automobile, which had allowed them to enter the military arena and showcase what they could really do.

The woman ambulance drivers and nurses of the FANY illustrate more examples of women's empowerment during their war work. However, the FANY members encountered a somewhat different reception. Their members wrote of feeling a backlash against them for their nursing work from men in the military and medical fields. Still, they persevered and tried to remain a strong cohesive unit in order to cope during such difficulties. The FANY also offer a particularly curious example of how the woman driver at the front lines was received. When member Grace MacDougall drove the large military Wolseley lorry to collect patients and medical staff, high ranking military officials would attend to observe. These men were reported to be fascinated or horrified at the idea of a woman driving such a large military vehicle. This may be due to the vehicle's size, or its more direct associations with military work. MacDougall's experience was a confirmation and visual example of the militarization of the FANY women whose uniforms were often mistaken for being military issue. This raised ideas that were uncomfortable for some men, in particular, those at decision making levels in the

British military who were not necessarily in favour of women serving on the western front in any form.

Women's empowerment or militarization can be seen in other ways related to the ambulances they drove. When these women performed their duties, picking up injured male bodies and bringing them into the ambulance interior, a transference of power occurred. The women were taking charge of the men's bodies and taking on the responsibility for their well-being. This can be seen as a reversal of the ideas of weakness that the early propaganda depicted. In this space, it is not the woman who is being saved from the German soldiers by a British man carrying out military protection of her. In the ambulance interior, it is the woman who is saving and protecting the British soldier who is rendered weak and unable to protect himself. This could only have occurred within a unique space: the ambulance interior was seen as a shelter and domestic space where care would be given. So, it was acceptable for women to operate within this space on the front lines, as they were in a way somewhat shielded from the direct exposure to the battlefield. The public and private spheres became blurred, allowing for this transfer of power from man to woman, in this localized location for a limited period of time. How much of that power was consciously felt by the women is unknown. Certainly, their diaries and letters relay pride in their work, and an awareness that their actions made them courageous. It may even have allowed some to believe that women would continue to be empowered or even to be

accepted as men's equal in more settings. However, it is also possible that once the war ended and the experiences were digested, that these ideas may not have seemed so favourable to governments, military, and the general populace.

The Post-World War I years drastically changed women's strong associations with the automobile. These changes were brought about for similar reasons as those that empowered women in the inter-war years: government needs, only this time they were under financial strain as they recovered from the costs of war and paid out pensions. During the war, Dorothée Pullinger had been serving as the CEO of the Tongland facility under Arrol Johnston, producing a variety of war time products. Pullinger was a visionary who set up the site with an engineering school to train women workers to eventually become automobile engineers with the Galloway Autoworks. By 1919, it was fully operational with a nearly all-woman workforce producing cars for women. Pullinger was keenly interested in cars: racing, designing them and most of all, hoping that women had found a permanent niche in their production. She was part of the group of women who started the Women's Engineering Society in Britain in 1919 and she was the first woman to be inducted into Britain's Institution of Automobile Engineers in 1921. Pullinger was also very smart about public relations and encouraged the creation of the factory's journals, *The Spanner* and *The Limit* which would tout women's skills and accomplishments in the automobile factory. However, a group known as the *Comrades of the Great War* in Kirkcudbright, a neighbouring

town of Tongland, saw a great threat in the women's work. They felt that they were taking jobs away from soldiers returning home from war and made it very difficult for the women to carry out their work. Women working in the factory at Tongland experienced what other women in factories were experiencing: they were shamed or push out of their jobs by the *Restoration of Pre-War Practices Act of 1919*.

The Limit published announcements when staff left and revealed that some returned to domestic life because they felt it was where they belonged, and that it was their "duty" to give up their job for a man to be employed. In a short year or two after women such as Dorothie Feilding had been driving on the front lines while under fire, women were suddenly being treated as if they had done nothing to support the war efforts. Their work in factories and on the front lines was ignored and the Galloway Autoworks was shut down in 1922.

A major reason for this was that governments wanted as much relief as possible from paying the huge number of pensions to soldiers returning from the war, with vast numbers of them injured. Like the early part of the war, they had a big job ahead to convince men to go back to work instead of accepting financial support from the government. Here governments again turned to coercive techniques to accomplish this: they created narratives that injured soldiers could only be made manly again if they went back to work. They also re-created ideas

of women as weak, incapable and totally dependent on men to support them. Unions supported this as the vast majority of their members were men who wanted factory work to be their sole domain. That included automobile factories which were producing more cars than ever. And so the two forces, government and union, were major contributors who pushed women out of factories and into the passenger seat of cars. Shortly thereafter, the automobile became known as a "man's technology": men built them, men raced them, men used them in film and real life to show they were rich, sexy or powerful. The steering wheel was snatched out of the woman's hands.

This is the reason Dorothy from the 1939 film *Wizard of Oz* did not drive a car down the Yellow Brick Road. She had to be portrayed as weak, needing a cast of men to help her walk through a forest to knock on a man's door and ask him for help to find her way home. She wasn't permitted an automobile adventure, nor the autonomy of figuring out what she wanted for herself. She was just as trapped by the ruby slippers as mid-century suburban women were trapped by kitchen appliances like the oven and refrigerator. Like women in the post-World War I era, Dorothy was charged to forget what she had done, and what she had seen. What were those vivid colours? She couldn't remember. Dorothy was convinced by a group of others, including her own Aunt and Uncle that she'd just had a silly dream. This was what she would have to live with. Home. Or no place.

Yet, for women today, we must find the places where they belong. These changes occurred in gendered ideas about automobile technology due to the crisis of World War I and the operation of government needing to influence its citizens. Ultimately, these are the primary, albeit not the only, forces that interrupted women's progress in technology fields. Indeed, there are homes for women in the stars, and around the world if they wish. There are vehicles, even more evolved than the automobile that women are inventing today. And it doesn't take a good or bad witch to make dreams beyond the rainbow happen. It takes a wizard, and she can accomplish whatever she sets her mind to, with the support of society. That is what the trajectory of the woman drivers of the World War I era has revealed.

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