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THE PROBLEM OF LABOR DURING WORLD WAR II:
THE EMPLOYMENT OF WOMEN IN DEFENSE PRODUCTION.

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THE PROBLEM OF LABOR DURING WORLD WAR II:
THE EMPLOYMENT OF WOMEN IN DEFENSE PRODUCTION

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of The Ohio State University

By

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1969

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PREFACE

Labor presented one of the most critical problems of World War II. This work proposes to study forces which brought women in large numbers into the defense production labor force. It seeks to show how the War Manpower Commission, the Women's Bureau, the Women's Advisory Committee, industry, management, labor, and other organizations approached the problem of labor and found the solution in the employment of women in defense jobs vacated by men called into military service.

The work also proposes to show that in the war period women workers took a big step toward emancipating themselves from a kind of second-class status in American life. Through their efforts and performances as laborers in defense plants from 1942 to 1945, they were able not only to emancipate themselves economically, to destroy the myth that women's place was strictly in the home, but to bring about a psychological and sociological leveling through the democratization of labor.

I wish to acknowledge the generous aid and assistance given to me by Professor David Brody, my adviser of the Ohio State University, Mr. Joseph Howerton, Mr. Herman Goldbeck, Mr. Gary Ryan, Miss Jane Smith, Miss Fenner, Mr. Acoff, Mr. Taylor, Mr. Saegesser and others of the different records divisions of the National Archives; Miss Elizabeth Odham of Kinston, North Carolina Community College, Mrs. Helen Caldwell, Mrs. Carol Jones, and Mr. Hobson Thompson of Elizabeth City State College, and Mrs. Lou Raper of Elizabeth City, North Carolina. I owe much to certain members of the staff of the following libraries: Radcliffe College and
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I wish to acknowledge with grateful appreciation the inspiration
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to thank him for his patience, understanding, perseverance and inspira-
tion, for without these this research and ultimate completion of this
work never could have been accomplished.
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INTRODUCTION

THE IMPACT OF THE PSYCHOLOGICAL AND THE SOCIOLOGICAL FORCES OF LABOR

A basic consideration during a war crisis is how to master and utilize all available resources for victory. If one were to make even a superficial comparison between World War I and World War II, in the utilization of resources, one would find that from a labor standpoint the difference was great. The employment problem during World War I was never as acute as it was during World War II. Several factors account for this. First, there was a vast difference in manpower requirements in the two World Wars. Some three or four million men were militarily involved in the first World War. Two million men were shipped over-seas. Some fifteen million men and 200,000 women were involved in World War II. Second, between 1914 and 1918 the airplane was just being introduced. In 1942, 47,000 planes were built and in 1944, 96,000 were built.¹ Similar comparisons could be made relative to ships, tanks, guns, ammunition, artillery, farm production, transportation and synthetic industries. Third, the duration of American participation in World War I was only about one-third the duration of American involvement in World War II. In addition, from 1941 to 1945 the United States was faced with both a European and an Asian War.

In 1918, however, women constituted a substantial minority of the workers in many war industries. For example, women made up eighteen percent of aircraft workers, thirty-seven percent of the workers in optical goods industry, and thirty-five percent of the work force in rubber goods and in photographic supplies. In November 1918, women constituted one out of every five war workers. In 1944 women made up one out of every three workers. In 1920, women numbered 8,229,000 or a little over twenty percent of the labor force. By 1945, women numbered 19,570,000, or a little more than thirty-six percent of the labor force.

In spite of the relatively large concentration of women in some war industries, there were a number of industries like steel and shipbuilding which did not hire women until 1942 and 1943. Even in aircraft where women constituted eighteen percent in 1918, they made up forty percent or more of the employees in aircraft in World War II. In small arms and ammunition, the percentage was almost the same. World War II created such a demand on labor that almost every unmarried woman under forty-five was called to work. In addition, almost half of all married women under forty-five were also called to work. World War I opened the way for women to enter on a much wider scale into the clerical positions of industry following the war. The second World War did much to usher women into higher professional jobs including executive positions in industry.

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4Burstein, Women In War Work, p. 91.
World War II increased both the size and the availability of the labor force. The United States labor force grew from fifty million in 1940 to almost sixty-five million by 1945, including twelve million in the armed forces.

The critical labor shortage in the United States during World War II created a labor vacuum that could be filled only by the utilization of women. Thousands of them were recruited and employed in defense plants all over the country to replace men who were taken away to the battlefields. Women were recruited in large numbers for employment in the steel, aircraft, ammunition, and shipbuilding industries. They also found work in the agricultural, transportation, and communication sectors of the economy.

World War II also transformed the labor market. Exigencies of work helped to provide the basis for greater expression of the psychological and the sociological forces that integrated, equalized, and democratized the labor force in the United States.

Women before World War II were not accepted in many jobs. Therefore, they had no concrete way of proving their ability to hold down a particular job nor of establishing their suitability for the job. Before World War II women had not been hired as welders, shipfitters, or machine operators in the steel, or shipbuilding industries. Therefore, they had not been able to prove their ability nor to establish their suitability for such jobs. Once the chance came during the war, women performed so well that they were recognized as a vital labor force in the manufacture of ships, planes, and ammunition. And this new role of women in the labor force upgraded their social status as well.
Changes in labor during World War II altered the status quo and the accepted way and order of life. Women's participation in the war broke with tradition and the past to establish a new order and a broader acceptance of their potential in American life. Miss Margaret A. Hickey, Chairman of the Women's Advisory Committee, observed in 1944 that

The War has reaffirmed my long held conviction that every woman should be trained and equipped to work whenever she is needed, by her Nation, her community, or herself. Gone with the wind, I hope, are the days of well-bred ineffectiveness to which so many women clung for so long... many who have entered the labor market since the beginning of the War know that they must join as permanent bread-winners, the 14,000,000 women who were already there.  

A chance to perform labor is in one sense a right. It involves a great degree of independence, a demonstration of an individual will to do what one likes to do, which is one of the marks of full citizenship. Miss Susan B. Anthony, for example, author of Out of the Kitchen Into the War, was sensitive to this issue. She felt that the mobilization of men by the Government in 1940 "was a method of dealing with full citizens accustomed to working in the world, accustomed to an independent concept of living and an assured status of free human beings."  

While Miss Anthony's position on the meaning of labor may not have been a totally new one, it certainly was significant to equate independence and the status of free human beings with freedom of choice or with freedom to choose. This concept means the freedom to work at whatever task one chooses. Men, however, had not accorded to women the full freedom to choose, for many jobs were forbidden to women. Therefore,

5 Margaret A. Hickey, "Women's Role Today and Tomorrow," Washington, (Mimeographed), (June, 1944), p. 4, National Archives.

the exclusion of women from certain labor tasks denied them full freedom and independence in our economic work system. This denial may be classified as discrimination.

The extensive use of women in nearly all phases and kinds of labor had a tremendous impact on the concept of women's place in the labor force. The war did much to dispel the habitual modes of thinking that had lurked so formidably in America's male mentality. Utilization of women in the war effort brought to women a more nearly full and complete citizenship than they had ever experienced before.

The shortage of labor during World War II forced the integration of several million women into the labor force on a scale hardly dreamed of before. The labor market had never been fully integrated. Women made integration a fact and a reality by performing or trying to perform almost any task in defense work that men could perform.

Labor may be the fulfillment of a desire or an ambition. It may be a method or means by which one finds his identity and becomes a more useful part of society. Through labor man makes his constructive or destructive contribution to himself and/or his society. Therefore, labor is a necessary or indispensable item in the fulfillment of life.

Men labor in different ways. But all are essentially pursuing the same ultimate goals—to do something, to be something or somebody, to find one's self, to discover one's potentiality, and to activate one's potential to a maximum and sense the consequent fulfillment. Labor, while providing for one's livelihood also helps to establish one's identity. Thus, one is known, classified, or identified by what one can do. The artist is classified according to his ability to paint a landscape, a portrait, or an abstract or an impressionistic work. A
mechanic is known as a mechanic on the basis of his ability to handle tools. A doctor is classified by the medical profession as a doctor because he has met the stipulated requirements to be a doctor. Yet a doctor's or a mechanic's work often is undertaken for more reasons than economic self-interest.

Henry Pelling in his *American Labor* suggests that the history of American labor has been tied to the social and economic evolution of the American Nation:

The quest for an American standard of living has haunted the American imagination and has unified the working energies of Americans regardless of their jobs. Among the peculiarly American features which have made this unifying nation possible are the variety of working conditions, the high wages, the agricultural background of the economy, and the vagueness of social classes. Because of these unique characteristics, it is especially difficult to separate the history of "American Labor" from the whole story of American civilization. We must not look for a class of workers but for America at work.7

Such an observation would seem to have had more validity and relevance during World War II than at any other time in American history. The War required the full use of all human resources to accomplish the critical and indispensable tasks of production.

No one segment of American society has been exclusively responsible for the rapid growth and development of the civilization either generally or specifically. Women have always contributed to the growth and development of America. In times of crisis such as World War II, however, their potential contribution to the economy was especially recognized. This was indicated both in the attempts to recruit women and in their actual on-the-job performance. Women's acceptance of their

place in the labor force and their performance in training and on the job also helped decisively to make America the most productive and the most powerful nation in the world at that time.

In the successful effort that generated the tremendous growth in productive capacity of the economy and in the phenomenal military power of the United States, womanpower was just as significant as manpower. Women held a unique role and function. They carved for themselves a niche in the labor market not only beside the men, but equal to them in skills and performance. During the critical years of war, American women and men joined together on the production lines to produce the goods that would defeat their country's enemy.

As women left the comforts of their homes for the many tasks and sometimes unwholesome jobs of the defense plants, they not only, as Fern Babcock suggested, "tended to accept the prevailing standards of individualism operating in the society," but they also fostered standards of their own which placed them on equal footing with men in the American labor force. Women set a standard for a more equalitarian society in America's labor force.

As a result, a large number of psychological and sociological problems confronted both men and women and the nation as a whole. Many of these problems were inherent in the American tradition and patterns of culture. Mores, concepts, and attitudes came face-to-face with the inevitable force of change. This face-to-face confrontation impelled a new look at American society and the place of women in it. The impact of forces revealed a duality in American society that had never before been analyzed, while at the same time elevating the social and economic status of women to a more equalitarian position

8 Ibid.
than ever before. There were also a large number of concrete social problems that were very evident in the American social and economic structure, one of which was the problem of labor recruitment. Women usually had to be persuaded that they were vitally needed in defense production and in the replacement of men in the labor force.

There was also the problem of training and job placement. Training women and finding the right job or the most suitable job for them was a tremendous task. In this light, cooperation with industrial training centers was important. On-the-job training centers had to be provided for the mass of new workers.

Equal to the problem of recruitment, training, and job placement was the problem of mobility. Not all women recruited could be employed in their immediate vicinity. Consequently, many had to move to strange and unfamiliar environments. This of course brought on the need for adequate housing, better working facilities, and baby care centers for the children of working mothers.

Baby and child care centers for the children of working women received special attention. The Norfolk-Portsmouth-Newport News center and those in Baltimore, in several California cities, and elsewhere made strenuous efforts to provide these facilities for working women and mothers. Such governmental, industrial, and community cooperative efforts expanded and enlarged a social and welfare consciousness in America that has hardly found a match until perhaps President Lyndon B. Johnson's poverty and educational programs.

The training and employment of women involved the general and specific relationship of men and women in labor positions which were new and strange. Men were not accustomed to women welders, machine
operators, crane operators, ammunition workers, and steel workers. The problem of adjustment was difficult for both men and women. Many men had always believed that a woman's place was in the home. The World War II relationship of men and women in the labor force did much to change this social stratification and so elevate the social status of women. Thus, the war crisis was a good chance to destroy stereotyped thinking and attitudes. It was a chance to move forward while at the same time making a vital contribution to the national war plan.

Margaret Hickey, Chairman of the Women's Advisory Committee of the War Manpower Commission, observed: "Women's great progressive strides (though we wish it were the other way around) are invariably made in time of war rather than in time of peace. This is not so strange as it first may seem, because war is a teacher—stern and exciting."\(^9\)

War brought American women new training programs, new jobs, new experiences, new responsibilities, and practically a new way of life. "The new responsibilities imposed upon women in periods of great national stress have presented them with new opportunities."\(^10\) American women made great efforts to preserve, broaden, and protect the home life of the United States and to prove that they were equal to the opportunity, the task, and the responsibility to contribute to the war effort.

War was also a challenge to traditional prejudices and customs. It was a challenge to maintaining the sanctity of marriage and the home.

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\(^10\)Ibid.
Margaret Hickey classified the home as "the cornerstone of civilization." Women as custodians of family life have been actively concerned in every movement designed to strengthen family life and the home. She suggested that:

History shows that in peacetime all industry exists because of and for the home. Wars are fought for the same underlying reasons. The home is the unit or structure of society. In a war for the survival of their homes, women's place is in the war. The best way to protect their homes for the future is to go out from them to work, to build and to win a world in which the homes of women everywhere will be safe.11

The changes in the work women did from 1941 to 1945 engendered changes in the ideas of both men and women. The wartime experience to a substantial extent helped to revolutionize the attitudes that determined the old patterns of personal relationship between men and women. Studies have shown that men prefer to work with men, especially in the high level positions of leadership in both government and business. According to 1941 figures, only three and one-half percent of all administrative employees in federal services were women.12 Such an observation may indicate that in the lower levels there seems to have been a fuller acceptance of women on a more equalitarian basis than in the higher levels. And in fact, the hundreds of thousands of women who were employed in defense production during World War II tended to serve in the lower levels of labor. But the extensive use of women in many levels paved the way for the broader acceptance of women as equals in almost every area of American society.

11 Margaret A. Hickey, "Women's Role Today and Tomorrow."
12 Ibid.
CHAPTER I

FEMALE EMPLOYMENT IN DEFENSE PRODUCTION 1941-1945

Women constituted one-third of the labor force which in 1940 numbered 13,840,000 and which during the war years rose to between eighteen and nineteen million.\(^1\) The 1939 Census of Manufacturers reported four hundred industries of which all but nine employed some women. It reported an average of ten thousand women in each of forty-four industries that together accounted for nearly two-thirds of all women wage earners in manufacturing. Cotton manufacturing of broad woven goods, for example, engaged fourteen thousand female employees; foot wear, except rubber, engaged nearly one hundred thousand.\(^2\) In 1942 it was discovered that the need for female labor was much more extensive than one could gather from the press or other information media. There were more problems involved than were readily apparent. This traditional employment pattern extended into defense plants.

Changes in Female Employment

From April, 1941, to April, 1942, the American economy underwent a tremendous transition from a peacetime level to that of a very demanding wartime level that continued until 1945. On the basis of prewar trends the labor force would have been expected to increase


\(^2\)The Woman Worker, 22 (May, 1942), 13.
by only about $2\frac{1}{2}$ million between 1940 and 1944. But there was a $6\frac{1}{2}$ million gain above even the usually expected normal peacetime employment. The following is a breakdown of female employment figures in the labor force, including a comparison with the 1950 and 1961 figures:

**TABLE 1**

<table>
<thead>
<tr>
<th>Female Labor Force (in thousands)</th>
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<tr>
<td>March 1940</td>
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<td>April 1944</td>
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<td>April 1947</td>
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<td>March 1950</td>
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<td>March 1961 peak</td>
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A report in The Woman Worker, a Department of Labor publication, showed that the estimate could range from two million to eight million, depending on the extremity of the emergency. Thelma McKelvey, specialist in Women Labor Supply of the War Production Board, estimated the number of women war workers at four million. Mary Anderson, Director of the Woman's Bureau, spoke of the availability of six million.

According to the Census, the number of women workers increased from almost eleven million to over thirteen million by March, 1940.

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4*The Woman Worker*, "Women Workers and Defense Jobs," 20 (1940), 3; 21 (1941), 264.

5Elsie Johns, "Three Million Women will Punch War Factory Time Clocks," *Printer's Ink*, 199 (May 9, 1942), 15.
These figures show an increase for the ten-year period of twenty percent while female employment above fourteen years had increased only fourteen percent. Women who were less than forty-five years of age were distributed according to work status of the whole population from ages fourteen to forty-five.6

The great impact of war on the development of American manpower resources was indicated in 1943 by Paul V. McNutt, Chairman of the War Manpower Commission:

By the end of 1943, or early in 1944, 9,700,000 Americans will be in the armed forces, 20,000,000 in war industry, 19,600,000 in civilian industry, 7,900,000 in year-round farm work, and the rest in miscellaneous occupations. In addition millions will be seasonally employed in the various agricultural areas... This means farmers, housewives, mixers, machinists, welders, railroad men—workers in all trades and walks of life must be mobilized.7

But already in 1943, housewives and women in general were being mobilized.

To get a general view of total female employment and percentages of employment during the war period, one may see that in 1940 women made up twenty-four percent of the labor supply. This percentage increased rapidly in a little more than two years to thirty-six percent. The figures from December 1, 1941 to March 11, 1944, are outlined below.

**EMPLOYMENT OF WOMEN IN THE WAR PERIOD**

**SIGNIFICANT FACTS**

Employed in December, 1941, as reported March 1944--12,090,000

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6Statistical Abstract; "Women In The Labor Market," The Woman Worker, 21 (1941), 4; 22 (1942).

7Ibid.
Biiployed March 1944—16,480,000. (Increase, 36 percent)  
61 percent were in labor force before Pearl Harbor.  
50 percent in same occupation group as formerly.

In labor force in both periods—10,230,000  
69 percent were 20-44 years old.  
42 percent single; 30 percent married, husband present.

Women who left labor force—2,180,000  
21 percent were 45 years old or more.  
62 percent were married, husband present.  
93 percent went to home housework.

New entrants to labor—6,650,000  
55 percent were 20-44 years old.  
44 percent single; 36 percent married, husband present.  
56 percent were home houseworkers; 34 percent in school.

Women not entering labor force—33,260,000  
43 percent were 45 or over; 14 percent under 20.  
65 percent were married, husband present.8

Great employment shifts occurred between occupations.  
Manufacturing industries, 49 percent came from outside the labor force; 26 percent from other industries. In essential supply industries only 37 percent came from outside the labor force; 54 percent were in same industry as before the war.9

Of the over six million newly employed from 1941 to 1944, more than half were from "home housework," and almost one-third were from the schools. Forty percent of the home houseworkers went into manufacturing.10 In the spring of 1944, women made up more than one-third of all workers.11

Single and married women, interestingly enough, maintained stable proportions of employment from after the Pearl Harbor attack to March, 1944.8


10Ibid., 4, (As reported for Dec., 1941 and March, 1944 by women interviewed in March, 1944. Does not take account of all changes occurring between the two dates.)

1944. "In each group between fifty-six and fifty-nine percent had
been employed before Pearl Harbor and the numbers of the single and
the married women who were at work in both periods are remarkably
similar."\(^{12}\) In spite of the problems of family, baby, and child care,
made women retained a working status comparatively equal to that
of single women during the war years.

**The Impact of the War**

A momentous change in the employment of women in defense production
took place. Mary Anderson attested to this fact:

Saturday, December 6, 1941, the status of women as workers
was one thing; by Monday, December 8, it had acquired a new
complexion. War had come to the United States, war with
inevitable demand for more men in the military force and
the phenomenal need for more workers to turn out fighting
equipment. Thus the importance of women workers was
enhanced over a week-end.\(^{13}\)

Over-age women increased the normal expectation of employment by
1 1/2 million. Most of this group was made up of unmarried women or of
women whose children did not need their mother's fulltime care.
Between 1940 and 1946, 2,900,000 married women entered the labor force.
This group compared favorably with the elderly male group who "contri-
buted approximately 1 1/2 million extra workers to the wartime labor supply."
Women between the ages of twenty and thirty-five "exceeded peacetime
expectations by a relatively small number."\(^{14}\)

By December, 1942, among women over fourteen, there were 28,700,000
homemakers, 4,406,000 in schools; 3,500,000 unable to work; 11,800,000

\(^{12}\)Ibid., p. 9.

\(^{13}\)Mary Anderson, "Women In War Industries," Personnel, 18 (Jan.,
1942), 195.

\(^{14}\)Employment of Women In The War Period," Labor Information
in agriculture and civilian industry; 3,100,000 in war industries; and 600,000 unemployed. With such a comparatively small number unemployed, it would seem that the major problem during the war years was to shift women from less essential jobs to those more essential to the war effort. Already by the end of 1942, essential labor needs had cut heavily into the 18.2 million women in the eighteen to forty-four age group reported by the 1940 census.

A similar study of June 30, 1942, carried out by the Office for Emergency Management, showed that there were nearly fourteen million women workers in the United States labor force, representing almost one-third of the total employment. At that time there were 2,500,000 women engaged in actual war work.

The Employment of Women in War Work

In May, 1942, Mary Anderson, estimated that America’s factories would have six million women workers ready for employment by Christmas of 1942. But it was expected that six million or thirty percent of the expected total of the labor force of twenty million would be women.

Such extensive employment of women was a reflection of the changed attitudes and hiring policies developed by the aircraft, shipbuilding,

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15 Margaret A. Hickey, "Interview," Los Angeles Radio Station, (Mimeographed, April 26, 1944), National Archives.


and other major defense production industries. For example, Paul R. Porter, Chairman of the Shipbuilding Stabilization Committee, estimated that 150,000 women would be needed in the United States shipyards.20

An Appraisal of the Need for Women Workers

In April, 1942, President Franklin Roosevelt announced that a voluntary registration of women was being considered. By May 1, 1942, however, he had dismissed the plan as unnecessary because of the fact that more women were available. On May 2, 1942, Paul V. McNutt, Chairman of the War Manpower Commission, announced that there was no need for a nation-wide registration for war jobs because at that time the United States Employment Service was reported to have one and one-half million women already registered and waiting for jobs.21

As time passed, the need for more and more women workers became more intense. The War Manpower Commission continued to say, "More women must go to work." In September, 1943, the Commission decided there was a need for millions of new workers in defense plants, especially in munition plants. At the time, the Commission considered the greatest untapped labor source to be housewives and older women.22

It seemed, however, that in 1944, there were as many calls for female labor as there were in 1943. The urgent need for women continued.


22 Ibid.
This was exemplified by the attempts of the Illinois Women's Clubs to open a recruitment drive for women in war industries. Though they recognized that over 2,500,000 women were at work in March, 1943, they also learned that the War Manpower Commission estimated that another two and one-half million women workers would be needed by the end of 1943. This estimate was based on the fact that at that time there were thirteen million unemployed women, nine million of whom were mothers who were available for jobs if they could find suitable care for their children.\textsuperscript{23}

Colonel Paul G. Armstrong, for example, director of selective service in Illinois and guest speaker at Illinois Women's Clubs, asserted that they had to take over even greater responsibility in war production. He emphasized that the continued success of the military effort depended on the effectiveness of women on the home front. He commented that "the housewife working for the duration of the war, whether at a war job or at an occupation termed non-essential, is filling in for a soldier or sailor, and by keeping an industry running, she is holding his job for him until he returns."\textsuperscript{24} Armstrong's statement was both propaganda to speed up recruitment of female labor and a realistic assessment of the importance of women in the work force.

\textbf{The Sense of Crisis}

At times of crisis, other leaders turned to female labor to solve problems. War Manpower Commission Director McNutt on July 31, 1944,


for example, announced the need for fifty thousand workers for ammunition plants. Those plants listed were these: The Kingsbury Ordnance Plants at La Porte, Indiana; Elwood Ordnance, Wilmington, Illinois; Kankakee Ordnance Works, Joliet; and an ammunition container plant at Harvey, Illinois. From a nation-wide estimate, the ammunition industries, in order to meet their schedules, were to expand their women employment by one million between July, 1943 and January, 1944. The McNutt announcement was an addition to these figures.

In early 1944, a Women's Bureau survey reported an acute labor shortage in 300 key foundry plants throughout the United States. Women could take many of the positions, especially the lighter ones, and thereby alleviate the shortage. The survey showed that in thirteen of the foundries, sixteen percent of the working force were women, "who excelled in crane operating, coremaking (which requires finger dexterity), drafting, laboratory testing, inspecting, pattern making, cleaning, and welding."

The percentage of women workers employed in 341 major war plants in New York City in January, 1944, was twenty-seven and nine-tenths percent, totaling 134,000 of the entire working force. Nevertheless, Mr. Richard C. Brockway, a regional executive of the Manpower Commission, suggested to a meeting of the New York Chapter of the Society for the Advancement of Management that the number of women working in

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war plants in the city needed to be increased by fifteen thousand by July. There was also a need for ten thousand women workers in upstate New York. Buffalo had 2,120 openings in essential war work. Rochester needed two thousand workers. Two-thirds of the workers were needed for essential jobs. Albany had 1,500 jobs available. The factories in Elmira-Binghamton section could have used one thousand women. In addition, seven hundred women workers were needed in the Syracuse area.  

Such calls for women workers in 1944 indicate a critical labor problem in highly populated and industrial areas. This kind of problem was common throughout the length and breadth of the United States. It also indicated the tightness of the labor market in 1944. In most cases training courses for workers were offered, but untrained women were accepted for jobs formerly held only by skilled men.  

Training programs for the unskilled man was one of the answers to the problem of labor shortages. During every period of the war such training was vitally important.

Planning for the Utilization of Women

From the beginning of the defense emergency, the need for the employment of women in the defense plants was anticipated by a number of outstanding participants in the overall war plans. Among these were Sidney Hillman, who was in charge of labor supply and training in the War Production Board, Brig. General Lewis B. Hershey, in charge of Selective Service, and Henry L. Stimson, Secretary of War. They stressed the important role women had to play in defense work.

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Hillman and Hershey had recognized as early as November, 1940, that a large number of women were increasingly seeking employment for industrial jobs. Some 373,700 were interested in immediate factory work. Three-fourths of them were already skilled. The fact that some women were experienced in certain types of factory work indicated that more women workers could be expected to fill such jobs as the war emergency increased the demands for their service. Early in 1943 two and a half million women were serving the United States in war industries. The editors of *The Woman Worker* noted a daily increase in female employment. In some thirty plants making small arms and artillery ammunition, where only forty-thousand women were employed in the last quarter of 1941, over seventy-thousand were expected to be at work by late summer of 1942. These were chiefly new jobs, rather than those vacated by men.31

**The Possibility of National Service Legislation**

By the fall of 1943, the labor problem had grown to such an extent that the Women's Advisory Committee in its meeting of September, 24, 1943, considered the labor problem as the number one problem of the time. It was believed that manpower mobilization would be very difficult because all available workers seemed to have been absorbed in the labor force by September, 1943. This led to the belief that inevitably there would be increasing pressures on an inadequate labor supply that would result in such a severe shortage that national service legislation would be needed.

In the face of the critical labor shortages in specific area, the Austin-Wadsworth national service legislation was introduced in Congress. Had the bill passed it would have provided for the registration of all women between the ages of eighteen and fifty under the Selective Service training and Service Act of 1940. The Bill was called the National War Service Act of 1943. It was introduced in the House by James W. Wadsworth, Representative from New York, and in the Senate by Warren R. Austin, Senator from Vermont. The Bill also would have provided an "overall organization and mobilization of all our skills and of our man and woman power. It would make known the equal liability of all in the war effort." The government, however, continued to rely exclusively on volunteer methods of recruitment, rather than on a compulsory method. Compulsory legislation was felt to be unnecessary by most women's groups. Their general opinion was that workers' recruiting stations and projects could be successful enough on a voluntary basis. The voluntary system, as incorporated in the bill of April 20, 1942, prevailed throughout the war period.

Another view was held by Secretary of Labor Frances Perkins. In 1942, Miss Perkins asserted that the labor force in the United States was always relatively adequate. "In spite of the excited wringing of hands about the lack of labor, the industrial labor supply was never

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32 Congressional Record, 89 Part 1, 78th Congress, 1st Session (March, 1943), 1374-1375.

33 "Calling All Women," Independent Women, 22 (June, 1943), 167.

34 "Minutes of the first meeting, Women's Advisory Committee," Records of The War Manpower Commission, (Washington, D.C., Sept., 1942), National Archives. J. C. Furnas points out in an article, "Women Power, Women Wanted," in The Ladies Home Journal of November, 1942, that Germany used compulsory registration for 9,400,000 women, Britain for 5,500,000 in war production for World War II.
really depleted." The talk was part of the propaganda to urge people from non-essential work to essential work. The women who wanted to and who knew how to work went out and got jobs because good jobs were available. Miss Perkins' contention seems to have been that there was a sufficient supply of available female workers. The real problem was getting women placed in the critical areas of the economy where their services were desperately needed.

The Necessity of Detailed Programs

 Obviously a major problem in the employment of women was getting information to them about employment, training, adjustment, and job adaptation. But most of the burden of the adjustments fell on employers. Typical statements illustrating industry's need to employ women in war production jobs appeared in a 1943 War Department Booklet. At that time more than 5,000,000 new workers were needed; more than half had to be women. The booklet contained suggestions, some of which were specific War Department directives and some of which were not. All of them, however, were offered to the War Department personnel and operating officials by the Training Branch of the Civilian Personnel Division of the office of the Secretary of War as the best means available for training industrially inexperienced women for war production jobs.

 Rules were suggested for hiring, for training, and for supervising women war workers. For better placement, employers hiring women should

35 "Battle Cry of the War Manpower Commission, We Want Women," Newsweek, 22 (Sept. 6, 1943), 52.

inquire into their educational background, their work experience, and their family obligations. The women should be given physical examinations consistent with the job requirements. "Special tests were to be given for jobs requiring strength, tolerance of extreme temperatures, or toxic substances as benzol and lead." The women were to be tested for dexterity, rapidity, and precision in trade skills. Special consideration was to be accorded to local residents with small children or infirm dependents. Others were to be treated on equal terms with men. Special attention was given to the problem of training women for supervisory positions.

When supervising women employees, the supervisors were to inform them that their jobs were essential to war production. Much patience was to be shown, especially to the beginner. In addition, to boost morale, when a worker did a good job, she was to be complimented.

The booklet listed a number of attributes of women. Among those listed were the following:

Women are pliant— adaptable.
Women are dexterous— finger-nimble.
Women are accurate— precision workers.
Women are good at repetitive tasks.
Women are good for fine color and material observant.
Women can be trained to do almost any job you've got— but remember "a woman is not a man."
A woman is a substitute— like plastic instead of a metal. She has special characteristics that lend themselves to new and sometimes to such superior uses.

38War Department Booklet, "You're Going to Hire Women."
39Ibid.
An intelligent approach to employing women in defense production was necessary, especially in heavy industries where lifting of weights was necessary and where toxic fumes were prevalent. Propagandists urging the employment of women had to answer common fears and objections. For example, Major Howard J. Lepper, Area Director of the War Manpower Commission, stated a criterion for those doubtful about holding a defense production job for fear of lifting heavy weights. He said that "women over sixteen years of age were capable of continuous lifting and carrying of unevenly disposed loads up to thirty percent of their body weight. They are capable of intermittent carrying of evenly disposed loads up to fifty percent of body weight."  

Lepper noted that according to the evidence collected by the industrial hygiene division of the United States Public Health Service, the belief that women were more susceptible to toxic substances than men had little or no validity. He observed that there were many activities in which the average woman excelled the average man, such as "in speed and accuracy, in discriminating sizes and shapes, finger dexterity, and eye-hand coordination." He concluded that "Suitability of jobs for women must not be determined on the basis of the lack of mechanical training or experiences, unfamiliarity with industrial conditions or machine activities."  

Such an approach to the problem of labor and the use of women in defense jobs seems to indicate an intelligent and sane consideration of the need to employ women in defense production.  

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41 Ibid.
women's ability to adapt themselves to many industrial tasks. Yet there was a need for greater coordination and better utilization of labor where acute shortages existed.

Margaret Hickey, Chairman of the Woman's Advisory Committee of the War Manpower Commission, seems to have had this in mind as she delivered a speech for the National Business Women's Weekly Meeting of Women's Service Club Council in Denver, Colorado, on October 14, 1943. In her speech, she reiterated the dire need for uniting the home front and the battlefront through the maintenance of essential war production schedules of the seventy-one war industry areas. These vital sectors of the home front showed an acute shortage of manpower and womanpower. Miss Hickey was very critical of the lack of the full use of both men and women. She demanded the elimination of idleness, better supervision, better health and safety provisions, and greater individual productivity. She expressed confidence and hope that both manpower and war production needs would be met by the reserve of nearly fourteen million women.  

The Effort of the Women

The government and industry had made reasonable estimates that before the end of 1942, 3,500,000 women would be employed in both private and government industries and that a 2,500,000 increase would materialize in 1943, thus giving a total number of six million women employed in war production at the end of 1943. By the end of 1944 and

the beginning of 1945 female workers or wage earners numbered eighteen million. One out of every three civilian workers was a woman.⁴³

Observing the great number of women utilized in the labor force during the war period, one can agree with Katherine Glover:

There is little to wonder about in the fact that women have risen in such large numbers to work, march, and fight if necessary, with men against the common enemy; for this is a new kind of war.... In no other war have women contributed so much to the freeing of men for military duty, and the participation in the manufacturing of munitions, and in the planning of strategy, and in the actual defense of our shores.⁴⁴

One may conclude that the real problem concerning the employment of women in defense plants during World War II was not one of recruitment. In reality, the greatest problem was properly placing women in defense jobs in areas where vital labor shortages existed and in transferring women from non-essential jobs to essential war jobs. The success of the effort led to another problem after the war: their fight to retain their economic gains from the war.


⁴⁴Glover, "Women At Work In War Time."
CHAPTER II
FEMALE EMPLOYMENT POLICY MAKERS

Despite the fact that the recruitment of female war labor was carried on primarily on the local or community level, women workers did receive an appropriate amount of attention from defense planners. A large number of agencies eventually took up the problem. It is striking, however, to see how slowly they did so.

The Executive Office

In the fall of 1942, the Executive Office of the President issued statements publicizing, analyzing, and emphasizing the place of and the need for women in the labor force. The memorandum outlined three basic points: the place of women in the labor force, the usefulness of women in the armed forces, and the contribution made by the various women's volunteer services. In analyzing the labor problem relative to the wartime expansion of industry and the inability to continue to find among male laborers an adequate supply for both the Armed Forces and industry, the War Manpower Commission on June 3, 1942, announced that "We have reached the time when we must depend increasingly, as the President said in commenting on his Executive Order establishing the War Manpower Commission, upon our reservoir of Womanpower."¹ This was in agreement with the statement made by War Commission Director McNutt, early in May of 1942, that one million more women would be in

¹Executive Office of the President, Office of Emergency Management, Office Memorandum, Records of War Labor Board (Washington, Aug. 4, 1942), National Archives.
in employment in industries during 1942 and that the eventual growth of war production would probably bring four million women into employment during 1943. As noted above, the Commerce Department estimated an eventual need for six million women workers.

In order to facilitate the employment of women, McNutt called for a re-examination and for the revision of existing policies, if necessary, for the recruitment, training, and utilization of human resources. "We cannot," he said, "afford to waste our labor resources by uneconomical production methods or by unintelligent and unfair restrictions against women or older workers, against Negroes or local aliens, or any other minority group." Sidney Hillman believed that in order to accomplish the goals set by President Roosevelt, "We must double, perhaps treble, our present labor force in war industries." He therefore wrote to government contractors urging them to increase their employment of women workers.

Certain publications distributed by the United States Department of Education also gave information on the employment of women. The United States Office of Education issued three publications in 1942 to give information to women interested in war employment and training. These publications were Women's Contributions In War Times; a list of references, Training Women Defense Workers; and "Women for United States and the War." Information about training for war work could

2The New York Times, Sec. II (April 27, 1941), p. 3.

3Thelma McKelvey, "Report To the House Committee on Women In War Production," Labor Division of the War Production Board, Executive Office of The President, Feb. 4, 1942, p. 1, National Archives.

also be obtained from the state directors for vocational training for war workers from the Engineering, Science, and Management Defense Training Program, U. S. Office of Education, Washington, D. C., and from the local offices of the United States Employment Service. There were a number of agencies which to a greater or lesser degree dealt with the problems and policies of employing women in defense production. These included the following:

(1) The Women's Bureau of the Department of Labor
(2) The War Manpower Commission
(3) The U. S. Employment Service
(4) The War Labor Board
(5) The War Production Board and Labor Production Office of the War Labor Board
(6) The Women's Advisory Committee of W. M. C.
(7) Children's Bureau

The Women's Bureau

The first of the organizations that played a vital role in accomplishing the goals set by President Roosevelt and which dealt with policies and promotional opportunities for working women was the Women's Bureau of the Department of Labor, established in 1920. Its functions were as follows:

It shall be the duty of said bureau to formulate standards and policies which shall promote the welfare of wage-earning women, improve their working conditions, increase their efficiency and advance their opportunities for profitable employment. The said bureau shall have authority to investigate and report to the said department upon all matters pertaining to the welfare of women in industry. The director of said bureau may from time to time publish the results of these investigations in such a manner and to such extent as the Secretary of Labor may prescribe.  

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5 Congressional Quarterly, 1. (1945), 46.

It may be well to reiterate the functions of the Bureau during World War II. In order to expedite war production by providing for the mobilization and maximum utilization of the manpower of the nation, Congress in 1942 resolved that:

during the continuation of the present state, war demands the utilization of all the resources of the nation... The mobilization and maintenance of our armed forces simultaneously with the maintenance of the constantly increasing war production program renders essential the most careful utilization in the national interest of the manpower and womanpower of the nation.\(^7\)

In 1943 some questions arose about the function of the Bureau. In a statement, Secretary of Labor Perkins suggested the Bureau had a purely advisory function. Mary Anderson, the Women's Bureau Director, in a memorandum to Frances Perkins restated the basic functions of the Bureau:

November 5, 1943

TO: The Secretary of Labor
FROM: Mary Anderson, Director
Women's Bureau

I have read your testimony before the House Appropriations Committee in behalf of the Division of Labor Standards in securing money for a Working Conditions Service. I find there are misleading statements in the testimony so far as the Women's Bureau is concerned. According to the record of the hearings you stated that—

"The Women's Bureau special function is not investigating or inspection or even visiting but a standard-setting function...."

I want to quote you the organic act of the Women's Bureau:

"It shall be the duty of said bureau to formulate standards and policies which shall promote the welfare of wage-earning women,

\(^7\)General Records of Julius J. Joseph, Senior Administrative Officer of the Planning Service, Records of the Office of the Vice Chairman (Labor Relations) Planning Division, National Archives
improve their working conditions, increase their efficiency, and advance their opportunities for profitable employment. The said Bureau shall have authority to investigate and report to the said department upon all matters pertaining to the welfare of women in industry."

By Act of Congress, therefore, we are given very broad authority and our function to investigate is specially mentioned. In our work during the 25 years of our existence we have tried to follow this broad authority, as far as our appropriations would permit.

While Miss Anderson had no intention of allowing a misunderstanding of the functions and duties of the Women's Bureau to develop, or to restrict its appropriations, yet in practice, the Women's Bureau served all American women workers including home workers, volunteers, citizens, and wage earners. The bureau personnel felt it their responsibility to see that every woman in America had the opportunity to make full use of her capacities in order to prevent any waste of womanpower.

The War Manpower Commission

A second important organization was that created by an executive order of April, 1942, which established the War Manpower Commission. The Commission was made up of representatives of the War Production Board, War Shipping Administration, and the departments of Labor and Agriculture. All the powers conferred on the commission were vested in its chairman, Paul V. McNutt.

The War Manpower Commission had very broad power to deal with problems concerning the employment of women in defense production. The Commission recognized that much of the reserve female labor force consisted of women with children. It also recognized the number of grave problems confronting women with children. On August 14, 1942,

Mary Anderson to Frances Perkins, Nov. 5, 1943, Women's Archives, (Schlesinger) Library, Radcliffe College, Cambridge, Massachusetts.
the War Manpower Commission issued a policy statement on the employment of women with young children. The release indicated that the expansion of the war production program and the requirements of the armed forces necessitated the most efficient utilization of the labor force. The Commission was aware of the problems of finding adequate facilities for housing and transportation. The Commission also recognized the problems involved in the recruitment, training, and employment of women in the war effort. The Commission urged the full use of local labor whenever possible. It tried to stimulate the consciousness that in carrying out a program for utilization of female labor, it was important that normal family life be preserved to the maximum extent. To do this certain guidelines were set by the Commission:

I. The first responsibility of women with young children in war as in peace, is to give suitable care in their own homes to their children.

II. In order that established family life may not be unnecessarily disrupted, special efforts to secure the employment in industry of women with young children should be deferred until full use has been made of all other sources of labor supply.

III. Barriers against the employment of women with young children should not be set up by employers. The decision as to gainful employment should in all cases be an individual decision made by the woman herself, in the light of the particular conditions prevailing in her home.

IV. Whenever it is found that women with young children are gainfully employed in essential activities, or that the labor requirements of essential activities have not been met after the exhaustion of all other sources of labor supply and that to meet such requirements, women with young children must be recruited, it is essential that:

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(a) Such women be employed at such hours and on such shifts as will cause the least disruption in their family life; and

(b) If any such women are unable to arrange for the satisfactory care of their children at home during their working hours, adequate facilities be provided for the day-care of their children during working hours. Such facilities should be developed as community projects and not under the auspices of individual employers or employer groups.10

In September, 1942, the United States Employment Service and National Youth Administration were transferred to the War Manpower Commission. The transfer of the Employment Service was significant because it logically dealt with the operating division of those agencies allocating manpower. The Selective Service System was transferred to the Commission on December 5, 1942. But it was not invested with the authority to determine the allocation of manpower among war production, the armed forces, and civilian production. The tasks of the commission were established by executive order rather than by Congressional Act. The Commission was therefore advisory and could not force compliance with its orders. Congress was to see to it that all hiring was handled by the United States Employment Service and to see that available manpower was fully utilized wherever it was most urgently needed.11

Employment Service

When President Roosevelt in 1940 announced a state of national emergency the Employment Service with its 1,600 local offices was designated to assist in recruiting workers for defense industries.


11 Federal Register. (Dec., 1942) 57 Statistic 598, Section 2.
Prospective workers were asked to register for essential defense jobs. As the demand for workers expanded, the Interarea Recruitment Service, which had been created in 1935 to alleviate depression unemployment, was reactivated in 1940 to help the Employment Service recruit workers for essential war jobs. When the United States entered World War II, the Employment Services of the states were federalized and by Presidential order were transferred to the United States Employment Service. Thusly, a third organization or agency for the promotion of employment was established. After the creation of the War Manpower Commission in 1942, both the state Employment Services and the United States Employment Service became the chief operating division in "Administering the programs for an orderly allocation of civilian manpower. It was a voluntarily cooperative program which was acceptable to both labor and management." \(^{12}\)

The major functions of the United States Employment Service and the State Employment Service were to ration the manpower resources of the nation and to identify industries as "essential or nonessential." The agencies instituted intensive campaigns to recruit workers "to meet the seemingly insatiable demands of war production and essential civilian activities." \(^{13}\)

The War Labor Board

In January of 1942, President Roosevelt, by Executive Order, established a War Labor Board to assume the functions of the National Security Review, 9, No. 12 (Dec., 1942), 17.

\(^{12}\) Ibid.

\(^{13}\) Ibid.
Defense Mediation Board which had been established in 1941. The War Labor Board may be considered as a fourth agency engaged in planning production and employment. The work of the Board was of considerable importance in stabilizing industrial relations and in "its functions as a court of appeals, a fact-finding agency, and/or agency of arbitration, either formal or informal...." The Board was also important in announcing presidential policy as is shown in the following memorandum.

MEMORANDUM

TO: Mr. C. E. Wilson

FROM: Donald M. Nelson

SUBJECT: In-plant Facilities

Attached is a copy of a letter from the President, and my reply thereto concerning the essentiality of certain "in-plant" facilities and the necessity for improving them promptly when they are submitted by the War Department, Navy Department, or Maritime Commission.

Although we are following this procedure at the present time, would you please take such additional steps as are necessary to instruct our organization specifically to consider favorably such in-plant essential facilities promptly?

Since most of these projects undoubtedly will be passed upon in the field, it probably is important that the field organization be advised as well as the Facilities Committee, the Facilities Bureau and the Industry Divisions.... While the President specifically mentions only projects submitted by it, it is my understanding that many applications for necessary in-plant facilities and equipment are made directly by the private companies concerned. Therefore, you probably will want to make it clear that such projects, providing they have the sponsorship of the procurement services, are processed in accordance with the intent of the President's letter.

War Production Board

Although this chapter deals primarily with policy making agencies that were principally concerned with women's employment and problems


15Donald M. Nelson to C. E. Wilson, War Production Board Memorandum (Dec. 24, 1943), National Archives.
such as the Women's Advisory Committee of the War Manpower Commission and the Women's Bureau of the Department of Labor, there were also other agencies making general policy for all workers. Outstanding among these was a fifth agency, the Labor Production Office of the War Production Board. Within the Labor Production Office, there was an Industrial Relations division whose duties and functions were of a liaison character dealing with labor relations of the major war and labor boards and the Army and Navy of the United States.

The Labor Production Office of the War Production Board in an administrative bulletin of October 20, 1943, enumerated the functions of the Industrial Relations Division. The Division was to deal with collective bargaining and labor relations in both war and civilian production. The Division also was supposed to "promote improved employer-employee relation," to settle labor disputes, and to "serve as the liaison unit between the Labor Production Office and the Management Consultant Division...to work with all units relative to industrial relations."\(^{16}\)

Since the Labor Production Office of the War Production Board established the general policy of the Industrial Relations Division, it may be of interest to take a closer look at some of its functions.

In order to stimulate war production and to encourage women to enter the labor force in large numbers, new programs and facilities had to be introduced and old ones enlarged. Special training programs had to be devised for women. Women needed their own toilet facilities. In addition, work often had to be rearranged and machinery adjusted to accommodate the women workers. Housing facilities also had to be

\(^{16}\)Administrative Bulletin, 20, War Production Board (1943).
expanded. In some plants there were trained personnel counselors and trained welfare supervisors to oversee the welfare of women workers in both the plant and the community.\textsuperscript{17} In view of these needs President Roosevelt ordered the War Production Board to make available materials for the construction of cafeterias, rest rooms, and other facilities for women in war plants. He instructed the Army, Navy, and Maritime Commissions to provide funds for the construction of these facilities.\textsuperscript{18} In April of 1942 the War Manpower Commission had plans for enrollment campaigns in eighty-four areas, all of which needed the necessary recruiting facilities. At that time only Milwaukee had adequate facilities. Reports from industrial areas showed that there were inadequacies in plant and enrollment facilities in such areas as San Diego, Seattle, and Bremerton, north New Jersey, and Connecticut.\textsuperscript{19} Whether for expansion, training, adjustment, housing, employment, or child care, the lack of adequate facilities constituted a serious problem. This problem was successfully overcome through the cooperative efforts of the War Department, government agencies, industry, and communities. More will be said about the solution to the problem of adequate facilities in succeeding chapters dealing with specific industries such as aircraft, steel, and shipbuilding.

Women's Advisory Committee

The Women's Advisory Committee was another government agency concerned with the problems of female employment in defense production

\textsuperscript{17} "Problem of Women Workers In War Industries."

\textsuperscript{18} "Memorandum," Executive Office Of The President, Office of Emergency Management.

\textsuperscript{19} "Memorandum," from Charles P. Taft to Paul V. McNutt, National Archives.
In fact, the Women's Advisory Committee may be considered the major agency concerned with the recruitment and the employment of women during the war crisis. One of the major tasks of the Women's Advisory Committee was to advise the chairman of the War Manpower Commission on policy involving the mobilization and utilization of women in war industry. The Committee carried out this function by conducting factual studies, the results of which were conveyed to the Chairman of the War Manpower Commission. The Committee also recommended to the War Manpower Commission other policies and programs which it had formulated on its own initiative.20

The Women's Advisory Committee was established by the War Manpower Commission Chairman's Administrative Order No. 22 on August 31, 1942. Presidential authorization under the terms of Executive Order No. 9279 of December 5, 1942, gave the War Manpower Commission Chairman the authority to appoint the advisory committee. He appointed a committee of thirteen persons and a chairman, all of whom were women. The members came from various regions of the country; North, South, East, Midwest, the District of Columbia, and the Far West.21 Labor, management, and the public were all represented on the committee. Other women on the committee represented specific women's organizations. Most of the appointees were specialists in community problems, education, journalism, and/or trade unions.22

Paul V. McNutt gave the following statement:

By virtue of the authority vested in me as Chairman of the War Manpower Commission, the following order is promulgated for the guidance of all concerned:

20 "Draft of the Preliminary Inventory of the Records of the War Manpower Commission," p. 19, National Archives.

21 Ibid.

22 Records of The War Manpower Commission, National Archives.
1. There is hereby established in the Office of the Chairman of the War Manpower Commission, a Women's Advisory Committee to be appointed by the Chairman of the War Manpower Commission and to be concerned with the most effective use of women in the prosecution of the war effort.

2. The chairman of this committee shall be designated by the Chairman of the War Manpower Commission.

3. The Chairman (or an alternate designated by the chairman of the Committee) shall serve as a representative of this Committee in maintaining a working relationship with the Management-Labor Policy Committee.

4. The Women's Advisory Committee is authorized to consider and recommend to the Chairman of the War Manpower Commission matters of major policy concerning the activities and responsibilities of the Commission, particularly as they affect women and the contribution women can make in the successful prosecution of the war. The Committee shall initiate studies and the formulation of policies, as well as consider those referred to it by the Chairman.23

Under the chairmanship of Margaret A. Hickey, a lawyer and business executive who was appointed in September, 1942, the Women's Advisory Committee divided itself into subcommittees to study specific problems under its jurisdiction. For example, the Community Facilities and Services Committee (a subcommittee) studied the effects of inadequate community facilities on the recruitment and utilization of "womanpower." The Postwar Subcommittee undertook the task of developing plans for the utilization of women in industry in the postwar period. The Women's Advisory Committee and its subcommittees were very much concerned about the problems that were likely to emerge during the reconversion period after the war ended.

The problems and circumstances facing the Women's Advisory Committee at its first meeting caused Miss Hickey to say that womanpower went far

beyond the mere signing up of women for jobs: "It includes training plants and living arrangements and it includes the revision of certain industrial processes in order to increase the number of jobs women can perform." Miss Hickey foresaw the numerous problems that would be involved in the employment of women in war industry. There were not only the problems of child care, living arrangements and training, but also those of ingrained attitudes and traditional habits.

With an awareness of the policy of the President and the War Labor Board, the Women's Advisory Committee suggested that labor and management organizations remove all restrictions that impeded the employment of women in occupations for which they were fitted or to which they could be trained. In addition, the Committee declared that "women should be admitted on the basis of equality with men to all forms of training."

The basic recruitment policy of the Committee was to refer women for job training on the basis of their qualifications for the occupation, "without discrimination because of race, national origin, or creed."

The Committee in its deliberations also did not fail to recognize that maintaining a good home life was the most important contribution of women to our society. Consequently, the Committee sought to protect family life from unnecessary hardships. Thus, women with young children were not urged to apply for work until all available labor resources including older women were fully utilized.

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24 "Wartime Women's Committee Maps Out Important Policy," p. 2.


26 Ibid. This situation, of course, would have disrupted the normal pattern of child rearing and would have brought about an increased number of social and psychological problems for both mothers and children.
Among other policies of vital importance, the Committee recommended the principle of equal pay for equal work. This was a significant step toward the democratization of labor and at the same time served as an incentive for the recruitment of women into many occupations that never before had accepted them. It was the Committee's belief that wage scales should be determined "on the basis of work performed irrespective of sex." The Committee proceeded then to ask for a forty-eight hour week or an eight-hour shift with one day of rest in every seven. It also recommended adequate meals, rest periods, and proper medical care facilities.27

During the second meeting of the Women's Advisory Committee on October 27, 1942, a policy was presented on the employment of young people under eighteen years of age. It "set forth the safeguards that should protect the physical and intellectual development of youths under eighteen years of age, whose services might be required because of the emergency."28

The recommendations of the Women's Advisory Committee were accepted by the War Manpower Commission under date of January 30, 1943. Subsequent meetings of the Women's Advisory Committee formulated procedures for "planning and conducting a Campaign for Enrollment of Women in Wartime Employment." This particular plan grew out of the Committee's third meeting of December 2 and 3, 1942. This plan was also approved by the War Manpower Commission.29

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29 Ibid., p. 56.
Later policy recommendations such as physical examinations for women shipyard workers, which the Committee on June 16, 1943, unanimously adopted so as to insure proper placement of women in hazardous and arduous shipyard occupations, were at this time turned over or transmitted by Chairman Paul V. McNutt to Donald M. Nelson, Chairman of the War Production Board. The Committee also sponsored certain community child care projects, yet it opposed the granting of government funds to the Kaiser Firm to set up child care facilities. In its meeting of January 3, 1943, it drew up a statement which recommended: "social attention to the problem of applying and enforcing the principle of the right of women to work." The statement was to be considered in connection with both war work and the demobilization and reconversion of the economy.

The Children's Bureau

The right and the privilege of women to work in war industry was also the concern of another government bureau, the Children's Bureau. The Bureau had an indirect concern rather than a direct one with the use of women in war work. It derived its interest from the effects upon the health and welfare of children, especially younger children of mothers being drawn into paid employment in defense work. The Bureau became a vital organ in finding ways and means to improve the conditions of working mothers.

One of the problems to be considered in the employment of mothers in defense industries was the physical and emotional suffering of

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30 Ibid., p. 9.
31 Ibid.
children that resulted because of neglect and the lack of proper care. Because of this, efforts were made in the early part of the war not to recruit women with children under fourteen years of age. But the demand of war production made it necessary to hire women with children under six years of age. During the latter stages of the war, about 1.5 million mothers with children under six years of age or less were employed. The Children's Bureau played a significant part in securing federal funds under the Communities Facilities Act and the Lanham Act that helped finance over three thousand child care centers, which at peak operation aided some 130,000 children.

Much of the reserved female labor force consisted of married women with children. On August 14, 1942, the War Manpower Commission issued a policy statement on the employment of women with young children. The Commission recognized that the expansion of war production and the requirements of the armed forces necessitated the maximum utilization of the labor resources. The Commission was aware of the problems of finding adequate facilities in housing and transportation. It was also aware of the problems involved in recruiting, training, and employing women in the war effort. The Commission urged the full use of the local labor supply and the cooperation of community aid. It tried to stimulate the consciousness that in carrying out a program for utilization of women workers, it was important that normal family life be preserved and maintained to the maximum extent,


33National Manpower Council, Womanpower, p. 147.
It may be concluded that in 1941 and 1942 the overall policy makers for war production—the War Production Board, the Industrial Relations Board, and the War Manpower Commission—were as concerned as the Women's Bureau and the Women's Advisory Committee in developing policies for the efficient utilization of women in the economy. All were aware of the severity of the labor problem. The intensity and the urgency of the labor situation was expressed this way:

When Japan attacked Pearl Harbor on December 7, 1941 production became the grand strategy of America. Production now was not a matter of preparedness or of defense. Production, now, was vital—vital in the literal meaning of the word, for production must be ever greater, ever faster to save America's life, to save the lives of America's men who were fighting to save that life.34

The Pearl Harbor attack brought a grave and desperate challenge to America...A challenge that had to be met by utilizing the full productive capacity of the American economy. This grave challenge was as meaningful to women as it was to men. Women became aware that if production was vital to the salvation and the very life of America, they must take to the production lines as their husbands, sons, and fathers were taking to the front lines. And the effort involved basic planning by federal agencies. In turn, these plans had to be administered by many persons across the country.

CHAPTER III

RECRUITMENT OF WOMEN FOR DEFENSE PRODUCTION
DURING WORLD WAR II

Initial Attitudes and Needs: The Problem

The recruitment of women for labor jobs was a difficult task. The belief had to be established that not only was it necessary for women to work but that it was "an entirely normal procedure under a wartime economy." The effort was especially vital because it was anticipated that eleven million men would be in the armed services by December 31, 1943. This meant that the service of women would have to be used on the home front in many ways, but especially in industries.\(^1\) It was necessary to convince men as well as women that the war could be terminated faster if more women joined the labor force. The Office of War Intelligence conducted a public survey and found that women's opinions on taking war jobs in war plants were as follows:

- 40 percent were willing to take war jobs.
- 40 percent were unwilling.
- 17 percent said yes if...\(^2\)
- 3 percent had no opinion.

The Institute of Public Opinion did not differentiate between childless women and those with children. However, the Office of War Information indicated that there existed a marked difference in the willingness of the two major age groups to take war jobs. It found

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\(^1\)Geographic Arts Victory Committee, New York, Government Information Center, National Archives.

\(^2\)"Advertisement for Recruitment," Institute of Public Opinion, National Archives.
that forty-two percent of childless women between the ages of twenty and thirty-four were willing to take war jobs, while only sixteen percent of mothers within the same age bracket would consent to take such jobs. In the age group from thirty-five to fifty-four, thirty-three percent of childless women were willing to take war jobs; whereas nineteen percent of the mothers in the thirty-five to forty-age group were willing to work in war jobs. The husbands of prospective working wives were asked: Would you be willing to have your wife take a job in a war plant?

30 percent said yes.
11 percent said yes if...
50 percent said no.
5 percent had no comment.  

"Yes if" included replies such as: yes, if the children could get proper care; yes, if my wife could withstand the physical burden. It was noted that the higher the economic status, the greater was the unwillingness to have one's wife enter a war plant. Of the men in low income groups, thirty-five percent were willing to have their wives take war plant jobs; on the other hand, only twenty-five percent of those in a higher income bracket would consent. The information campaign was therefore geared to convince fifty percent of the husbands that their wives without children should take war jobs. For the campaign to be successful, forty percent of the young women and sixty-four percent of the older women had to be convinced that it was their duty to take a war job.  

3 Ibid.
4 Ibid.
The problem of recruitment involved a number of factors related to the need to adapt resources and energies to their fullest productive capacity. It was desirable to unify and channel the energies and resources of women in order to expand America's productive potential. Viewing the labor situation in 1943, Margaret Culkin Banning, author of "Women For Defense," concluded: "If women could be united in support of a few very practical defense efforts, it would result in a merger of minds and energies which the country needs so badly."5

The Office of Civilian Defense was aware of the need for the combination or merger of efforts and emphasized the use of women in its programs of community mobilization. The OCD recognized also that while men were being called upon to constitute the major bulk of the Armed Forces, women represented the reservoir on the "Home Front." 6

Miss Margaret A. Hickey, chairman of the Women's Advisory Committee of the War Manpower Commission and vice-president of the National Federation of Business and Professional Women, announced the "Recruitment of womanpower to meet manpower shortages as the No. 1 challenge of the home front." She said, "Now if ever is women's chance to secure and to hold the higher types of work for which they possess the necessary qualifications."7

It was known that by March, 1943, there were 15.2 million American women employed—an increase of almost two million over 1942. But it

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6 Ibid.
was estimated that by December, 1943, 17.4 million would be needed. To fulfill this demand, it would be necessary to employ one-third of the existing population of women over fourteen years old. More than two million women had to be recruited in 1943. By almost any standard, this was a big order for the local communities. The above reference to some degree certainly reveals the impact of the labor problem. The following recruitment announcement seems to emphasize further the importance of the community in war production recruitment of women.

Because the recruiting of women for war work is entirely a community responsibility, the success of the campaign depends upon the extent of community cooperation. The community should resolve that in as much as recruiting involves major dislocations, it should base its whole war effort in relation to its solution.

Such a recognition was expanded and enlarged into an overall appeal to the conscious spirit of patriotism and to the social and psychological motivations of women to give full and unconditional support to the war effort. The pressures of war and defense demands called for an all-out participation on the part of every citizen. A contemporary survey showed that of 1,894 different occupations in twenty-one key defense industries, there were only 331 jobs found to be "definitely" unsuited for women. This meant that in vital defense industries, women were capable of holding 1,563 positions in such jobs. Women, however, had to learn about the jobs and the need for their service before they would consider employment. This was made known through information officers and mass advertising media.

8"Leaflet" Records of the Womanpower Commission, National Archives.
Appealing to Women

Many beautifully executed feature stories, eye-catching pictures, and pleasant sounding themes and mottoes spotted the pages of newspapers, magazines, special pamphlets, booklets, and leaflets. Many of these picturesquely demonstrated the part that women were playing and could play in the labor supply. Some of them heaped praise upon women for their services and for their participation in the war efforts. Others encouraged and demanded greater and more wholehearted participation.

Authors of some of the recruitment materials asserted that women were not afraid of such things as noise, electricity, heat, height, dark places, gases or foul odors. Other writers claimed that women worried little or not at all about their appearance. As author Elizabeth Gurley Flynn suggested:

Our women measure up to the stern requirement of modern industry.... Our country was not built the soft way. Women work hard on the farms and in the households. They carried on in every war while their men were on the battlefield.9

The cover on a booklet for the recruitment of women (developed by the War Advertising Council for the War Manpower Commission) carried a liberty torch with the caption, "The more women at war, The sooner we'll win." This was an urgent plea for immediate action to recruit women for defense work. The guide was issued for the benefit of local area offices to assist them in carrying out recruitment campaigns for women on a professional basis.10

10War Information Center (Washington: 1944), National Archives.
Another booklet pointed out the manpower problem and its effect on the home front. It noted that almost every manufacturer in the country was faced with severe manpower problems. The solution was womanpower.

The authors of one particular booklet suggested that the serious need for more workers should be impressed upon women. "The best place to convince them," it said, "was in the advertisements they read every day." A sample advertisement in the booklet reads:

There is a war job you can do and earn money doing it. You need no experience; you're taught the job you want to do by your employer or given a government training course, FREE. Womanpower can produce the goods of war... use it... speed the victory.11

The sign, "Women Wanted," became a very familiar sign during World War II. J. C. Furnas did a study in a work entitled, "Womanpower," which was reprinted in the \textit{Ladies Home Journal}, November, 1942. He predicted that:

In the next twelve months the American housewife must show that she can keep her head and her temper and roll up her sleeves at one and the same time. If she can't, her menfolk fighting on distant atolls are likely to get slaughtered in the hot sun for lack of ammunition.12

The call in 1942 and 1943 was mainly for women between the ages of eighteen and forty-five. Getting five million women into the right kind of work without crippling necessary civilian activity was one of the War Manpower Commission's toughest jobs. In support of this idea, on June 4, 1943, Paul V. McNutt, chairman of the War Manpower Commission wrote:

\begin{flushright}
\textsuperscript{11}Ibid.
\end{flushright}

\begin{flushright}
\end{flushright}
Under modern conditions of war, every person will have to serve where he can best serve the country. War manpower means everyone—women as well as men in the right job. We need the right workers...in the right places...at the right time.\textsuperscript{13}

The above statement was used to recruit female labor into the critical war areas, that is, both into war factories and into necessary civilian services.\textsuperscript{14}

Miss Elinor Herrick, Director of Personnel and Labor Relations at Todd Shipyard Corporation, expressed the general feeling of most women at the beginning of World War II. She claimed that women found it difficult to believe that they were really needed in war production industries. Therefore, the public opinion poll surveyors of the Women's Bureau agencies and the United States Information centers staged advertising campaigns to arouse greater public interest and public spirit in defense production jobs.\textsuperscript{15}

**Difficulties in Recruiting**

In spite of the diligent efforts of some agencies and groups to advertise and to stimulate the interest of women in defense jobs, the major news media were slow to mount a campaign for recruiting women workers. The newspapers, the most widely read medium of communication showed little awareness of manpower needs in their editorials. A study was conducted by the Office of War Information in July, 1942 to ascertain the extent of manpower materials contained therein. These findings constitute a veritable indictment of the leading newspapers.

\textsuperscript{13}Ibid.

\textsuperscript{14}America At War Needs Women At Work. A Plan Book (Washington: Service of the War Manpower Commission), National Archives.

\textsuperscript{15}Laura Nelson Baker, Wanted: Women in War Industries (New York: E. O. Burton and Co., Inc., 1943), p. 10. They defined a war job as a job in a war production plant or a job necessary in civilian occupations such as transportation, hotel supply, restaurant, school, grocery store, hospital, or public utilities.
Fifteen newspapers were checked in leading cities like Chicago, Boston, Detroit, Los Angeles, San Francisco, and New York. Between June 16 and 29, the fifteen newspapers carried eleven "editorials which could be considered related to manpower." Some papers during the same period carried little or no material about the manpower problem. For example, neither the Record nor the Inquirer of Philadelphia carried a news story or an editorial on manpower during the period June 16-29. The Chronicle and the Examiner of San Francisco had no editorial whatsoever relating to manpower during the same period. The research concluded:

It is evident, therefore, that during the period of this study the newspapers were not focusing public attention on the problem of manpower as a whole, or any part of it, with the possible exception of the need of farm labor.

In spite of the failure of newspapers to be as alert as they might have been to stimulate recruitment of women, the ladies nevertheless became interested in war jobs through other means. There were, however, questions they generally asked about war work. Some of them were as follows: "Is every woman in my community going to have to work?" Why should I take a war job?" "How much can I earn?" "Does the government make equal pay for equal work?" "How many hours will I have to work?" "Since I don't know about machinery, is training the answer?"


17 Ibid.

Types of Recruiting Agencies

In addition to informing women about the labor problems existing in the United States and of the impending necessity for them to enter the labor force in increasingly large number, a friendly recruitment atmosphere had to be developed. This applied especially to employment offices themselves. The job of recruiting was unfamiliar to many persons in the work. Sometimes the recruiters, and most often the employment agencies, were characterized by a cool impersonality.

Buffalo, New York, set an example of an atmosphere of cheery friendliness and hospitality at its recruiting station. The Womanpower Commission, then under the direction of LeRoy Peterson, set up a "charming little house like a Cape Cod Cottage," in LaFayette Square in downtown Buffalo. In the cottage, one woman operated some sort of machine, while another helped the applicants fill out their work forms, welcoming them with "the cheery warmth of a friendly neighbor." The consequence was that when women dropped in at the Cape Cod recruitment cottage, whether to make inquiries or merely to look around, they remained to chat, then to ask questions, "and finally to sign up for a job."19

Similar campaigns for developing friendly conditions at recruitment offices and employment agencies were instituted by other war production centers such as Baltimore, Maryland; New England; Mobile, Alabama; Norfolk, Virginia; and the Pacific Coast centers.

A very successful campaign was conducted by six major employers' organizations in Detroit. Their aim was to find 170,000 workers to

19 Mary Heaton Vorse, "Women Don't Quit If," Independent Woman, 23 (Jan., 1944), 8.
to fill vacant positions. Some 650,000 registration forms were sent through the postal service to enroll women. The forms were filled out and returned by 266,000 women. Three-fourths of these were not available for work. One fourth, 121,000, were available. Sixty-two percent of all women who were unemployed were willing to do factory work and almost half of these had had some experience in factory work. 20

In order to bring women into war jobs more rapidly in northern New Jersey, a victory theatre was erected by the New Jersey Department of Education in cooperation with the War Manpower Commission. An industrialist in the area gave weekly demonstrations of both work and entertainment in order to interest women to apply for jobs. The recruiting campaigners of 209 firms of the same area which were suffering from shortages of laborers set a goal of 26,000 women. Some of the leading companies promoting the campaign were the Federal Shipbuilding and Dry Dock Company, Pollock Manufacturing Company, Westinghouse, and Western Electric. 21

Such efforts for recruitment could be cited many times, for in the fifteen months from January, 1942, to March, 1943, eighteen enrollment campaigns had been initiated by local efforts or organizations like Civilian Defense, business and professional organizations, and management and labor groups. War workers themselves carried on door-to-door canvasses in a very effective way. Recruitment centers were even set up in downtown department stores and shopping centers.


21 Summary of Reports from Regional Chiefs of Training, Part II (Mimeographed, Bureau of Training), National Archives.
Community Level Recruiting

The most active recruitment programs for women war workers were community projects depending in part on general publicity, careful planning and timing, and voluntary cooperation by the community. Labor, management, industry, public-spirited organizations, the Women's Advisory Committee, the United States Employment Service, and the War Manpower Commission all worked in cooperation with the committees on recruitment programs. The Business and Professional Women's clubs and the Young Women's Christian Association were vanguard groups for recruitment. Many were encouraged to believe the following:

At that time the primary function of women's organizations in connection with the manpower campaigns was to canvass their own membership for women to take paid jobs. The secondary function was to make themselves responsible for repairing community dislocations which occurred as the natural result of women entering the labor market.\(^{22}\)

With those two primary functions in mind, the Business and Professional Women's clubs were busily involved in recruitment plans for the employment and the utilization of women for the defense production effort. And there was always the need to keep the community functioning smoothly during the wartime crisis. Both women and men were aware of the necessity to maintain war production for the foreign fields and at the same time maintain as much of the traditional home front as possible.

In April, 1943, there was no national over-all shortage of labor, for there was still a large number of women, skilled and semi-skilled, who could be utilized.\(^{23}\) But in a multitude of war industry centers, \(^{22}\)Ibid. \(^{23}\)Hickey, "There Must Be No Idle Women." "Women In War Industries," Personnel, 18 (Jan., 1942), 201.
the problem of labor was very serious. Even in areas where the forty-five hour week had been established, there were thirty-three acute labor shortage areas. In specific areas, therefore, intense recruitment was necessary and carried on with vigor. In these areas the community was organized to stimulate recruitment.

The Columbia Broadcasting System, for example, did a script on Womenpower—The Women of Baltimore, which expressed very vividly the need for women war workers and the problems involved in recruitment. A part of the script is recorded here:

COLUMBIA BROADCASTING SYSTEM
SUNDAY, NOVEMBER 8, 1942
12:15-12:30 P.M. EWT
STATION WJSV

WOMANPOWER
Script #19—The Women of Baltimore

ANNOUNCER From Washington, D. C., the Columbia Broadcasting presents.........Womanpower!

MUSIC THEME--FADE FOR

WOMAN Womanpower! The power to create and sustain life--
the power to construct in the midst of destruction.
An unlimited source of moral and physical energy--
working--for victory! This is Womanpower!

MUSIC UP AND OUT

BACK This is Bunnar Back speaking to you from the
nation's capital...and bringing you the story
of Womanpower--the story of what some women are

24 "Calling All Women," Independent Woman, 22 (June, 1943), 167.
doing and what all women can do to help win this
war. Today—the story of hometown women who
voluntarily took on a tremendous job—the job
of solving by themselves the manpower shortage
in a big city—an experiment in patriotism and
democracy the whole nation is watching...the
story of Womanpower in Baltimore!—
A few months ago a certain type of news story came
out of the city of Baltimore with increasing
frequency.

**NEWSCASTER** (FILTER) Baltimore's war factories need workers—
thousands of workers! There are empty places on
the production lines of this city's aircraft,
radio, electrical and munitions plants! Production
cannot be increased unless more workers are found
to man the machines and assembly lines!

**BACK** Many people shrugged their shoulders and said:
"Well, if Baltimore war factories need more
workers, why don't they hire them? There are
plenty of people out of work in other parts of
the country. Let them come to work in Bal-
timore!" ...But then, other news stories began
to appear.

**NEWSCASTER** (FILTER) Baltimore is one of the most over-
crowded war production areas in the United States!
Every house, every apartment, every shack is
occupied! Trailer camps are filled--families of six
or seven live in one small trailer! There is no room in Baltimore for any more outsiders! There is no housing in Baltimore for any more war workers!

This was a problem that soon became known at the offices of the U.S. Employment Service here in Washington as "The Baltimore Situation"—but it was a situation that existed in a number of other cities and the number was constantly growing.  

Baltimore proved to be typical of a defense production area aware of the many problems of recruitment and of labor shortages. It may be interesting to note that the War Manpower Commission set up in Baltimore the first Volunteer Womanpower Committee in the Nation. Through their Speakers Bureau they extensively utilized the press, radio, movies, and shopping centers to publicize the need for Women War Workers so that all women would know why and where they could be used in defense production.

In keeping with the recruitment policy, the Illinois club women opened a drive for the recruitment of women war workers. The recruiters were made aware that there were already two million women in war work as reported by the War Manpower Commission, but that in 1943, there would be a need for two and one-half million more in war industries. From the then unemployed source of thirteen million women, in American homes, it was anticipated that five million mothers could be employed to take


26 Ibid.
war jobs if and when nursery schools could be provided to take care of their children. "To most young mothers, the most important question determining their decision to take a war job or to remain at home" was proper care of their children. 27

In spite of the many problems involved in the recruitment and employment of women workers, it seems evident that the majority of women who were available for work were patriotically ready and psychologically anxious to take war jobs. Nevertheless, it was a new experience beset with factors that women had to consider and to overcome. They proved to be equal to the occasion.

CHAPTER IV

TRAINING OF WOMEN FOR DEFENSE WORK

Training women for defense jobs was a major problem. It was necessary to utilize all possible resources including public training programs, college training programs, engineering science management programs, and industrial programs. These training programs were supported by the Bureau of Training, public vocational schools, colleges and universities, and industries. This World War II program to train women for defense work became an extensive venture.

Training Programs For Women

Almost two and one-half million (2,461,943) women of various ages were trained under public, vocational, and college war training programs set up in the forty-eight states, in Hawaii, and in Puerto Rico. The enrollment figures were recorded from July 1, 1940, to March 21, 1944 as follows:

<table>
<thead>
<tr>
<th>Total women receiving training</th>
<th>Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total women receiving training</td>
<td>2,461,943</td>
</tr>
<tr>
<td>In public vocational schools under program of vocational training for war production workers</td>
<td>1,136,576</td>
</tr>
<tr>
<td>In food war production training courses</td>
<td>678,379</td>
</tr>
<tr>
<td>In engineering, science, and management war training courses in colleges</td>
<td>230,411</td>
</tr>
<tr>
<td>In training-within-industry courses</td>
<td>160,000</td>
</tr>
<tr>
<td>In the National Youth Administration courses (NYA discontinued in 1943)</td>
<td>256,577</td>
</tr>
</tbody>
</table>
The largest single number of women in vocational training courses (484,254) "was in programs providing training in occupations required in the production of aircraft."¹ In machine shop occupations, female trainees numbered 198,871. The shipbuilding occupations trained 115,054. In the college level courses under the engineering, science, and management war training program, 230,411 women were enrolled, nineteen percent of whom "were in engineering, drawing, and similar subjects, applicable to war production jobs. The other seventy-nine percent of the enrollment were in college courses designed for personnel, labor relations, testing, inspection communication, and management."²

The above figures may serve as a measurable indication of the demand for female help in war industries and war related industries.

The Vocational Education Training programs for women war workers were financed jointly by the federal, state, and local governments. In 1943 alone, the expenditures for salaries of teachers, trainers, supervisors, and directors of vocational education amounted to $63,502,396. Federal money amounted to $20,305,391. State and local funds amounted to $43,193,115. The training program was most successful in the period 1942 to 1943. In 1942, 2,629,737 women were placed in jobs.³

The major industries, such as aircraft, machine shop, and shipbuilding, demanded larger numbers of trainees than some other industries.

²Ibid.
The largest group, 484,254 trainees at the vocational high school level, was trained for employment in the aircraft industry. Vocational courses offered in machine-shop occupations trained 198,871, and courses in shipbuilding occupations attracted 115,054.

As the majority of men who had scientific training were drawn into the armed forces and into civilian work connected with the activities of the military, a call for scientifically trained women was heard. However, from consultations with the National Roster of Scientific and Specialized Personnel, it was learned that women constituted less than ten percent of the total of such qualified persons. There was obviously a need for a training program for women in the engineering and other scientific fields.

By the spring of 1943, more than two-hundred colleges equipped to provide instruction in engineering and science were offering instruction in engineering and science and offering courses in one thousand localities. In June, 1941, there was a total enrollment of 120,800, of which only 811 were women. The next year women numbered 38,300 out of a total of 438,500. The proportion steadily increased to the point where women constituted twenty-two percent of total trainees.

Number of Women Added to the Labor Force

In general, five and a half million women were added to the labor force and without any actual compulsion were moved into essential.

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activities as needed. This percentage of the newly-employed increased from four percent of the total to thirty-one percent of the total. This meant a massive program of training was necessary. The total enrollment for all training programs for both men and women was 8,500,000. Women constituted 1,500,000 of the total enrollment. These figures could serve as an index to the importance of women in the labor force. As time passed, it became evident that women were willing to volunteer for training in defense work in sufficient numbers to avoid forceful registration or drafting. Indeed, in a public statement Audrey Williams of the National Youth Administration reported that women responded to work and training so enthusiastically that requests received exceeded available facilities to train them. By June, 1943, almost 480,000 women had had pre-employment courses given by the Vocational Training for War Production System. Another 140,000 had taken advantage of the short engineering courses. Science and management war training courses were given free in some two-hundred colleges across the country.

An analysis of the labor needs of war industries for the period between January and June of 1942 showed that as much as sixty percent of the supposed job openings were in those occupations that required a training period of six months or less. More than half of these or


8Bureau of Training, War Manpower Commission, Foreword, (Mimeographed), (1943), p. 2., National Archives.

thirty-eight percent of the total required only two months training. On the other side of the ledger, sixteen percent of all employees required training of six months to one year, and fifteen percent required over two years training to meet qualifications. Mass training was undertaken for unskilled and semiskilled occupations, showing that the major occupational needs of the war industries could be met in training programs of from two to six months. There was a feeling, however, in the early years of the short-term training program, that "mass training" of women in these shorthanded unskilled occupations might not be practical, except in certain areas. Only if women could be trained in jobs which suited their abilities would the system be productive. This did not occur until the end of 1942. The length of the training period often depended on the degree of manpower needs. Training for a skilled welding job, for example, might range from 60 to 270 hours.

The anonymous authors of a War Department booklet suggested that women be trained differently from ordinary workers,—that women, for example, be trained more thoroughly than men on general plant layouts, production company policies, job techniques, and safety rules. They ought, according to the pamphlet, to be given a preliminary training course so they could "get the feel of work." The job training was to be related to past domestic experiences whenever possible, by interpreting operation in terms of household and kitchen facilities. But

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even the War Department policymakers advocated that women be trained also for high-grade jobs, with the potential for even further advancement. In such an instance, according to the pamphlet, it was essential, whenever possible, to make use of community facilities such as schools, colleges, universities, industries, and certain army installations in order to meet the needs of defense production.\footnote{War Department, "You're Going to Hire Women," (Washington: Government Printing Office, 1943).}

**Trends In The Training Program**

Training programs set up in some of the southern states to train women for war work provide a good sample of the range of agencies and training programs involved. The Army Air Corps Department at Mobile, Alabama, offered training courses for women in aircraft engine assembly, aircraft, sheet metal, propeller installation, machine shop practices, electrical systems, and aircraft engine accessories. The Army Air Corps Department at Macon, Georgia, offered the same courses. The Mobile, Alabama, shipyard offered a course in arc-welding. The Office of Defense Transportation at Memphis, Tennessee, gave courses in motor machines and lubrication. The Naval Air Station at Pensacola, Florida, offered courses in aircraft engines, sheet metal work, hydraulics, and machine shop. At Tampa, Florida, the shipbuilding companies gave instruction in arc-welding, electricians skills, and sheet metal. The Charleston Navy Yard taught sheet metal work, machine shop, and arc-welding, and at Macon, Georgia, the J. S. Reynolds Corporation gave training in ordnance plant work.\footnote{Phillip S. Vanwyck, Bureau of Training of the War Manpower Commission, "Report," p. 19 (Mimeographed), National Archives.}
According to the report prepared in the summer of 1943, the participating agencies of the Bureau of Training and the Regional Chiefs of Training, women were being trained and accepted in almost every kind of production job except those which were extremely hazardous and those involving heavy lifting and extreme physical labor. In certain areas where the labor market demands were most urgent, special training courses were set up for women only. Some of these exclusive training courses were offered at the University of Southern California and at the University of Chicago.\textsuperscript{14}

\textbf{Trends in the Training Programs}

Throughout the United States, there was a rapid transition from strictly pre-employment training to paid training courses. Such a trend was evidenced by the growth of training centers near the war plants and within the war plants. Even though the training programs continued to be conducted by local community organizations and vocational training schools, the job training programs were located conveniently in close proximity to an actual plant environment.\textsuperscript{15}

The training program was a continual one. It went on both day and night. Wherever there was work to do and whenever new recruits were brought in, training continued. In many cases, training was not distinguishable from the typical work situation. Much was learned by the trial-and-error method as well as the experimental method or learn-while-you-work method. While such training was extremely costly, the training program had to continue throughout the duration of war.\textsuperscript{16}

\begin{footnotesize}
\begin{enumerate}
\item[14]\textit{"Women In War Work,"} \textit{Chicago Tribune, Jan. 21, 1942}, p. 17.
\item[15]\textit{Vanwyck, Bureau of Training, "Foreword,"} p. 2.
\item[16]\textit{Ibid.,} p. 3.
\end{enumerate}
\end{footnotesize}
Production requirements were constantly increasing and in many instances changing to the point that new methods became necessary. Furthermore, there were frequent readjustments in the labor force itself. It was urgent, therefore, to keep a reserve of new recruits in the training programs so as to make optimum use of the abilities and skills of all workers.

A report issued in 1943 by the Bureau of Training and the participating agencies, noted basic trends which had resulted from their program. Several of these are the following:

1. All training programs were reflecting a substantial increase in the percentage of women enrolled, with the general trend constantly rising.

2. In tight labor market areas, many special training courses had been established exclusively for women. Examples of such were certain Engineering, Science, and management War Training courses at Illinois Institute, the University of Southern California, and the University of Minnesota.

3. Several interesting campaigns to enroll women in war training had been successfully undertaken....

4. A rapid transition from strictly pre-employment to paid-training courses for women was apparent throughout the country. In many instances, this trend had forced location of the local war training centers into buildings close to the war plants....

According to the Bureau of Training Report, the participating agencies were interested not only in the training program itself, but also in a full knowledge of labor needs, labor availability, and labor utilization. Such knowledge was required in order to enroll large numbers of women applicants for training courses set up by the Training Bureau. The percentage of newly enrolled trainees increased from four

17Ibid., p. 2.
percent of the total to thirty-one percent of the total. In the vocational training plan for war production, the public schools of all states in war production in the United States during 1942-1943 trained 697,000 women. The pre-war employment figure of 374,000 constituted thirty-eight percent of all women trainees. The supplementary figure of trainees was 323,000, representing twenty-four percent of all women trainees. It was established that during 1943-1944 an increase of fifty-thousand more women trainees would be required.

The paid-trainee programs were growing very rapidly. They were instituted by some six hundred and fifty or seven hundred plants numbering around eighty-thousand to one hundred thousand workers in 1943. In these, women made up sixty-five to ninety-five percent of trainees on an earn-while-you learn plan.

Training centers were set up in community schoolhouses which had previously given vocational training. By late 1943, these schools were turning out trainees at the rate of more than two million a year. Some others were set up in converted service stations, garages, and stores, as well as in large numbers of colleges. But despite the success of the training centers, the largest number of women trainees were trained on the job. It was estimated that seventy percent of workers hired by industry could be trained on the job.

18 Ibid.

19 Executive Office of The President, Office For Emergency Management, Office Memorandum, Meredith P. Kilpatrick to George S. Pette, Office of War Information (Mimeographed), Washington, Aug. 5, 1942, p. 1-2, National Archives.

20 Bureau of Training, War Manpower Commission, p. 5.

Training Within Industry

A Training-Within-Industry Program (T.W.I.) was operated cooperatively by industry and the War Manpower Commission. This included a job instruction training program that taught 350,000 workers, foremen, supervisors, and bosses how to instruct new workers in more than six thousand plants.22

As in all other programs, the length of training time differed according to the simplicity or the difficulty of the job. The simpler tasks sometimes took only a few days training. Women showed quick aptitude and adaptability in their job training. Once the employers were assured of this adaptability, a number cut the required training time. Some West Coast personnel managers who formerly demanded two hundred hours of training before they considered women qualified for jobs began employing them with only thirty or forty hours. Recognition of the aptitude and the relative ease with which women became trained for war industries caused the industries to make plans to receive women more readily in industrial work and to make arrangements to assist financially in the training program.23

Support for Training Programs

Industry began to share the cost of the training programs, especially for those jobs that were open to and waiting for women employees. For example, eight hundred women were recruited from one hundred colleges and sent to Curtis-Wright Corporation for a ten-month intensive training in aircraft engineering with expenses and tuition paid by the company.24

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22Ibid.

23Ibid., p. 9; "Wartime Committee Maps Out Important Policy, War Manpower Commission, (Mimeographed), (1942), p. 4., National Archives.

By late 1943, the training program for war industries production jobs had undergone such a phenomenal growth that the public school vocational classes were training people at the rate of two million or more persons per year.  

In October, 1940, by authority of President Roosevelt and in cooperation with the United States Office of Education, the Engineering, Science and Management (ESM) war training programs operated in two hundred colleges offering short term college level courses in more than one-thousand cities and towns to more than 700,000 men and women. The courses that were offered prepared "men and women for war jobs as engineers, chemists, physicists, draftsmen, supervisors, and most often, as scientific or technical aids."  

A Chicago effort to provide training presents a good example of the operation of this program. During the twenty months prior to March, 1943, the Illinois Institute of Technology had trained 1,446 ordnance inspectors, 556 of them women. The training course began at Illinois Institute of Technology in the summer of 1941. When the ordnance district official asked for inspectors, the Institute officials said, "Take them with you. We've just trained three hundred." These were so well received that an "earn-as-you-learn" program was set up whereby women students earned $120 a month while they learned under civil service.  

By March, 1943, the Illinois ordnance district personnel needs had been met. There were thirteen women members in the final class offered.

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25 Ibid.
26 Ibid.
With their graduation, the Illinois Institute of Technology closed its ordnance inspection training program. This resulted from the fact that the government had curtailed its ordnance production, thereby eliminating future demands for that kind of training program at the Illinois Institute of Technology.28

Training for Inspection Work

Inspection was a defense occupation in which women came to play a large role. This fact is illustrated by the Illinois ordnance district. The training period varied in the different industries. For example, in one plant a woman might learn to be an inspector while doing some production work. In another plant, one would learn to use a gauge applicable to the work in progress. The next kind of work might require another instrument. By rotating jobs, a woman learned the various modes of inspection gradually. In other instances there were inspection courses lasting from fourteen weeks which consumed six working hours per week. Here the workers learned blueprint reading and the use of all precision instruments. They acquired a thorough understanding of shop processes and instruments used in work inspection, including, for example, "several different kinds of micrometers and some twenty different kinds of gauges, dial indicators, and comparators."29 The inspection task was not generally new to women, for some had been employed as early as 1907 in some factories, and relatively large numbers were employed during the first World War.

28Ibid.

During the second half of 1943 and the first four months of 1944 nearly two-thirds of all persons enrolled in government classes for inspectors' supplementary training were women. About 5,150 were in aircraft plants alone and some 8,500 in all other industries. A survey in a large industrial state showed that one-sixth of women employed in more than 125 plants in 1942 were inspectors or testers. Fifteen percent were replacing men; eleven percent were doing work new to the plant. The percentages of all women who were inspectors and testers were the following:

<table>
<thead>
<tr>
<th>Product Type</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metal parts, small</td>
<td>38</td>
</tr>
<tr>
<td>Aircraft engines and propellers</td>
<td>31</td>
</tr>
<tr>
<td>Plastic products</td>
<td>28</td>
</tr>
<tr>
<td>Ammunition, gun parts, and other ordnance accessories</td>
<td>24</td>
</tr>
<tr>
<td>Machines, and machine tools</td>
<td>23</td>
</tr>
<tr>
<td>Instruments, professional, scientific, and other</td>
<td>22</td>
</tr>
<tr>
<td>Rubber products</td>
<td>13</td>
</tr>
<tr>
<td>Electrical products</td>
<td>11</td>
</tr>
<tr>
<td>Chemicals and drugs</td>
<td>4</td>
</tr>
</tbody>
</table>

Inspection Training at the Gary Works

A good example of a war production training program which involved inspection was the Gary Works. This program resulted from the efforts of management to provide for the heavy drains on manpower to the armed forces and also to meet the "increased demands on manpower inspection department as the war progressed." These factors brought F. S. Stickney, Chief Inspector of the Gary Works, and C. K. Turman, Director of Training, into a conference, which resulted in an organized system of training for inspectors established in April, 1942. Thomas B.

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30 Ibid.
Koons was chosen as trainer, and training quarters were provided in the
d basement of a small building on the plant grounds. Instructor Koons
began his class of nineteen women recruits on November 23, 1942. At
the end of two years, he had trained six hundred employees as inspectors.
After April, 1944, Mr. Koons gave initial instruction to new employees
of the chemi callaboratory, the metallurgical department, the production
planning division, and the specification department.33

Each prospective employee received a personal interview with instruc­
tor Koons. Mr. Koons was interested first in the age, height, and general
intelligence of the trainee. The company felt that she should not be so
young as to be irresponsible, nor so old as to lack alertness and
agility. If the interview was favorable, the trainee was considered
eligible for inspection work. Then the assistant chief inspector was
notified about the general impression of the interview and assigned her
to the mill in which she would work.34

A customary practice in the training program was to assign trainees
to Mr. Koons in small groups rather than individually. They would meet
in a classroom where Koons would brief them on the history of the
United States Steel Corporation and its subsidiaries. This was followed
by a briefing in a non-technical way on the flow of materials through the
plant, vividly demonstrated with flow charts of the steel making and
rolling processes. He also described in detail the organization of
the department in which the trainee would work. The instructor
closed this phase of safety training with an analysis of the safety

33 Ibid.
34 Ibid.
rules of the plant. Emphasis was placed on the fact that each trainee or employee would be subject to both the general plant rules and the specific rules of the department in which she worked. So ended the first day of instructions. Then began the second day of "specific instructions relating to the job." Some were sent to special job trainers, while others went to classrooms.

A representative program for new employees assigned to the primary mills in the Gary Works followed the general outline above. The instructor, with the aid of samples, would show the new employees various shapes of semi-finished products and would explain the peculiarities of these shapes or sections, the mill marks with which they were identified, and the various typical surface defects.  

Conclusion

The World War II training programs as they affected women need to be evaluated from several vantage points; the need, the adequacy of the training programs, the elimination of too much waste in energy, machinery and time, and the proficiency with which the trainees performed. From whichever point they were viewed, the training program made it possible to utilize the skills and energies of women in war production in the most fruitful and productive way.

Training and competent advice from those who were either versed or experimenting in effective utilization of womanpower, were vital aids to the war effort. The Women's Bureau, the War Manpower Commission, schools, colleges, and government agencies played significant roles in the training programs designed to improve women's performance in the
actual work situations. The training programs not only enhanced the development skills of women in labor positions, but also helped to pave the way for larger participation in the labor market after the war.
CHAPTER V

THE PROBLEMS OF OCCUPATIONAL ADJUSTMENTS, CHILD CARE, HOUSING AND HEALTH OF THE WOMAN WAR WORKER

Adjusting Work to Women

Recruiting women for a war job was one task. Holding them on the job was another. Sometimes this was much more difficult than convincing women to take jobs or advertising for female help. Keeping women on the job depended on several factors such as proper rest periods, proper restrooms, reasonably adequate working conditions, and child care. But the development of such favorable conditions was necessary to maintain female laborers, for many women had been forced to leave their jobs due to fatigue and lack of proper care for their children. Wendell E. Whipp, president of The Monarch Machine Food Company, said: "There are two vital advanced steps to be taken in the employment of women in industries. One is the toilet and the restroom facilities. The other is to have an experienced and mature woman as counselor or someone to function in the capacity of Dean of Women."¹ Mary Vorse, author of "Women Don't Quit," was one of many writers who found that neither the industries nor the communities had been sufficiently responsive to the need to provide adequate

¹Wendell E. Whipp, "How We Put Women To Work," American Machinist, 86 (Oct. 29, 1942), 1215; Iron Age, 150 (Nov. 19, 1942), 59-60.

²Mary Heaton Vorse, "Women Don't Quit," Independent Women, 23 (1944), 8.
services to the woman war worker while on the job. And Miss Vorse was writing as late as 1944.

The problems were not necessarily immediately obvious, but they were important. For example, it was noted that in some plants women were kept on their feet unnecessarily. One woman who worked on the assembly line in a plane factory had this to say: "When we finish wiring our plane, an hour or more goes by before another can be set up. You'd think, wouldn't you, that we might be resting during the interval? But are we? We are not. We are obliged to remain on our feet the entire time." The reason given was that the Navy might come through on inspection.3

Both communities and industries were slow to realize the importance of the woman worker. They failed to comprehend fully the fact that for the working mother, child care was most necessary. The foremost cause for absence and resignation among women was the lack of child care. Except for the nurseries established near the Kaiser shipyard in Portland, Oregon, industry as a whole failed to assume the responsibility for child care, especially in the first two years of the war. Industrial leaders felt that it was a community task.4 But the communities were slow to assume the responsibility.

Aware of the courageous way in which women took the hard, tedious, and dangerous jobs, previously restricted to males in shipyards, steel mills, arsenals, and aircraft and ammunition factories, the Women's Bureau agents formulated the guidelines; They were aware of the many

3Ibid., pp. 9, 24.

4Ibid.
new problems presented to both labor and management by such great influx of women into the labor market. Therefore, the Bureau outlined a general policy:

1. Sell the idea of women workers to present employees staff--the foremen and workers.
2. Survey jobs to decide which are most suitable for women.
3. Make adaptation of jobs to fit smaller frames and lesser muscular strength of women.
4. Provide service facilities in the plant to accommodate anticipated number of women.
5. Appoint a woman personnel director to organize and head a woman-counselor system.
6. Select women carefully and for specific jobs.
7. Develop a program for the induction and training of women.
8. Establish good working conditions.
9. Supervise women's work intelligently.
10. Give women equal opportunity with men.

These suggestions indicate a definite effort to make working as comfortable and attractive as possible for the women. But also embodied in the guidelines was evidence of a changing attitude of male employees toward women workers. One man was supposed to have said, "We didn't want women, but now that they are here we've found that they are just as fast and just as capable as men. They are all right." Indeed, special efforts were made by management to institute Women's Bureau policies and to sell the idea of female workers to existing employees--the foremen and men workers. In order to facilitate female employment, one company asked each male employee to bring a woman relative to train for the job, thus creating an atmosphere in which each man wanted "his" woman substitute to succeed. In another instance, a shipyard owner called the foremen together and discussed the labor situation. The

6Ibid., p. 3.
foremen themselves decided it was time to hire women and they in turn sold the ideas to the workers under their supervision.

Nor were the suggestions of the Women's Bureau impractical. Some defense plants took surveys to determine which jobs were more suitable for women. In one factory, tests were made of women lifting weights repeatedly in a sitting and standing position. The results were plotted, and it was found that women who repeatedly lifted parts, fixtures and arbors in excess of eighteen to twenty-one pounds suffered noticeable fatigue. In many cases, it was necessary to adapt jobs to fit the female physique. One aircraft plant that had steel jigs too heavy for women to lift replaced them with masonite jigs weighing less than one-tenth as much. In another instance, it was discovered that women lacked the ability to apply adequate pressure that would feed the drill with the required speed to prevent it from clamping and breaking. A pneumatic drill press feed was therefore devised.

Generally speaking, environmental facilities were inadequate. Both the large and small cities found themselves with inadequate resources for an expanding population. New plants which were established in undeveloped areas lacked many facilities essential to normal living. To accommodate the anticipated number of women workers, industry tried to develop such facilities in plants. A shipbuilding company provided clean and neatly furnished rooms for women. One aircraft plant even

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8 W. Gerard Tuttle, "The Influence of Women on Aircraft Production Methods," Aero Digest, 42 (March, 1943), 199.
sterilized the toilets several times in each twenty-four hour period. Of course, many industrial units undertook immediately to make special provisions for female help. Well trained and authorized counselors were employed to help women to adapt to factory conditions. In one aircraft plant, the assistance given by counselors included loans for lodging, food, and transportation until the workers received their first pay check. The women counselors offered advice on financial matters, recreational and occupational problems (except those dealing with wages, hours, and working conditions), and emotional problems.

Industry selected and provided for women with care. One aircraft plant used a daily requisition sheet stipulating the job requirements. One shipyard had a rigid pre-employment examination including the Wassermann test. It also kept strict checks on clinic attendance. Workers at an aircraft plant required women to report to medical departments as soon as pregnancy was certain so that they could be placed in work that would not be injurious to themselves or the child. One Navy yard had a policy that women who were pregnant should not be hired. Pregnant women were not to be hired on the "graveyard shift" and under normal circumstances would not be assigned to the swing-shift. In another case, a shipyard had its newly employed women spend the first day learning company policy and procedure. A different shipyard gave tests and placed the low scorers on simple jobs; the other participated in a six-day course in nomenclature, tool identity, phraseology of the plant, and the requirements of future assignments. At one aircraft plant, it was noted that women got most out of a training period if it

10 "When You Hire Women."
11 Ibid., p. 5.
12 "Here's Industry's Verdict on Women Counselors," Factory Management and Maintenance, 102, No. 3 (March, 1944), 126.
were conducted by an older woman. It seemed that women were less dismayed by criticism when it came from another and an older woman than when it came from a man. Women learned more readily and were less inclined to become discouraged when they could work with women who had already achieved skills in the same job operation. The transition into factory life was less abrupt for the average woman if she were working with a group of women under the direction of another woman.\textsuperscript{13}

Certain precautionary employment measures were outlined in a Safety Practices Pamphlet No. 107, "Women in Industry," released by the National Safety Council. In their consideration of physical and emotional aspects of women workers, the conclusion was drawn that "all generalizations are more or less unreliable and that women, like men should be regarded as individuals."\textsuperscript{14} It was further recognized that the precautions for health and safety recommended for women were equally desirable for men. Nevertheless the employment of women seemed to necessitate a "refinement of procedure that seemed less important for men."\textsuperscript{15} Therefore, all women employees were to receive a pre-placement physical examination that would include blood tests and other tests. The management was to place in the hands of the examining physician a job specification card which contained the following data:

1. Physical exertion required.
2. Special knowledge or skills required.
3. Exposure to moving machinery or point-of-operation hazards.

\textsuperscript{13}\textit{Ibid.}, p. 5.
\textsuperscript{15}\textit{Ibid.}
4. Whether the job requires constant sitting or standing.
5. Exposure to toxic dust, fumes, gases, vapors or mists.
6. Required vision.
7. Whether the job requires close cooperation with others.
8. Required finger dexterity.16

For the best performance, it was important to establish good working conditions. Eight Government agencies joined in advocating a work schedule with a maximum eight-hour day and forty-eight hour week, including one day of rest in seven. It was argued that the seven-day work week was too injurious to health, production standards, and morale. Women in California were not permitted to work more than eight out of twenty-four hours nor more than forty-eight hours per week, unless by special permission of the California Industrial Labor Department.17 For better morale, health, and production, two fifteen-minute rest periods or not less than ten minutes every two hours were recommended. In one aircraft factory seating was made available for women, even though in some cases they could be seated only part of the time.18 It was felt that a good policy would be to provide a place for women to lie down for short periods, believing that this would cut down absenteeism. The employees at one aircraft plant thought that calisthenics should be an essential part of conditioning women to avoid soreness, stiffness, and overfatigue..19

16 Ibid., p. 59.
17 Aero Digest, 42 (March, 1943), 143.
18 "When You Hire Women," p. 11-12.
19 Herbert G. Draesel, "Women In War Industries" (New Jersey: Wright Aeronautical Corporation, 1942), p. 23.
Supervising Women

The supervision of women in both their training and their war production tasks was a very important and necessary job. The Women's Bureau Advisory Committee and the Bureau's Labor Advisory Committee recommended both a training and supervisory program for women workers in defense production. Defense plants tried, therefore, to supervise women workers intelligently. Sometimes the foreman and lead-men needed special training to perform in a supervisory capacity.

In a shipyard, after training and job assignment were completed, the new employee remained under the jurisdiction of the training department for thirty days; thus, if she were not well adapted to the assigned work of the shop, shifts could be made. The office of the Assistant Secretary of the Navy suggested that supervisors of women should be kind, tactful, wise and understanding in their treatment of female workers. But once the women were inducted properly, the suggestions continued, they ought to be given no special privileges other than those relating to physical limitations.

In order to obtain the full and efficient use of womanpower in war plants, it was learned that good personnel practices had to be formulated which would demand careful selection, placement, and supervision for each worker. It was necessary that there should be an awareness of individual differences and group differences that existed between men and women workers. The awareness of these differences was


not to be considered the basis of inferiority or superiority. Furthermore, this awareness was based on a knowledge of the more uniformly good results of treating like things alike and different things differently.  

Supervisors were to take into consideration some important differences between men and women, even though women resented any evidence or appearance of favoritism. Women, however, required closer supervision when assigned to a task involving unfamiliar mechanical equipment. For this reason, the Wright Aeronautical Corporation of Paterson, New Jersey, requested that each supervisor make a survey of his department in order to ascertain the types of jobs which could be filled by women. The women's supervisor, although reluctantly accepted by the personnel officers, relieved the work supervisor from duties for which he was not qualified and for which he had little time.

According to a study of the industrial personnel division of the Headquarters Army Service Forces Guide to the Immediate and Maximum Utilization of Womanpower, the same practices used in the supervision of male employees could be used with success in supervising women.  

The Women's Counselor

Industries hiring large numbers of women acknowledged these needs and differences by setting up a women's division in their personnel or industrial relations department headed by a properly qualified woman.

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23 Draesel, "Women In War Industries," p. 2.

Such divisions provided the structure for more effective selection and placement of women. Furthermore, they established the kind of machinery that could be instrumental in helping to "settle women's grievances," solve their special problems, supervise their particular needs, and aid them in all matters affecting their job adjustment, "except actual performance of their work."  

In spite of the tendency to consider female war workers primarily as workers rather than as women, both women and industrial management thought that some consideration should be given to the placement of women into a new industrial environment— an environment for which they were inexperienced— one which was alien to their background and their physical structure. In such an environment the counselors and the personnel officers played significant roles.

It was found that the best procedure in plants hiring five-hundred women or more was to have the counselors work in direct contact with women employees. In most plants or shipyards it was best to have at least one woman assigned to every shop where a considerable number of women were employed. According to a factory questionnaire sent to representative plants all over the country, the women counselors were doing a vital job by keeping women in industry healthy and happy in defense work. Out of some one hundred, only one plant was not enthusiastic over the work of the industrial counselors. Eighty-seven

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25Ibid.
27Ibid.
28Ibid.
percent of the counselors were almost always available for consultations.²⁹

Certain functions were outlined for the head woman personnel officer. Some of her most fundamental responsibilities were the following: "She assisted and advised the chief officer in charge of personnel in the overall planning and coordination of employees relations work affecting women production workers." She helped to formulate the general policies that prevailed in the selection, induction, placement, and supervision of women. She aided in the personal adjustment of women to their jobs. She fostered and helped to maintain the correlation and cooperation of various plant departments with the women's personnel program involving women's medical care, examinations, safety, training, occupational dispersion, and work progress. She also was to supervise the setting up of washrooms, restrooms, toilet, cafeteria or lunchroom arrangements, and other facilities useful to women. She interviewed and helped to select interviewers with whom women worked closely.³⁰

Child Care

To a large degree, of course, the female employees were considered as part of the larger labor force. The need to improve working conditions was equally true for men and women and often no distinctions were made. The War Production Board, for example, had a special

²⁹Factory Management and Maintenance, 102, No. 3 (March, 1944), 126.
³⁰Ibid.
health and safety section, which applied to both men and women. But women differed from men: Women generally assumed the responsibility of caring for children. For working mothers, child care seems to have been their biggest problem. As late as July, 1942, newspapers like the Chicago Sun, which called for day nurseries, and the St. Louis Globe-Democrat, which called for government support and supervision of child care centers for the working mothers, tried to arouse interest in child care programs. Yet, child care projects did not get underway on any large scale until late spring of 1943. By June 9, 1943, working mothers in the Norfolk-Portsmouth area were given some relief for the care of their children through funds from the Federal Works Agency to construct and operate seven nurseries. Mrs. Helen Donis, Superintendent of the Portsmouth Service, announced that the sum of $20,625 was available for repairs, remodeling and operating costs. Money was also raised locally for child care purposes. By December of 1943, funds totaled $7,287. Other aid came from the Federal Government through the Lanham Act. One Portsmouth nursery operated from five-thirty a.m. to five-thirty p.m. The Miller Day Nursery, also in Portsmouth, operated on a twenty-four hour basis. It took care of fifty children from three months to two years of age. This was only a token effort since so many women workers had child-care problems.

The operations of many war plants, like the Los Angeles aircraft plants, were terribly disrupted because of female absenteeism especially during school vacation periods. The West Coast Aircraft Production

31 "Objectives and Purposes," War Production Board Records, Industrial Health and Safety Section.

32 Bureau of Intelligence, Media Division, Office of War Information Records, Washington: (Aug. 6, 1942), National Archives.
Council was well aware of the problems. In a published announcement they noted that one child care center would enable forty mothers to work full shift. This would add up to eight thousand man-hours a month. In ten weeks, the time gained would equal the time to build one four-engine bomber. Lack of twenty-five child care centers would cost a bomber a month.

The Los Angeles Board of Education operated twenty-one child care centers in 1943. But they accommodated only two thousand children. There was, however, a dire need to accommodate eight thousand in order to release enough mothers for jobs in the aircraft industry. The records reveal that in August, 1943, the plane plants in the Los Angeles area were employing 101,000 women, who were the mothers of nineteen thousand children. The real need, therefore, was for 197 centers rather than twenty-one or fifty. This need was anticipated to increase to 220 centers by December, 1943. At that time funds were pending or expected from the Lanham Act, which provided money to assist local communities in preparation for the war effort. The act was criticized by the Los Angeles School Board for its inflexibility and for its narrow framework. It did not provide adequate financing and the fees were too high for working mothers. 33

George D. Nickel, executive secretary of the Child Care Coordinating Council of Women in Industry, noted that a large number of women

were heads of families. Nearly ten thousand children were enrolled in 240 child care centers in the Los Angeles area, thus providing some facilities for children of working mothers. A five-state area of Ohio, Wisconsin, Detroit, Illinois, and Kentucky also made relatively adequate child care provisions for working mothers. Yet, in seventeen other areas, from Wilmington, North Carolina to San Diego, California, there were inadequate facilities. In the five-state area, there were fifteen thousand children enrolled in 591 centers.  

Housing

Perhaps the second most difficult problem for the woman war worker besides child care was housing. Women war workers found it quite difficult in many instances to secure proper housing, or any housing at all. Houses and apartments were even more difficult to secure than rooms. One city had no houses for rent for less than one hundred dollars a month. In certain congested mid-western war areas, some workers quit because of inadequate housing.  

Landlords were reluctant to rent to women. By 1944, some relief had been found because vacancies were created as a result of the continuous call of men tenants to the battle fields. To fill these vacancies, women were tolerated as a substitute source of income. Male tenants were usually preferred rather than women by some boarding house operators. So women not only found housing a serious problem,  

37 Ibid., p. 5.
but also found a pronounced aversion to their occupancy from many boarding house operators and apartment managers. Some of the most noticeable objections to women tenants were that some sought washing, ironing, and cooking privileges; that they were at home more and therefore were more disturbing to family life. Women entertained more, especially their men friends. Women were more critical of the quality of accommodations and services than men, and less profitable because they did not usually pay as well as men. Many landladies reported that women were more troublesome than men; more bother around the house, "Always under foot, always using the one bathroom in the house to do personal laundry, women want to wash and iron and cook, they think the telephone is their private property." 39

Large firms found it difficult to recruit women because of the housing problem. One firm told prospective women recruits that there was a large housing project near the plant but failed to tell them that it was already filled. In a town near a large ordnance plant, both the heads of the rooms registration office made it known that there were rooms available at that time. But the truth of the matter was that at least eighty percent of private homes did not rent to women. 40

A survey in a small town in North Carolina showed that only six percent of the housing listed was available to women. In another war center, people having rooms to rent listed their preferences in this

38 Ibid., p. 5.
40 Ibid.
order: traveling men, men working in the city, couples with no children, single women. Many of them would not take single women at all.

In certain war production areas, organizations such as the United Service Organization, the Young Women's Christian Association and church groups were very useful in placing women in living quarters for less than a nine-month period. 42

The registration office worked with the principal social service organizations which were manned by civilian volunteer personnel. In Washington, D.C., the office operated with a paid staff including a corps of trained investigators whose duties included the inspection of listings of housing facilities. It had a clerical force to verify the listings according to minimum standards established in collaboration with the Health Department of the District of Columbia. There was also a highly developed referral system to a central office. 43

An example of procedure for securing living quarters in a war congested area went like this:

A young lady arriving in the city, Washington, D.C., for employment could be directed by the Traveler's Aid Service from the train or bus station to the Homes Registration Office. There she would receive cards listing two vacancies that she might visit. If she found neither of these suitable, she could return for other listings or selections. In each case she was referred by the clerk to a

41 Ibid.
42 Ibid.
43 "Women War Worker's Housing," Women's Bureau Bulletin No. 17, pp. 6-7.
transportation adviser who gave directions for reaching the selected place of residence.\textsuperscript{44}

The example and the procedure may indicate the special efforts that had to be made in order to place women in war work.

The Housing Bureau outlined minimum conditions which had to be met if houses were to be rented by women. The house should be safe, secure, convenient and comfortable. Furthermore, it had to meet basic health requirements of cleanliness and decency. For example, beds were to be single with a limit of two to a room and a change of linen at least once per week. There ought to be a bath and toilet for every seven persons. It was necessary to have outside baths, one for every four persons. First aid kits for emergency use were to be made available. The employer had to follow state health requirements in even hiring domestic help. As a general rule, room rent did not cost more than one-fifth of the woman occupant's income. In certain instances the housing of war workers entitled the landlord to a loan to start in business or to improve or alter his premises.\textsuperscript{45}

Generally desirable service rules were required, as well as specific rules. Housing was to be located as conveniently as possible to transportation. The attitude of the manager was to be courteous, friendly, and businesslike. Scrupulousness and honesty in every detail were the guides for all financial dealings. The house had to have a clean, fresh, wholesome, and hospitable atmosphere. The local health

\textsuperscript{44} Ibid.

\textsuperscript{45} "Boarding Homes for Women War Workers," \textit{Women's Bureau Bulletin} No. 11 (Jan., 1943).
rules were to be thoroughly understood and met. Building and fire rules had to have similar attention. If men and women were guests in the same building, they had to be housed on separate floors with each guest properly registered—name, house address, and work location.  

An example of adequate housing for women was the Wendell Nevill Dormitories in the Norfolk areas which were provided as ideal living accommodations for working girls. They were very similar to modern hotels, but they claimed to have offered more in terms of recreation, nurse, and medical care. Nearly all of the rooms were private.  

Problems in Employing Women  

Women, like men, were inclined to leave their jobs if they were dissatisfied with the pay, location, or environment. In addition, women were likely to quit if housing and child care facilities were inadequate. It was estimated that in specific instances for every two women hired for war production work, one quit her job. In these situations, the causes for such a high rate of turnover were the difficulty in finding houses, the lack of baby care, overfatigue, and other discomforts associated with work in shipbuilding, foundries, aluminum, smelting, and refining and ammunition industries.  

In a survey of sixteen thousand plants made by the War Manpower Commission in June, 1943, it was found that these plants had a payroll

46 Ibid.  
47 The Norfolk Navy Yard Defender, Speed Victory, April 26, 1941.  
of $13,000,000 and a hiring rate of eleven and six-tenths percent of total women employment and a six and two-tenths percent separation (voluntarily). This was 248,000 of a total female employment of 4,000,000 compared to the men whose hiring rate was seven and three-tenths percent and resignations three and nine-tenths percent. The difference was certainly not a remarkable one. This similarity between men and women employees persists when one looks at the separation figures which resulted from job separation for all reasons. The percentage for women stood at seven and nine-tenths percent while that for men stood at six and six-tenths percent in the survey of sixteen thousand plants. In this same record the wartime figures were compared with the Bureau of Labor Statistic percentages of 1943-39. In 1943, the plant survey showed total resignations of four and six-tenths percent and total separations of seven percent. The 1935-39 figure was one and four-tenths percent of withdrawals and three and nine-tenths percent for separation for all employment.\(^{50}\)

The war period was an abnormal period for both women and men. The separation factor was high for both female and male workers. Defense employment caused men and women to move from one job or location to another. Young men were compelled to leave their jobs for military service. Many women left their jobs when their husbands were inducted into the Armed Services.

Marriage and maternity were obvious reasons causing women to quit their jobs, and both of these were on the increase during World War II.  

\(^{50}\)Ibid.
In many cases, women were providers of secondary sources of income. Therefore, they took many jobs to fill gaps in the family income. Many young girls worked in war plants to make money to further their education. As soon as enough money was earned, they quit. Many women, however, stuck to their jobs throughout the whole war period. Women usually gave the same reasons as did men for staying on the job or for quitting the job. Generally, the stability of the female labor force was sufficient for the manpower planners in 1943 to count on a substantial increase of women in the labor force.

Health Problems of Female Employees

Many women workers suffered from a diversity of ills—headaches, backaches, overfatigue, overexhaustion, and exhaustion. Here, the industrial nurse and physician were very helpful in advising women and in treating their many illnesses. "Women came into the dispensary and complained of being 'too tired to work' or they showed signs of 'wearing out' and sometimes quit their jobs because they could no longer stand the strain," one industrial health worker reported.

Many workers concluded that the total environment, as well as each facet of it, played a role in the overfatigue problem of the woman war worker. Coupled with this were the numerous injuries that women received while using power machines. The punch press, for example, caused half the accidents to women.

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51 Ibid.


The factory nurse did a considerable amount to alleviate some of the problems of the women workers. Care of teeth, eyes, feet, and other parts of the body was the concern of the nurse and health service of the factory. It was discovered, however, that of every ten absences due to illness, nine were due to causes not related to the work itself. They might have affected the individual whether on the job or not, whether male or female. 54

In addition to the noise, the attitudes, and the general surroundings, the time of work had an effect on the woman worker. But with the widespread adoption of the three eight-hour shifts coupled with the system of shift rotation, it was difficult and perhaps impractical to keep all women workers on the day shifts only. For this reason, it was felt that workers should be kept on one shift for at least two to three months. This would give workers ample time for adjustments from one shift to another. Even so, those who worked at night often found it difficult to adapt themselves to sleeping during the day. This contributed largely to overfatigue.. In addition; fatigue among women workers resulted, in part, from the fact that many of them were housewives and had to perform their war jobs while taking care of household duties. 55

Moreover, there were specific adverse affects of long-term factory work. Included among these were abnormalities caused by air pressure, temperature and humidity, radiant energy, repeated motion, and shock. Defective illumination, dust, infection, and accidents made working

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54 Ibid., p. 19.
55 Ibid., p. 19.
dangerous and unpleasant. The cost of industrial accidents totaled some $2.3 billion annually during the war period. The cost to the injured workers and their families could not actually be measured. War Manpower Commissioner McNutt said: "When we measure the coming requirements against the current manpower loss from accidents in industry, we have to accept the fact that industrial safety has become a major war problem." And this statement, applied, of course, to both men and women.

The Industrial Commission of Wisconsin, for example, compared the proportion of injuries suffered by men to those suffered by women:

The greatest rise between 1939-1943 occurred in 1943:

<table>
<thead>
<tr>
<th>Year</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1939</td>
<td>6.8%</td>
</tr>
<tr>
<td>1940</td>
<td>7.1</td>
</tr>
<tr>
<td>1941</td>
<td>6.8</td>
</tr>
<tr>
<td>1942</td>
<td>9.3</td>
</tr>
<tr>
<td>1943</td>
<td>14.0%</td>
</tr>
</tbody>
</table>

The preceding figures illustrate the overall national problem resulting from the employment of large numbers in defense production, and the loss incurred from industrial accidents and injuries. The problem created a situation in which both men and women were almost unavoidably involved.

We may note also, however, that the high percentage of injuries to women in on-the-job situations between 1939 and 1943 were due largely to the rapid and numerous increase of women in defense jobs. Several factors accounted for this—the jobs were new, the women were inexperienced in the use of tools and machinery and therefore, more subject

56 "Purpose and Objective," War Production Board Records, Industrial Health and Safety Section, p. 1., National Archives.

57 Mohr, "The Industrial Nurse and the Woman Worker," p. 35.
to accidents and injuries. The handling of heavy tools and the operation of machines in unfamiliar and noisy surroundings, plus long hours of standing or climbing resulted in overfatigue in most women workers. In spite of the multiple problems associated with women in war defense production, the psychological and sociological forces were so impelling that women took the war jobs and performed them well enough and long enough to play a decisive role in helping to bring the war to a victorious end.
CHAPTER VI

WOMEN WORKERS IN AIRCRAFT PRODUCTION PLANTS

The Decision to Employ Females

More so than in World War I or in any previous period of history the aircraft by 1941–42 had become a most important machine for peace-time or wartime transportation. The crisis of 1941 called for a drastic and rapid change in the aircraft industry. There had to be enormous plant expansion, construction, and employment to produce both cargo carriers and transport planes, and bombers, interceptors and fighter planes. The aircraft industry had to institute rapid training programs and employment plans that would include large numbers of women. In theory, the industry was cooperating with shipbuilding, steel and ordnance industries in the overall production plans. Yet it was to some extent in competition with these industries for the available labor supply. The military consumed so much of the male manpower that working women became the most readily available source of labor for which the various industries could compete.

Members of the Women's Bureau who made a survey in seven major aircraft plants in 1941 found adverse and almost hostile attitudes on the part of the employers toward hiring women. The bureau therefore estimated that only one-fourth to one-third of the jobs were suitable for women. In all discussions the group found a strong preference for men. By late summer of 1941, attitudes were changing and reflected
a more favorable climate for employing women. The Women's Bureau received requests from aircraft plants for "information on employment standards and jobs for women."¹ Some plants that had been explicitly hostile to the idea of hiring women were beginning to employ them in small numbers. Foremen were discovering and reporting that, amazingly enough, "women could do as well as or occasionally better than men on light work, also that men and women could work side by side without completely disrupting factory discipline and production."² After December 7, 1941, the practical idea that women were a vital and necessary labor supply found acceptance among both the women available and the aircraft employers.

The Extent of the Use of Female Employees.

The competition for labor in the different industries during the war indicated to the aircraft industry that it had to abandon its reluctance to hire women for jobs that men had customarily filled. It also had to recognize the need to make adjustments for the employment and the utilization of large numbers of women in its labor force. The aircraft industry hired very few women before 1941-1942. But by the end of November, 1943, a significant change had taken place:

- the government-contracting aircraft engine and propeller plants employed 486,073 women, representing thirty-seven percent of the entire industry's working force. For the period from 1941 to late 1942, the figure was only seventeen percent for the engine plants and sixteen percent for the propeller plants. The engine and propeller plants employed fewer women than the air form plants. Even so, by November, 1943, the engine

² Ibid.
plants reached their female employment peak of 103,100, when women constituted thirty-one percent of the labor force.³

Among the several major defense industries the aircraft industry became the "fair-haired child" in the employment of women. By 1943 aircraft plants, which had either employed no women or only one percent in 1941, were employing from twenty-five to fifty-two percent female labor and some plants making small parts employed as much as sixty to seventy percent.⁴

Vultee Aircraft, which provides a good example, began hiring women as early as April, 1941, and had three hundred of them in its employ by November, 1941.⁵ The Aircraft Division of Fairchild Engine and Airplane Corporation had as many as sixty women at work by November, 1941.⁶ In an electrical subassembly department of a Texas plant, twelve women were employed by November 17, 1941. By September, 1942, the percentage of female employment had risen to twenty-one percent.⁷ Other North American Aviation plants in California and Kansas were soon following with an anticipated fifty to sixty percent female employment.⁸

From October, 1940, to February, 1942, employment of women increased more than five times over their previous employment. By April, 1942, the employment of women on aircraft production lines had increased

⁴Ibid.
⁵W. Gerard Tuttle, "They Wear the: Pants," Aviation, 40, (Nov., 1941), 54.
⁶The Aeronautical Review, 9, (Nov., 1941), 34.
⁷"War Industries Turn to Women as Men Become Scarce," Machinery, 49, (Dec., 1942), 179.
⁸Ibid.
its female employment to fifty-two percent by the end of the year.

In the production of aircraft, some of the first occupations thought to be suitable for women were in the electrical work shops, where in the early spring of 1941, a western plant hired the first twenty-five women on electrical and radio assembly and found that within three weeks "the units produced per week increased by twenty-five percent, some even by fifty percent." Women fitting sixty-three different wires into a junction box cut the time from two hours to ninety minutes.  

The electrical and radio assembly occupation required a high degree of "manipulative dexterity." The 1942 Women's Bureau study found women working on the assembly and repairing of electrical systems, cutting wires, attaching fittings and lugs with screw drivers, arbor presses, and soldering wires to contact points. They laid out wires on routing boards or jigs, bending them around pegs until a complete harness was assembled. They laced groups of wires together, gave them a protective covering of shellac, and installed them in conduits. In addition, women soldered on lugs and attached designates for the final assembly in the plane.

As the war crisis deepened in 1942, women's skills as laborers were extended into other jobs in aircraft fabrication, and their proportion increased daily until 1944. For example, in the engine and


11 Ibid.
propeller departments, the percentage of women was sometimes as low as fifteen percent, while in the departments of small parts the percentage went as high as seventy or eighty percent. Some plants employed women in every department although not on every job.  

Women in the aircraft industry operated numerous machines of different variety, power and capacity. Women were laboratory technicians and radio technicians. They worked at welding, sheet metal, tubing, in the cable departments and at many other tasks in other departments.

For example, in aircraft assembly there were 31,723 women, constituting seventy-one percent enrollment. Women doing welding of all kinds in all industries numbered 50,201 with a twenty-eight percent enrollment. In heavy electrical welding, women numbered 44,680 with a thirty percent enrollment, and in blueprint reading, they were twenty-six percent of the total with an enrollment of 14,866. 

By January, 1943, the Curtis-Wright Airplane Corporation announced that twenty-five percent of the workers in its Buffalo division were women. The Boeing Aircraft Company of Seattle, Washington, indicated that almost one-half of its workers were women. Plants were then being set to increase the ratio of women to a three-fourths ratio by the end


14Benham, p. 2.
of 1943. These aircraft plants were good indicators of the trend to employ women in aircraft and other war production industries.15

Women actually found their greatest opportunities in the newly created or newly organized industries such as the Pacific Coast aircraft industry. In the Boeing Aircraft parts plants, both the pretty girls and elderly, stately women worked along with the "brawny, experienced machinists." In the parts of "make shops," more than thirty-five percent of the parts makers were women. They controlled high presses and shearsers.16 Vultee Aircraft which had 300 women out of almost 300,000 employees in 1941 increased the number of women to nineteen percent by the summer of 1942, 1,742 of whom were using drill presses, punch presses, and other mechanical devices.17 The adaptation of machines to suit the limited strength of women no longer remained a major problem; production levels were now determined by dexterity and skill.18 Some machines were designed for girls to operate which were controlled by push buttons, pedals or levers. But whether specially designed or not, machine operation was a vital business. It required the skill of both the man who had devoted the greater part of his life to it and the woman who learned to master it in a short time.

Consolidated Airplane Engines of California estimated that B-29 bombers contained 101,000 separate parts, most of which were so light

16Ibid., p. 12.
that women could handle them with ease, and in most cases, better than men. A survey of twenty-one key war industries proved that eighty percent of the jobs could be done by women. Such evidence gave rise to statements like that of Helen Waterhouse as she studied the work of women in the Akron, Ohio plant: "The Ladies do the Work;"

Women did the work, although some "consolidated" factory foremen had claimed that the factory was no place for women. After a ten months' employment period, an industrial relations director could say, "Women do approximately fifty percent of the work required to construct a modern airplane."21

A 1941 spring report by the Women's Bureau on aircraft assembly plants showed that much of the work of operating production machines, bench work, sheet-metal fabrication as well as the work of forming precision assemblies in electrical instrument and tubing departments could be managed by women as easily as by men. Moreover, women were capable of assembling control surfaces, wing and fuselage parts. The report also claimed that women could serve in areas as diversified as painting, factory clerical jobs, heat treating, and plating jobs. In fact, women could manage all these jobs with the same proficiency as men.22

For the above report, seven major aircraft assembly plants were visited. In four of the seven plants, women made up only a fraction of


20 "The Ladies Do the Work," Flying and Popular Aviation, 28 (April, 1941), 38, 39.


one percent of the labor force. Three of the seven hired no women at all. Most of the women who were employed were in the fabric or covering department, with a very small number in the electrical and tubing divisions.\textsuperscript{23}

A second survey by the Women's Bureau began in December, 1941, and continued through March of 1942. During this interim the agents of the Bureau visited twenty-six operating aircraft assembly plants and two plants that were under construction. Plants in nine different states were visited by the agents—California, Kansas, Missouri, New York, Ohio, Oklahoma, Pennsylvania, Tennessee, and Texas.\textsuperscript{24} These plants were in the process of assembling light, medium, and heavy bombers; flying patrol boats and cargo transport; and observation, fighter, pursuit, interceptor, and trainer planes. Six of these plants were included in the first survey.\textsuperscript{25}

In the operating plants of the survey, 250,000 people were employed; about seventy percent of these were classified as production workers. In the winter of 1942, women made up four and two-tenths percent of the factory force and in April, 1943, sixty-six percent. Three of the plants did not hire women. The largest proportion of women factory operators rose to about fifteen percent, or approximately one woman in every seven workers. More than two-thirds of the women about whom information was secured were in California plants. Five plants had more than five hundred women, the largest number slightly over 1,200.\textsuperscript{26}

\textsuperscript{23}\textit{Ibid.}

\textsuperscript{24}\textit{Ibid.}

\textsuperscript{25}\textit{Social Security Bulletin. (July, 1942), p. 15.}

\textsuperscript{26}Erickson, "Women's Employment in Aircraft Assembly Plants in 1942," p. 2.
In April, 1942, fifty percent of workers in aircraft instrument plants were women. The percentage was expected to move to seventy-five percent. 27

By the time of the second survey, managers of twelve of the plants suspected that as many as one hundred thousand women would be employed by the end of 1942. The California plants would have about twenty-five hundred to thirty thousand of these. This rise may be illustrated by the Boeing employment records for 1943-1945. In 1942, Boeing was employing 4,300 women out of a total of 28,300 employees. By 1943, Boeing Aircraft Company employees in the Seattle area numbered approximately 33,608; of this number, 13,800 were women. By 1945, the number of women increased to 16,700 of a total of 43,000. According to a report of the West Coast Aircraft War Production Council, representing Boeing of Seattle, Consolidated Vultee, Douglas, Northrop, North America, Ryan, Lockheed, and Vegas in California, there were 129,798 women employed, constituting forty-three to eighty-nine percent of total employment in 1944. By late 1945, the total had decreased to 7,300 and the women to one thousand. 28 One plant, the North Aircraft Products Division of the Aviation Corporation of Toledo, Ohio, used women exclusively. From the beginning, this plant was designed to employ only women laborers. 29 All of these figures indicate the rapid growth of women in war-time employment in the aircraft production industry.

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27 Ibid., p. 2.
29 American Aviation, 5, No. 22 (April 15, 1942), 18; "All-Woman Factory Now In Production," Automotive and Aviation Industries, 89 (July 15, 1943), 56.
By the end of 1942, as previously mentioned, nine times as many women had been employed in aircraft assembly plants as in late 1941. The female employees had taken many jobs, demonstrating that industrial capability was not based on sex and that the line of demarcation for men's and women's jobs was largely imaginary. If given the proper training and encouragement, women could master or fill positions which required high degrees of skill and responsibility as machine operators, sheet-metal workers, drillers, welders, grinders, and fuselage assemblers, and operators of drill presses.  

**Types of Work for Women**

The large percentage of female employment in the aircraft industry resulted primarily from the fact that this industry was well-suited for the employment of women: that is, the work, generally, in aircraft production was lighter than in steel or shipbuilding, for example, and therefore, lent itself to more extensive employment of women.  

Thousands of parts go into the assembly of airplanes. In a B-24 bomber, for example, there were 300,000 rivets. The midsection of a certain type of plane has 10,000 different kinds of parts which are assembled into a unit which measures twenty by twelve feet. One of the many parts was an electrical device, a minute ten-ampere switchette.

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which weighed only one-third of an ounce. A 1942 Women's Bureau study of women's work in aircraft found that women were very good in intricate work and in the handling and fitting of such small or minute parts. 33

The use of women in diverse areas continued through 1944. The utilization of modern facilities made it possible for women to work even in the foundries. Paul V. McNutt, Chairman of the War Manpower Commission, observed a foundry plant at Harvey, Illinois, that was employing five hundred women in 1944 and had previously employed as many as 650 in the production of B-29 bomber engine parts. "These women workers, carefully selected and stronger than average," worked in the heat treating and finishing department. Some loaded and unloaded furnaces. Others worked in trimmer press jobs. 34

Women were employed on jig and on single and multiple drills. In the task of sensitive drilling, usually light work, the operator had to have a sense of feeling of what the drill was doing as it spun and pushed its way through the metal. Something of the aptitude and ready skill of a woman worker is revealed in this passage. In one plant, a woman operating a sensitive drill was pointed out as a recent substitute for a man. The lead man explained that on her first day this woman exceeded her predecessor's production of approximately five hundred parts, although he had been employed for months on the job.


The woman continued to maintain a daily output which doubled the man's record. Vultee Aircraft reported on the use of drill-press machines by women. They claimed that women's finger dexterity and their competitive spirit, "invariably resulted" in increased production on these machines. One woman drilled 1,000 pieces a day on one job, for example, on which the best man could do 650 pieces.

Women bored holes and worked on all such drill press applications as reaming, counter-sinking, counterboring, tapping, spot forcing, key seating, burring, and lapping holes. Some were sharpening their own drills. Some few had full time jobs dressing the points and grinding the cutting surface of drill tools to specific angles and shapes.

Women also operated milling machines, engines, and turret lathes, did all types of grinding and filing in the machine shops, welded, did acetylene casting and fitting of aluminum, sheet metal and steel.

Here it may be interesting to allude to perhaps one of the most daring of the aircraft occupations— that of making the final check and testing the planes in flight.

Women In More Skilled Tasks

Some women in aircraft factories became much more venturesome than others, as ladies like Dolly Herberd, Teddy Kenyon, Barbara Joyce, and Elizabeth Hooker demonstrated. Miss Herberd's job was to be responsible

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37 Pidgeon, Women's Work and the War, p. 16.

for planes before they lifted from the runway. She said, "It's my job to keep anything from happening."39

A few women tested planes in the air. Teddy Kenyon, who was first taught to fly by her husband, Ted, was perhaps the most famous woman test pilot. She had become a precision flyer in 1930 and won a prize for five-thousand dollars. The Grumman Aircraft Corporation hired Barbara Joyce and Elizabeth Hooker as test pilots during World War II. The three women are reputed to be the first ever allowed to test military craft. 40

These three women tested "Hell Cats." One of them, Mrs. Kenyon, tested a much heavier plane, the Avenger. They made five or six test flights a day, "putting planes through snap rolls, slow rolls, and drives, in addition to racing them at more than four hundred miles per hour." Each plane had to have over an hour's testing; not all testing however, was done at one stretch. The pilots, while testing, kept their eyes on the instruments, noting every flicker of a needle that might indicate a defect in the craft.41 The test was vitally important in light of the fact that the United States built forty-nine thousand airplanes in 1942, one hundred thousand in 1943, and had plans for 125,000 in 1944.42 Women were found in responsible jobs at Tuskegee Air Field. Here the women showed great efficiency in war industries jobs that men formerly held. Such jobs included electrical


41 Ibid., pp. 166-167.

42 Ibid., p. 167.
wiring, electrical assembly, working in the engine and propeller
department, and riveting. They displayed, according to a publicity
release, unusual aptitude and adaptability. The Flying School at
Tuskegee furnished one of the first opportunities for some women to
serve in a skilled capacity to aid the war effort and to keep the
planes flying at a war-time pace. Many of the working girls at Tuskegee
Air Field were under twenty-one years of age. They came from as far
away as New York and Los Angeles as well as from many small towns, and
communities of the South.

Training Female Employees in Aircraft Production

As in other defense industries, the training of women for manu­
facturing of aircraft was of great importance for their efficient
performance on the job. At first, however, the aircraft employers did
not seem to be enthusiastic about training programs for women, although
they thought pre-employment training was helpful to men and even gave
preference to women applicants who had had some pre-employment training.
W. Gerard Tuttle, Industrial Relations Director of Vultee Aircraft
Corporation, said: "Hiring and training of women workers has not been
the problem we feared. Almost ninety percent of our workers have had
previous experiences in other manufacturing work." Many felt that
most jobs held by women would not require pre-employment training.
Some occupations such as riveters, welders, machine tool operators,
and precision inspectors required closely supervised training, whether

[43][Ibid.]


[45][W. Gerard Tuttle, "They Wear The Pants," Aviation, 40 (Nov., 1941),
55.]
it was pre-employment training or on-the-job training under a foreman or leadman.\textsuperscript{46}

In certain instances, such as in shop nomenclature, women needed more training than men. There were many terms such as dolly, contour, dope, fin, oil can, rib, strut, thimble, punch, dimple, and rouge that had distinct technical meanings. An example of this difference may be noted in the term "oil can" which means a buckling of the metal.\textsuperscript{47} In the Ford Bomber plant at Willow Run, Michigan, women got 100 hours of training in a special plant school for riveters. In welding, they participated in a three weeks training course of one hour per day.\textsuperscript{48}

Instructors in the defense training schools stated that women bombarded them with questions and that they were much more meticulous in following detailed instructions than men. In addition, they were less likely to slur over and pass up specifications, but they "demanded more attention on their training projects."\textsuperscript{49} Training programs differed from plant to plant. For example North American Aircraft required a six-hour course in plant training on company history, policy, safety rules, regulations, and work simplification.\textsuperscript{50}

\begin{footnotes}
\item[46] W. Gerard Tuttle, "They Wear The Pants," \textit{Aviation}, 40 (Nov., 1941), 55.
\item[49] \textit{Norfolk Journal and Guide}, Feb. 6, 1943.
\item[50] "Women In War," \textit{Machinery}, 49 (Dec., 1942), 178.
\end{footnotes}
Reports on female enrollment in vocational classes offering supplementary training to those employed in industry showed that women comprised three-fifths of the total enrollment.\textsuperscript{51} For example, about eighty percent of the aircraft trainees in the Seattle, Tacoma, Bremerton, Washington Area in 1942 were women.\textsuperscript{52}

Training for jobs in the aircraft industry was essential in plants like the Curtis-Wright Corporation, which required that every female worker be a graduate of an intensive six weeks' course. She was to take vocational training courses in mathematics, machine shop science, machine tools and blueprints. Women who successfully completed the training were considered very desirable employees. In the riveting school it was reported that "only two or three of the first 100 girls trained in riveting have failed to make the grade."\textsuperscript{53} This would indicate a ninety-seven or ninety-eight percent achievement—an exceedingly high rate for any group in any kind of training program. It may also indicate that they knew that they were test examples and therefore had a greater incentive to set records, nonetheless similar achievements in training schools and in work situations were repeated hundreds of times all over the country. One observer noted, "From

\begin{footnotesize}


\textsuperscript{53}Conrad Campbell, "Thousands of Women To Ease Threatened Labor Shortage," \textit{American Aviation}, 5 No. 22. (April 15, 1942), 1, 13.
\end{footnotesize}
the tool crib where they hand out tools, to the machine shop where
they handle the tools, women have been equal to men in all the jobs
for which they have been assigned."

It was also observed that the most successful pre-employment
training schools were at San Diego, California. The classes there
contained twice as many women as men. In 1942, over six hundred
women were receiving training. The courses in California ranged
from three hundred and twenty to six hundred training hours in
"Vocational Education for National Defense, Engineering, Science,
and Management." "Defense Training" was a program offered by
colleges throughout the country to train women in sub-professional
jobs in engineering and scientific work. The program also trained
women to be drafting assistants, precision inspectors, and pro-
duction control clerks. The United States Civil Service was one of
three major agencies organized to give women pre-employment training.

Working Conditions

In addition to the problems of employment, training and adjust-
ment of women to the different jobs in the aircraft industry, there
existed the more general problems of factory workers. Fatigue, wage
and hour regulations, general factory rules, and common prejudices
were all matters which needed attention. Some plants noted that
special arrangements should be made for rest periods in order

54 Ibid.
to combat fatigue resulting from long work hours and inadequate working facilities. For example, the Pratt-Whitney Aircraft Company of East Hartford, Connecticut, worked out a plan where a full shift was made up by a team of two workers, each working four hours a day, six days a week. The great Bell Aircraft Plant in Buffalo, New York, used teams of women each of whom worked only three days a week.\(^{56}\)

In general, women entered most of the aircraft plants on the same pay scale as men. The War Production Board suggested that the type of work, rather than the sex of the workers, should be the factor which determined salary. In fourteen plants, salaries started at sixty cents an hour.\(^{57}\)

Four of nine states in aircraft production had laws affecting the employment of women. California, New York, Pennsylvania, and Ohio had a limit of a forty-eight hour week and eight-hour day, with a thirty-minute lunch period generally included.\(^{58}\) Even though some prejudice existed against women workers in industry, prejudice rarely existed against married women. Most plants, because of job stability, preferred women with dependents. At first some plants would hire only wives and daughters of men employees. Some, however, would not hire both husbands and wives for fear of the breakdown of shop discipline.

A requirement of almost all aircraft plants was that all employees had to furnish proof of citizenship. Age also was a consideration. The minimum age in most plants was eighteen years, but the preferred age

\(^{56}\)Independent Woman, 23 (Jan., 1944), 9.

\(^{57}\)Ibid. The subject of wages is dealt with more extensively in Chapter Thirteen.

\(^{58}\)Ibid.
group was that group between the ages of twenty-five and forty. 59

**Results of the War Experience**

An airplane received a great deal of care and attention. After each flight, it had to be cleaned, sheltered, fueled, and inspected. At intervals, it had to be disassembled and reassembled. Being a highly specialized machine, it required skilled mechanics and inspectors to carry out the tasks. Before the war, a mechanic knew every part of his plane. He was a plane expert. The war came and took most of these experts to foreign lands or to battle fronts. They had to be replaced by newly trained women. It would take time to develop experts. However, the statisticians and technologists decided that women could be trained for different skills in a relatively short time. One could become a machinist, another a metalsmith, another a radio technician, and others carpenters, draftsmen, electricians, or welders. In this way, the versatility of the older airplane technician could be replaced by the many skills of people serving in specialized capacities. 60 Therefore, the team work system was introduced into the aircraft industry during World War II. "When the men left their work-benches and lathes in 1941, airplane building was still almost a handcraft and its adaptation to quantity production only a blueprint." The teamwork and the skills which women learned and used in the war production of planes were almost as unfamiliar to the returning "warriors" as their own more complicated techniques were to the

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59 Ibid.

60 Myers, p. 209.
girls who replaced them during the war. In the end, then, when men came back from war to their jobs, in aircraft factories, the women workers had the responsibility of helping their returned male co-workers learn the "teamwork system." 61

Many of the girls were ambitious to retain their jobs after the war ended. Others wished to return home or return to school. Some looked forward to a technical career. One girl pointed out that since she had learned one small part of the operation of plane manufacturing, she wanted to learn the whole job of building an engine: "I want to know the why as well as the how. Then, I think I'd like to be a designer if I am smart enough." 62 Dicky Meyers, a writer studying women in aircraft work, concluded that the real story of girls at work in aviation was that:

Their future has been placed squarely in their own hands, and they are grasping it firmly. They have learned that there are no remaining doors closed to them simply because they are women. They also know that the welcome extended them from within has come because they had made good. Women are not afraid of the natural process of selection by which tomorrow's aviation industry will choose its members, for this is the very heart of the democracy they are fighting to save. They have their war won wings, and they are going to keep them brightly polished. 63

In summary it may be observed that in 1942, nearly a million American women were at work in aviation with the expectation of 1,250,000 by the spring of 1944, a figure which would include at least half of all aviation workers in the United States. Women successfully won their place in aircraft production. They proved

61 Ibid., p. 207.
62 Ibid., p. 209.
63 Ibid., p. 209.
themselves to be both physically and mentally capable, whether
as welders, riveters, or as assemblers or inspectors. In these
tasks, they not only contributed to the war effort but achieved a
status more equal with that of men. Not least in this process was
the fact that men in the aircraft industry became more conscious
of the ambitions and abilities of women in the American labor force.
CHAPTER VII
WOMEN IN WARTIME SHIPBUILDING

The Employment of Women in Shipyards

Shipbuilding, another of the major war production industries, also needed female workers in ever increasing numbers from 1942 to 1944. Thousands of women had to be recruited for employment in shipyards along the Atlantic and Pacific Coasts, in the Great Lakes region, and along the Gulf Coast. As in aircraft, steel, communication, agriculture, and transportation, women became vital employees who helped to keep the carriers, cruisers, tankers, liberty ships, and PT-boats moving off the assembly docks into the far-flung strategic waterways of the world.

In the fall of 1943, agents of the Women's Bureau made a study of forty-one shipyards. The Bureau representatives found that thirty-five of the forty-one shipyards employed women on production work. They made up an estimated two-fifths of all women employed in shipyards in March of 1943. Thirty-two of these shipyards under investigation were on the Gulf Coast, and one each in the Great Lakes and Inland regions. Seven of the eight navy yards employed women on production, and six of the thirty-four commercial yards did the same. Women were also employed in the four plants engaged wholly in repair work and
in eleven of the twelve devoted to repairing, converting, and building ships.\(^1\)

While some shipyards in 1943 had not employed women laborers, others employed from three and seven-tenths to twenty-five percent in December, 1943. Overall female employment was a little more than ten percent, or 129,500. Thirty-seven percent of all women in shipyard employment worked on the Pacific Coast. This area also experienced the most rapid increase in the number of women workers in 1943.\(^2\)

The old shipyards of long standing that had employed from three thousand to ten thousand workers before the war were by 1943 employing from five to eight times the prewar number, including 23,000 women employees. There were a number of shipyards which were still on the drawing board in 1940, but they were employing twenty-thousand to forty-thousand before the summer of 1943. The estimated number of workers needed in both commercial and navy shipyards at that time was 1,500,000. Women were expected by 1944 to constitute 225,000 of the total labor force.\(^3\)

Problems and Changes in Employment Policies

Labor shortages brought on drastic changes in the employment policies of shipbuilders. In October, 1939, there were only thirty-six women as wage earners in ship and boat building. From the fall


\(^2\)Ibid.; Monthly Labor Review, 58 (1944), 1179-1181.

of 1942 to January of 1943, they constituted four percent of all wage earners in the industry. By 1944, they made up ten percent. For example, the Philadelphia Navy Yard which hired only 206 women laborers in May, 1941, was hiring 1,000 in May, 1942. The Norfolk Navy Yard was employing almost 1,000 by the end of 1942 in the artist shop alone and 1,200 as mechanics. The Charleston Navy Yard employed 800 in 1942, and in June the same year the Puget Sound Navy Yard at Bremerton, Washington was employing 1,675, twenty-seven percent of which were in labor positions.

In the private shipyards, the total labor force increased steadily to 1,183,300 by November, 1943. The Atlantic Coast region had the greatest gain of 79,200 which was thirty-seven percent of the total increase of all regions. The Gulf yards in 1943 employed 58,609 employees, thus showing a thirty-one and one-half percent increase. The Great Lakes and Inland yards had a thirty-two and one-half percent increase. There were hardly any women workers at all in shipbuilding industries before World War II. One shipyard that became highly publicized as an employer of women during the war period was reported to have refused even to hire women as office secretaries before the war.

Miss Elinore M. Herrick, director of personnel and labor relations of the Todd Shipyards Corporation, recalled the early trepidations:


6The Monthly Labor Review, 58 (June, 1944), 1199.

7Ibid., p. 1.
It was a revelation to me to observe the way our first group of girls got down to work in one of the plants of the Todd Shipyards Corporation. They were skeptical and so were we. Never before in this country had there been a woman shipyard worker. As a matter of fact, when I toured the Todd Erie Basin Dry Docks in Brooklyn on my first day with the Todd Corporation, I learned I was the first female to set foot on the soil since the yard was opened in 1869.\(^8\)

World War II brought about rapid and drastic changes in the employment policies of the shipbuilding industry. During the fall of 1942, the shipbuilding industry instituted an earnest recruitment and employment policy to bring women into ship production. Thus, by January, 1943, women already accounted for four percent of all of the production wage earners in shipbuilding. During 1943, the number of female workers in shipyards increased so rapidly that by January, 1944, they made up ten percent of the production labor force.\(^9\)

Such growth was an amazing phenomenon in the light of the pre-war hiring practices and the pre-war attitudes prevailing in the industry. After the war began, women were convinced that they were needed and that their services would be very useful. This recognition encouraged them to enter shipbuilding industry in large numbers.

**Breaking into Shipbuilding**

In shipbuilding as in aircraft fabrication, women employed by both private and governmental industries faced many unusual and unfamiliar problems. The problem of developing the necessary skills of shipbuilding—welding, riveting, lifting, climbing—was coupled with the problem of meeting unfriendly attitudes generated by the ladies

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having invaded another male domain. Women had to overcome both mild and severe hostility from fellow male employees and their employers.

Personnel programs and medical and safety programs were organized by the shipbuilding industry. Interview boards and transfer bureaus also were set up by them to help women make the necessary social and psychological adjustments to the new environment. In some cases, these programs had to be created. Other programs had to be enlarged and adjusted to aid in the training, the employment, and the placement of all new workers, both men and women. Proper and adequate placement of workers was indispensable to full and efficient utilization of the available labor supply. And women proved apt and capable of meeting both the crisis and its accompanying problems.

The venture was untried and experimental. Miss Herrick of Todd said: "There was no experience table to go by, but before long it became clear to us that the scheme would work."\textsuperscript{10} For example, "less than one-half of one percent of the women came to their tasks with any previous experience to the kind of work they are assigned" a writer in the \textit{Independent Woman} recorded. He then added: "From this record, it was astonishing to rate the speed with which raw recruits were transformed into efficient workmen." Some indication of this was illustrated in a woman's performance of a complicated wiring job, which the foreman proudly indicated she had learned in twenty minutes. He said: "Some who began as 'green hands' became foremen in three months."\textsuperscript{11}

\textsuperscript{10}\textit{Ibid.}, p. 10.

There were many problems of adjustment that had to be reckoned with. Not only did the problems of adjustment involve the entrance of large numbers of women into the industry but also the tremendous expansion of the industry itself.

**Training Problems**

Training programs had to be organized to train women for the tasks of shipbuilding. Many of them had never seen a ship under construction nor visited a shipyard. The tools and machines were all new to them. Nevertheless, for varying periods of time, thousands of women were trained in the skills and languages of the industry. For example, training for the joiner shop group usually lasted for a period of thirty days. Women would take a two weeks' course covering blueprint reading, identification of materials of steel and wood, use of tools, and the operation of various machines. Women were also given instructions in safety methods. The joiner shop trainees received practical training with boring machines, operating drill presses, planers, and metal cutting saws. Women also performed the miscellaneous duties of a mechanic's helper.12

The company school of Newport News Shipyard, for instance, trained both men and women. In fact, it trained all new employees for the above-listed positions. From June, 1942, to May, 1945, the school trained nine hundred employees.13 This is one example of a company training venture. But women in large numbers also attended outside

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13 Ibid.
training programs in numerous colleges and high schools. They took courses in marine drafting, shipbuilding, geometry, blueprint reading and similar subjects.\(^{14}\)

A great deal of electrical assembling is required in shipbuilding. Women were trained for work on fittings for electrical wiring systems, lamps, conduit pipes, and small switches. Women also repaired and assembled telephones. On board the ships, women were helpers to the electricians who installed switches, lights, instruments, telephones, and fuse boxes. In some yards, however, women became more than helpers; some of them were able to perform skillfully the entire operations. In one shipyard a woman, with another helper, was reputed to have made the entire telephone installation. She mastered the reading of engineering blueprints and could, therefore, make all installations from the blueprints. In another shipyard, female electrical wirers worked from simplified blueprints to make their telephone installations. According to Maurice Nicholes, the Kaiser Shipbuilding management found that women could be trained more quickly than men to install complicated electrical connections involving fine finger work.\(^{15}\)

Because of both the war production demands and the great influx of new workers and new plants, there developed a transition from the old custom-like construction to one of mass-assembly construction—the use of mass production techniques and standardization of materials.


\(^{15}\)As cited in Frederick C. Lane, Ships for Victory (Baltimore: John Hopkins Press, 1951), p. 257.
Before the war, shipbuilding was more of a distinct and personalized or individual ship construction policy:

Under normal circumstances ship construction is custom work; each vessel, whether a "sister ship" or one of a kind, differs from every other in detail if not design and requires a complete set of templates of its own. Now, however, hundreds of ships of the same kinds, particularly cargo vessels, are being made with standardized materials according to a single pattern.16

The second World War, therefore, forced innovations in ship construction that led to the training of specialists in certain areas of construction, in the operation of certain machines, and in the performance of certain processes. Such innovation and adjustment made it much more practical to train the new female recruits for particular tasks, machines, tools, and processes in shorter periods of time than would have been required for the mastery of several tasks. As noted above, the aircraft industry during the war underwent a similar change.17

All changes, innovations, and adjustments were intensified and sharpened by the demands of war production and the shortages of labor. Frequently, this resulted in the employment of women before proper policies could be instituted to acclimate them. In most instances, however, the physical adjustments were less of a problem than the mental adjustments. It was difficult to overcome hostile attitudes toward women for having invaded an exclusively and traditionally man's industrial arena. "Yet women were taken on before the human or


psychological adaptation necessary to avoid confusion, discontent, and waste, much less the physical and sometimes administrative changes necessary, had been attempted.18

Once women were hired in shipbuilding construction, they were readily utilized wherever they were most needed. Furthermore, women were accepted in some cases without much opposition, and they were given suitable work when possible. Where the opposition was more pronounced, women were employed first to do less suitable work "to which under good planning and labor relations, well-qualified men should have been transferred."19

Types of Work Performed

In the thirty-five shipyards investigated in 1943, the Women's Bureau representative found women doing assembly work on a large variety of items—diesel engines, manifolds, valves, waterpumps, couplings, locks, watertanks, metal furniture, ammunition boxes, rifle cabinets, switchboards, ammunition hoist parts, stiffeners parts, and parts for watertight doors. "In one yard women assemblers filed surfaces to true, fitted gears to shifts, and made subassemblies. Some were proficient enough to assemble an entire unit, such as the mechanism controlling the training of a gun."20 The variety of jobs taken and performed by women was in keeping with a war manpower study that found among three thousand industrial occupations, women could proficiently perform eighty percent of them.21

21War Manpower Commission, (Mimeographed materials), National Archives.
Some of the most common occupations for women in shipyard production were arc welding, operating acetylene burners, painting, helping shipfitters, operating machine tools, tending toolcribs, doing bench and assembly work on electrical equipment, and carrying out a number of odd but necessary jobs as well. For example, in the Inside Machine Shop No. 31 in the Norfolk Navy yard, two women trainees, Mrs. Louise Bouce and Mrs. Virginia Turner, both of South Norfolk, completed repairing and assembling a ship fresh water pump, the first work of its kind completed by female mechanical workers in the yard. The difficult job was performed very satisfactorily by the ladies who had been employed only two weeks, and it was highly praised by their quartermaster superior, C. L. Williams, who called it a "fine job." Comment was called for, apparently, to overcome old prejudices that claimed ladies were afraid to get their hands dirty. "They are eager for the job at hand and seem to enjoy their work to the utmost."22 Women were also chisel mechanics and turret lathe operators.23

A Women's Bureau survey chart below shows the reported number of women workers by departments in twenty-four shipyards. There were large proportions of women reported as shipfitters, and machine and electrical workers.

22Norfolk Navy Yard Defender, July 22, 1942, p. 3.
23Norfolk Navy Yard Defender, March, 1944, p. 4; Wartime Todd Keel (March, 1943), p. 6.
### Distribution of Women Wage Earners by Department

in Commercial and 7 Navy Yards.

1943

(Women's Bureau Survey)

<table>
<thead>
<tr>
<th>Department</th>
<th>Women Wage Earners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>28,097</td>
</tr>
<tr>
<td>Blacksmith and forge</td>
<td>60</td>
</tr>
<tr>
<td>Electrical&lt;sup&gt;1&lt;/sup&gt;</td>
<td>2,855</td>
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<tr>
<td>Foundry and pattern</td>
<td>171</td>
</tr>
<tr>
<td>Joiner, Carpenter, Shipwright</td>
<td>304</td>
</tr>
<tr>
<td>Machine&lt;sup&gt;2&lt;/sup&gt;</td>
<td>4,090</td>
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<tr>
<td>Paint&lt;sup&gt;3&lt;/sup&gt;</td>
<td>798</td>
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<tr>
<td>Pipe and copper</td>
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<tr>
<td>Print</td>
<td>15</td>
</tr>
<tr>
<td>Rigger&lt;sup&gt;4&lt;/sup&gt;</td>
<td>1,690</td>
</tr>
<tr>
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<td>1,031</td>
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<tr>
<td>Service and maintenance</td>
<td>2,700</td>
</tr>
<tr>
<td>Sheet metal</td>
<td>2,009</td>
</tr>
<tr>
<td>Shipfitting&lt;sup&gt;5&lt;/sup&gt;</td>
<td>10,108</td>
</tr>
<tr>
<td>Toolroom</td>
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</tr>
<tr>
<td><strong>Percent</strong></td>
<td><strong>Percent</strong></td>
</tr>
<tr>
<td>Total</td>
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</tr>
<tr>
<td>Blacksmith and forge</td>
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</tr>
<tr>
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<tr>
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<td>36.0</td>
</tr>
<tr>
<td>Toolroom</td>
<td>4.2</td>
</tr>
</tbody>
</table>

<sup>1</sup> Includes electrical manufacturing.

<sup>2</sup> Includes boiler.

<sup>3</sup> Includes paint manufacturing.

<sup>4</sup> Includes laborers and erectors.

<sup>5</sup> Includes welders, burners, riveters, mold loft, fabricating, drafting.

The number of women in shipbuilding at the Newport News Shipyard was about five-hundred in December, 1941. They served in the capacity of clerks, typists, and operators of key punching machines in the Tabulation Department which employed more than any other department. Other departments where large numbers of women were employed were Timekeeping, Tracing, Order, Employment, and Medical. The Shipyard Bulletin said, "As usual, we find women in jobs where they are able to

keep 'tabs' on the men...with the speeding up of production there is a possibility that our women folks may be called upon to do many of the kinds of jobs never done regularly by women. At the time, the employment turnover rate in the Seattle area, especially at the Bremerton plant was so high that the employment of women was seriously anticipated. However, the Employment Service found it difficult to recruit and to employ enough women workers to relieve the labor situation until 1943.

One of the most responsible positions filled by women in ship production was that of crane operator. As the official statement put it: "Should an operator fail to follow a signal or become confused in the operation of the control levers, loss of life and extensive damage could result." The Erectors Department of the Newport News Shipyard employed twenty-one women who operated cranes that serviced assembly plants. After a period of training of ten days with an experienced operator, most of the women could then handle the job themselves. Some of them sometimes lifted loads of eighty tons with their cranes. Some women served two and one-half years with excellent service records.

Women as Welders: A Special Case

Welding was an operation that women learned to perform in the shipyards. The first women electric welders at the Norfolk Navy Yard, for example, were all married women: Mrs. T. V. Cutchins, Mrs. M. L. Gunther, Mrs. T. V. Cutchins, Mrs. M. L. Gunther, Mrs. J. L. Gunther.


and Mrs. R. R. Gibson of Shop No. 26. The company magazine, carried a warning to men: "From all present indications, they will become first class welders, so look to your laurels all you wire burners."  

Fifty welders in the Newport News Shipyard began their training on Monday, March 29, 1943, at Welding School No. 2. There were two training courses. Forty-six of the initial fifty completed both of these. Forty took the seventeen lesson course. Ten took the thirty-two lesson course. Fourteen out of forty who took the seventeen lesson welding course passed the government tests and began working in the fitters department. The Newport News Shipyard Bulletin pointed out however, that:

It is not expected that the women will work on ships, but will be assigned to the shops and skids where the work is not so strenuous. The women trained so far, it said, have shown a surprising aptitude for welding and this is attributed to their ability to hold a steadier hand than the average man.

The welding occupation in shipbuilding utilized the skills of many women. Thirty-six percent of women in twenty-four shipyards were shipfitters. Most of these were welders or burners or helpers in these jobs. Women, even middle-aged housewives who had hardly seen a welding rod or tool and who had never done anything heavier than house work or more strenuous than sweeping or mopping, were employed as welders.

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28Norfolk Navy Yard Defender, July 22, 1942, p. 4.
29Shipyard Bulletin, 8 (March-April, 1943), 5.
30Ibid.
The difficulties and the hazards of welding were common to both men and women. Safety requirements were especially stringent for women. Standards were established and issued by the Maritime Commission, the National Bureau of Standards, the Navy, the American Standards Association, and the Division of Labor Standards of the Department of Labor. These standards applied to conditions of work, protective clothing, apparatus, working methods, and welding equipment used by the shipyard workers.31

The main difficulty that women faced in welding in shipyard production was the heaviness of the welding leads, which weighed around thirty-five pounds. These leads and other equipment had to be carried around, up and down ladders, into compartments and other areas that were extremely inaccessible and crowded. A woman welder needed to be alert, agile, healthy, robust; that is, physically fit to withstand the rigors of the job. She needed strong and large hands in order to adequately manipulate the tongs. Even in cases where the welding tongs were made smaller for small hands, women needed more strength in their hands; for the more slender the tongs, the more strength was required to handle them. Later, longer tongs were developed to lessen the need for greater pressure but were less adequate for the heavy jobs. Women were placed on the lighter jobs wherever feasible and when male workers in adequate supply were available to take care of the heavier jobs.32

31 Newman, "Employing Women In Shipyards," p. 73.
32 Ibid.
The Question of Suitability of the Job

While there were some efforts to place women in the more suitable jobs and while women performed tasks wherever they were placed, there were jobs in shipbuilding that were unsuitable for the average woman or even the average man. Only exceptional women or above-average men could handle adequately some of these jobs. Among these jobs were caulking, sand blasting, pneumatic drilling, tank cleaning. The big problem of such jobs was the heavy nature of the work plus the exceptionally unpleasant condition under which it had to be done. Such jobs required crawling down into the holes of ships. The workers had to go inside the tanks where refuse was abundant, with a sometimes tangled hose and other equipment. In such unpleasant tanks emotional and psychological effects developed in the workers. Because of this, most of the workers were kept on this kind of job only two hours at a time, and after two days of it, they were changed to some other job.33

Other difficult tasks were those requiring the use of steel sandblasting equipment or pneumatic drills. The use of such tools subjected the user, man or woman, to vascular damage and pathological conditions and injuries to the hands and body joints, hearing impairment, or even deafness. Because of the noise and vibration of the equipment, silicosis, pneumonia and nervous system disturbances were possible illnesses.34

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33 Ibid., p. 28.
34 Ibid., pp. 28-30.
It was found from a limited amount of data available at the time that the reactions of women to the work with pneumatic equipment were not really different from the reactions of men. It was recommended, however, by the medical authorities who were consulted by Women's Bureau representatives that "no woman with menstrual difficulties or with a history of clinical diagnosis of pelvic disorder, nor women who were pregnant, should use vibratory equipment, neither rotary or other types." 35

It was further recommended that all women should be prevented from operating the heavy types of pneumatic equipment. In the use of the lighter types, women were to be chosen who had an above-average height, were muscually developed, and of the phlegmatic, hypothyroid type. The sitting position was preferred to the standing position. When the standing position was necessary, it was advantageous for rest to be taken in the prone and knee chest position. It was believed that women should not brace the pneumatic tool against their chests as they might aggravate the tendency to develop cancer of the breast. No worker, man or woman, was to use pneumatic tools without physical examinations which would bar anyone with "symptoms of constitutional arthritis." 36 Periodic examinations were to be given to all employees, and they were to receive instructions about holding and maintaining the equipment in proper positions.

It was found by Women's Bureau officials that women who used pneumatic tools had not always received adequate instructions and

35 Ibid., p. 29.
36 Ibid., p. 30.
advice. In one shipyard in which four women used pound chipping guns, proper precautions and examinations were not made until one of them had developed tenosynovitis, (an inflammation of tendons) and had lost 20 pounds. A counselor had discovered her condition by chance.37 In another case, women operated large portable pneumatic drills in drilling holes in bands on the outside of torpedo tubes. It was found that the work was difficult and the drills so large that it took three women to do the work that two men had previously done. The drills were so high that the women were forced to hold the drills against their breasts instead of the better controlled position of holding them in line with the pelvis. Furthermore, very often small and slightly built women were chosen for the pneumatic drill job instead of heavier and stronger women "because the same women had to crawl into the tubes to countersink the holes from the inside."38 This revealed the difficulty of finding appropriate work for women. Haphazard hiring or careless job placement of women led either to maladjustment or to the waste of skills and abilities.

"Heavy truck driving was another difficult job done by women." The Keel, a Todd Shipyard organ, reported that a Mrs. Eleanor D. Wallace, who had been a Red Cross worker and a Red Cross nurses' aide at Bellevue Hospital, became an employee at the Todd Hoboken Shipyard during the war. She operated a ten thousand ton gasoline diesel locomotive which was "used to haul all kinds of machinery, steel plates, and other

37Ibid.

38The Victory Fleet, U. S. Maritime Commission, 3 (June 25, 1945), 4.
materials from place to place about the yard." Mrs. Wallace was married and the mother of two children. She believed that women could not be bystanders in the war but were in it "up to their ears."\(^39\)

In the Norfolk Naval Yard, there were almost fifty women in the diesel engine shop. They were shown in a photo of the *Norfolk Navy Yard Defender* with the caption "The Women Behind the Men Behind the Guns." They performed intricate and precise jobs of motor assembly. The photo was a vivid recognition of the ever increasing army of women workers in the Norfolk Navy Yard. It revealed that these women were "playing a major role in stepping up production" of small diesel boat engines.\(^40\)

**The Contribution of Women**

Shipbuilding was one of the major production industries which employed a considerable number of women during the war period. Women made up the available labor supply for the replacement of men. They fulfilled the new demands for workers. Attitudes adverse to the employment of women, based largely on traditional concepts, were prevalent in the shipbuilding industry. However, recruitment campaigns, orientation programs, the pressures of war, and women's own search for adventure and higher status helped to transform adverse attitudes. That these changes of attitude occurred was revealed in a statement given by Mr. John S. McDonald, General Manager of the Walsh-Kaiser Shipyard. He indicated that a great deal of resentment was exhibited

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\(^40\) Newman, "Employing Women In Shipyards," p. 73; and *The Norfolk Navy Yard Defender*, 1943, p. 4.
toward women when they were first employed in the shipyard; most of the male workers were opposed to them and there was much speculation as to their adaptability. Very little assistance was offered to them by their male co-workers, but eventually they proved their worth and thereafter were accepted as a matter of course. 41

In spite of hostile attitudes toward women working in shipyards, and in spite of the fact that the work was in most cases physically fatiguing and difficult, women overcame such obstacles and won praise for their work. They possessed the stamina and the will to take the jobs and to do them very effectively. It seems little short of fantastic that women who before World War II knew little or nothing about shipbuilding were able to do their new jobs so well. They were able to master the skills and meet the physical demands of the shipbuilding industry. Women were able to make the emotional and the psychological adjustment necessary for the adequate labor performance in an industry heretofore restricted primarily to men.

41 The Victory Fleet, 3, No. 52 (June 25, 1945), 3.
CHAPTER VIII

WOMEN EMPLOYED IN MAKING STEEL

Factors Against Female Employment In Steel Making

The list of factors weighing against the use of female labor in the steel industry was a long one: the deeply rooted prejudice toward hiring women and the long accepted tradition of employing only male workers, the heaviness of the raw materials, the heaviness of the finished steel product, the giant-sized equipment and machinery, the dangerous hazards, the tremendous heat, and the undesirable fumes. Yet, many women were employed during World War II. A few months after Pearl Harbor, manpower shortages compelled steelmakers to employ women as the overall demand for labor intensified.¹

The steel industry before the war period of 1941-1945, perhaps more than any other defense industry, was almost exclusively reserved for men. This was largely based on the fact that steelmaking was a heavy, hot, and dirty process. Work in it was a man's job. Traditionally, women were simply excluded. The basic raw materials used in steel making are iron ore, coal, and limestone; all of which are heavy and bulky. In processing these materials, it is necessary to use intense heat in great furnaces and converters. In addition, other massive equipment is spread out over vast areas of a plant. This makes it

relatively difficult for the so-called "weaker sex to produce the brawn and technique to handle the jobs in the steel mill."²

Outside of clerical workers, practically the only peacetime use of women in the steel mills was in sorting and in inspecting tin plates. "As sorters, women were considered more efficient than men in flipping the mirrored tin sheets, inspecting for surface flaws, grading, and judging the thickness of weight with their touch sensitivity." However, women in this capacity constituted "only a fraction of one percent of the employees in the steel industry."³ Otherwise, as noted above, prejudices of long standing kept women out of the steel mills.

Kinds of Jobs and Percentage of Female Employment

By the middle of 1942, a few women were employed in the laboratories and plant offices of some of the steel mills. Somewhat later in 1942, a few women were reported to be on "lighter cranes and on labor gangs around the yard." Most of the mills refused to employ women until 1943. Even by the end of 1943, however, women constituted only a small portion of the labor force. They were employed on the lighter and less skilled jobs. In some mills, women were found in almost every department: in the storage yards for raw material, at the ore docks, on the coal and ore trestles, in the coke plant, the blast furnace, the steel furnaces, the rolling mills, and the finishing mills. They were doing fabricating on shells, guns, and regular products such as spikes, bolts, and nails. One steel executive listed tractor operation, coil winding, chemical analysis, and the use of small machines as jobs in which women were


³Ibid.
employed. In 1942, the apprentice training service listed some 153 jobs in the steel industry on which women could be employed. In 1944, they were employed on 150 of these.

The percentage of women employed in the iron and steel industry increased from nearly zero in 1941 to nine percent in early 1942. A sample study of the steel and iron plants in 1941 showed that seven percent of the workers were women. By the fall of 1942, the percentage had increased to eleven percent. In another survey made at the end of 1942, nearly a fifth of the labor force in metal plants was made up of women. By 1943, women made up only five and two-tenths percent of the workers in the United States Steel Corporation. This compares favorably with the fact that, proportionately, the number of women in open-hearth, Bessemer-Converter, and electric steel making was small. In seventeen mills the women were employed in the steel furnace area. This was significant in that approximately ninety percent of steel during the war period was processed by the open-hearth method. The process took the pig iron from the blast furnaces, mixed it with slag iron, alloys, and other ingredients, and then cooked the whole into commercial steel.

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5 Mary Curran, "Speed Production at Wycoff Draw Steel Company," *Steel*, 114 (Jan., 1944), 81.


The Women's Bureau Survey of Employment in 1943

Agents of the Women's Bureau in the late summer and early fall of 1943 visited 41 steel mills in the major steel producing areas. They found that women made up ten and six-tenths percent of the total employment. In the production area, women constituted eight and one-tenth percent of 59,253 employees, and in the administrative offices and salaried pay rolls, they made up thirty-five and two-tenths percent, a wartime maximum of 28,304. Plant by plant, the proportion of women in production ranged from three and two-tenths percent in some plants to sixteen and one-tenth percent in others.8

The major areas of steel production visited by the Bureau agents were the Pittsburgh-Youngstown area, Buffalo area, Chicago-Gary area, and the West Virginia area. The agents also visited one mill in Colorado, one in Bethlehem, Pennsylvania, and one in Sparrows Point, Maryland. The plants hired a total of 279,986 employees, 29,498 of whom were women. In production there was a total 253,024 workers; of these 20,369 were women.9 According to the agents of the Women's Bureau, the breakdown of the employees in the areas under study were as follows:

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8Ibid.

<table>
<thead>
<tr>
<th>Area</th>
<th>Number of Mills</th>
<th>Total</th>
<th>Women Number</th>
<th>Percent of Total</th>
<th>Total</th>
<th>Women Number</th>
<th>Percent of Total</th>
<th>Total</th>
<th>Women Number</th>
<th>Percent of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>All areas visited</td>
<td>41</td>
<td>278,986</td>
<td>29,498</td>
<td>10.6</td>
<td>253,024</td>
<td>20,369</td>
<td>8.1</td>
<td>25,962</td>
<td>9,129</td>
<td>35.2</td>
</tr>
<tr>
<td>Pittsburgh-Youngstown area</td>
<td>19</td>
<td>119,509</td>
<td>12,073</td>
<td>10.1</td>
<td>107,459</td>
<td>7,952</td>
<td>7.4</td>
<td>12,050</td>
<td>4,121</td>
<td>34.2</td>
</tr>
<tr>
<td>Buffalo area</td>
<td>3</td>
<td>15,450</td>
<td>1,318</td>
<td>8.5</td>
<td>13,830</td>
<td>1,014</td>
<td>7.3</td>
<td>1,620</td>
<td>304</td>
<td>18.8</td>
</tr>
<tr>
<td>Chicago-Gary area</td>
<td>9</td>
<td>68,285</td>
<td>8,914</td>
<td>13.1</td>
<td>60,341</td>
<td>6,125</td>
<td>10.1</td>
<td>7,641</td>
<td>2,789</td>
<td>36.5</td>
</tr>
<tr>
<td>West Virginia area</td>
<td>7</td>
<td>21,493</td>
<td>3,312</td>
<td>15.4</td>
<td>20,346</td>
<td>2,676</td>
<td>13.2</td>
<td>1,152</td>
<td>636</td>
<td>55.2</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>54,244</td>
<td>3,881</td>
<td>7.2</td>
<td>50,545</td>
<td>2,562</td>
<td>5.1</td>
<td>3,499</td>
<td>1,279</td>
<td>36.1</td>
</tr>
</tbody>
</table>

Women employed in the production of steel during the World War II period needed skills, technical knowledge, and great physical stamina. By December 31, 1944, the United States Steel Corporation and its subsidiaries had lost 112,470 of its employees to the armed forces. This vast manpower gap had to be filled. It was largely filled through the employment of women. By September, 1943, the United States Steel Corporation and its subsidiaries were employing nearly 37,000 women. This represented ten and seven-tenths percent of the total employment at that time.11

The Women's Bureau study of the steel industry in 1943 revealed that the prospect of employing women in increased numbers was very slight. The study indicated that women constituted only eight percent of the total employment. But by late 1944 and early 1945, the eight percent had gone up to ten and seven-tenths percent or more in the United States Steel Corporation. A company noted that "during 1944 about forty thousand of the total of 315,000 United States Steel employees were women. Approximately fifteen thousand were directly engaged in war production."12

At Bethlehem Steel there were fifty-three types of manual jobs that were filled by women employees. These stretched from assemblyline jobs to nut and bolt wrappers. By March, 1944, Bethlehem


Steel employed about twenty-three thousand women; 13,600 of these worked as production workers in machine shops, crane operators, welders, and in other capacities.  

The percentage of women working in specific types of jobs in certain steel plants was much greater than in others. For example, in the National Tube Company's Christy Park Works, near Pittsburgh, Pennsylvania, sixty-five percent of the final inspection of bombs, shells, and rockets was done by women. The same subsidiary's Tubular Alloy Division plant at Gary, Indiana, increased its women employees to forty-eight percent of the total employment. "Of the 153 crane operators in this plant, seventy-nine were women. Most of the crane operator assistants who hooked and unhooked the loads were women." Eighty percent of the personnel in the chemical laboratories were women "who had not gone beyond elementary chemistry in high school or college; yet, they were trained to perform difficult analyses and tests."  

Women's Bureau Report on Job Placement

While all the major divisions of steelmaking employed women, the authors of a Women's Bureau report observed that women were more frequently employed on jobs dealing with raw materials than in other types of work. The authors also noted that ore docks, receiving and storage yards, coke and by-product plants, blast furnaces, and open

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13 "Women Take Over as Men Go to Fight," Bethlehem Review, Annual Report to Employees, No. 45. (Mar., 1944), pp. 8, 12.

14 Fisher, "Steel in the War," 149.
hearth, Bessemer-converter and electric furnaces offered an extremely limited field for the employment of women. Women were more often found in rolling mills, laboratories, fabricating, and finishing. More than anywhere else, women were employed in laboratories and plant offices where they were likely to retain their jobs even after the war ended. In addition, women were employed as unloaders, car washers, lutermen, lerrymen, topmen and cinder crane operators. Others were used as checkers, emery testers, machine shop-drill press hands and grinders, and as punch pressers.

The agents of the Women's Bureau found in their survey that only one plant under study employed women at the unloading part. These women were a kind of ore clean-up crew. On the Great Lakes, where boats were used to bring the ore to the plant, great cranes capable of lifting fifteen to twenty tons each scoop were used to empty the cars or boats. When they were emptied, there were portions of ore left in the boat which were cleaned up by crews of women. The women, with a woman gang leader, went from boat to boat cleaning as needed.

Women were used as car dumpers and car washers. They worked on railroad platforms and trestles in rail receiving yards. The car dumpers used lever controls with release mechanisms which tipped the cars or dropped bottom gates, to dump the contents into hopper cars

15 Erickson, "Women Employment in the Making of Steel," p. 4.
16 Ibid.
17 Steel, 114 (1944), 81.
18 Erickson, "Women's Employment in the Making of Steel," pp 5-6.
or chutes for storage or transfer to the stock houses. After the cars were dumped, women climbed inside and shoveled the remaining material through the bottom of the cars. Then the car washers, wearing safety belts, perched on trestle-high platforms and washed the cars out with a heavy-force hose.

There had to be a dire emergency for management to hire women or "even to consider them for employment around the coke plant; only seven of the 41 plants under study had women workers in the coke oven section," reported the Women's Bureau. "No women were found as chargers of coke furnaces, as pushers on the ramming mechanism that pushes the coke into the quenching car, nor on the quenching cars."19

Most women were hired as laborers. Many of them served as lutermen or as lutermen's helpers. Lute was a special fire clay mud used to calk coke oven doors which were not self sealing. While luting was taking place, mud cars would travel from oven to oven whose doors had to be luted. The mud car had an elevator mechanism for lifting the worker up and down along the doors. Some women would break the jam around the doors by chipping off old carbon and old lute between charging operations. The lute was made of coke dust, clay, ashes and water. Making and mixing it was a dirty, wet, messy business.

There were two steel plants where women had been tried out as "wharfmen" in the coke plant. The wharfmen's job was to open the iron gates "to release coke that has been dumped from the quenching car through a screening process on to conveyors below that carry it to the

19 Ibid.
Those women who tried this job found it too heavy and difficult, and either quit or were transferred to some other job. 20

A small number of women were employed as lerrymen, lerrymen helpers, panmen, filtermen, topmen, casting, and cinder crane operators. The lerrymen operated a small electric car that moved back and forth in a tunnel-like passageway below the ground level of the furnace carrying raw materials of coke, ore and limestone from the stock house to the skip car. The skip car raised the raw materials to the blast furnace. Although the operating of the car, the dumping, and the opening and the closing of the stock house doors were all performed by electrical controls, frequently the doors would jam and make the task far from easy, especially as dust and draft fumes were so plentiful. In a plant which tried several women for the lerryman's job, the foreman said that "only one of the women had been able to carry on the work to full job standards." 21

Other Examples of Female Employment

A large number of women were employed at the Carnegie-Illinois's great Homestead Pennsylvania Steel Works, which was "for years regarded as out of bounds for members of the gentle sex," and serves as an excellent example of the place of female workers in the steel industry. The first women employees at the Gary-Indiana Steel Works of Carnegie-Illinois Steel were assigned to Thomas B. Koons, an inspector in the

20 Ibid.

21 Ibid., p. 7.
Blooming and Billet Mill. They started training on November 23, 1942. Then women recruits became the rule rather than the exception until they soon comprised one-fourth of the inspection department's force of 460. The first women to be employed at the Homestead Works began work on March 9, 1943. They were hired as "cleanups" and brick laborers at Carried Furnaces in the blast furnace division. However, other departments of the plant followed suit. By the end of 1943, eleven hundred women had been employed.

In the blast furnace division and the wheel and axle division, some two thousand women were utilized in production and clerical work. Their jobs required a variety of skills. The plate department had one normalizing unit in the 100-inch which was operated almost entirely by women. Women were trained to operate cranes of various types in the plate, open-hearth, and other departments. They also acted as drill press operators, chemists and spectrographic laboratory assistants.

Some 3,200 women were employed at the Ambridge Pennsylvania plant and Shipyards of the American Bridge Company. Women began production work at Ambridge in April, 1943. The first group, numbering twenty-seven, were hired by the operator of a plant which had never previously allowed women to enter its confines. "Today," management spokesmen said, "women are everywhere doing all kinds of production work."

At Ambridge and other steel mills, women were again employed as crane operators, burners, welders, structural steel inspectors, material

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23 Ibid.
24 Ibid., p. 5.
25 Ibid., p. 5.
checkers, template makers and helpers, rotary plane operators, lathe and drill press operators, dehydrator operators, welders, cleaners, painters, tractor drivers, marine diesel engine operators, ship fitters, toolroom attendants, and laborers.  

Still another example is provided by the McDonald Ohio Works of the Carnegie-Illinois Steel Corporation, one of the first United States Steel Plants to hire women. In September, 1942, "a group of nineteen women first saw inside the McDonald works. They are now efficiently performing the man-sized job assigned to them," according to a manager a few months later. One woman of the group, Mrs. Hazel Busted, was referred to as the "Dean" of women then employed at the McDonald works. She had mastered the difficult job of feeding a band of strip steel from a coil into a cutoff machine which cut the metal into specified lengths. The machine worked with a terrific speed, thus making it essential for the operator to have an "alert mind and a quick hand."  

Some Of The More Difficult Tasks In Steel Making  

Many of the tasks undertaken by women exposed them to intense heat, soot, and dirt. Some women were used as topmen who cleaned off the tops of blast-furnace stoves which were fifty or more feet above the ground. Twice daily, a crew of six or seven women would climb to the top of the blast-furnace stoves and for almost one hour they would

26Ibid. Also Steel Facts, No. 75 (Dec., 1945), p. 5.  
28Ibid.
shovel up the accumulated soot and dust ore. These women had to wear special one-hour breathing apparatus, and they were equipped with goggles and hard hats that protected their heads from flying particles and falling objects. The top man, as he is called, was exposed to all types of weather and working conditions. He worked at dizzy heights in wind, sleet, and snow. This was not a job to be relished by any woman, least of all by those new and inexperienced. Yet, "There they were, stout heartedly doing this arduous task." A number of women operated cranes in the steel mills but they were not employed on cranes that carried molten metal. One plant, however, had a woman operating a cylinder crane that scooped cylinders from a pile near the blast furnace and dumped them into a railroad car. In another instance, a woman controlled the crane that moved and stocked "piggs" in the storage shed.

In several steel plants, a woman "panman" mixed the fire clay and shoveled the materials into a mixing mill to be used for sealing the casting hole that sealed the blast furnace. Her work was done in a blast furnace shed. Mud mixing or fire clay mixing was incidental to other jobs because it was not a full time job.

Women worked mostly as laborers in the sintering plant in jobs that were unattractive and unpleasant. The sintering plant salvaged blast furnace flue dust and ore dust by mixing it with water and spreading


30Ibid.

31Ibid.
it on moving conveyors that carried it under gas flames. These flames dried or baked it into clinkery masses known as sinters, which were then charged back to the furnace to be reheated or reprocessed. Some of the women in the sintering plant were responsible for dumping the cars of ore and dust. Women moved along the sides of the conveyor in order to remove foreign matter and lumps of slag. They shoveled up spills along the conveyor lines, screened coal dust and carried tests to the laboratory. Iron dust enveloped everything around the sintering plant. Long exposures to iron dust could cause siderosis and pulmonary difficulties. Even though there was a serious threat, the workers many times wore neither goggles nor respirators. Most of the women were reported as "moving as much dirt and materials as men."\(^{32}\)

Anyone working near the blast furnaces was exposed to great heat, drastic and sudden changes in temperature, and drafts from open, shed-like buildings. Most workers were exposed to burn hazards, carbon monoxide fumes and smoke poisoning. Their safety was also endangered by the necessity of working in dark and poorly lighted passageways and in the vicinity of rumpled earth. Furthermore, women were exposed to the danger of stumbling and falling on tracks.\(^{33}\)

In both the open-hearth and the blast furnace areas the operators were careful not to use women in the most dangerous and most difficult jobs. Women were not employed as tappers, melters, pourers, and charging operators on any jobs where molten steel was involved. Instead,  

\(^{32}\)Ibid.  

\(^{33}\)Ibid., p. 9.
they were given the jobs handling door controls twenty-five to thirty feet back from the furnace heat. Most women worked in the yards, handling bricks, unloading hot top rings, and helping bricklayers in ladle relining. 34

Checker-chamber cleaning was one of the hardest and most disagreeable jobs to which women were assigned. The bottoms, and/or lower levels of the open-hearth furnaces had to be rebuilt every three weeks. The women served as the clean-up crews. After the men had broken up the bottom of an open-hearth furnace, the women workers generally moved the pieces with tongs or with their hands and loaded the materials into wheelbarrows. Some of the bricks were sometimes knocked out and had to be picked up and loaded. They cleared out the bottom and the flues. "The place was dusty, windy, sooty, and hot." Women usually did not work continuously at this job but alternated every three days with three days of general labor. Women shared in the "Bonus and incentive rate;" they liked the earnings but did not like the conditions of work. 35

Another disagreeable job was that of "hot top." Special varieties of steel were poured into ingots that had superstructures of brick or hot top rings on the molds. The train was pulled along beside a high platform upon which men and women stood with long iron bars that rested on metal apron heat shields. Women knocked off the "hot top" with one or two hard blows. It was a hot job, but it took less than an hour

34Erickson, "Women's Employment in the Making of Steel," p. 9.
daily. The employers agreed that women had "done as well as men on this job and liked it." Also, women operated ten to fifteen ton cranes. They served as hookers, adjusting the hooks for the operators to pick up loads of scrap. Some women used oxyacetylene burning torches in the scrap yards to cut the scrap into manageable sizes. 36

But most female steelworkers, as noted above, were employed in the earlier processes of steelmaking. About two of every five worked in the rolling mills rather than the wire, tinplate, merchant, bar, and ship mills which were less rough and hired more women than the rough basic mills, billet ship mills, and rail structural mills. In the rough basic mills, hot ingots from the steel furnaces were carried by heavy cranes to large pits where they were soaked in heat of temperatures of two thousand degrees Fahrenheit or more. Here, women were employed as cover operators to open and close the doors of the soaking pits. The worker was exposed to radiant heat, but not a direct or especially intense heat. 37

Other Jobs for Female Employees

Women were employed in the steel mills as grinders, scarfers, checkers, painters, laboratory technicians, chemists, blacksmith helpers, and repairmen. In the grinder's jobs women used portable board grinders. The work was heavy and required forcible arm pressure and other muscular strain. Continuous long periods of grinding were found to be too heavy for women. In some mills, therefore, women were allowed to mark surface defects to give them periodic breaks from grinding. 38

36 Ibid.
37 Ibid.
38 Ibid.
Scarfing work was not as heavy as grinding, but the worker was more exposed to burns from flying sparks and from the metal burning furnaces. The flying sparks could cause gastric irritation. The women wore protective clothes similar to those of a welder. In turning the billet blooms and slabs, women needed the assistance of mechanical aids. Women liked the earnings from the grinding and scarfing, but for most of them the jobs were too arduous and physically demanding. 39

Checking, marking, painting, and identifying all types of steel, crane operating, crane following, and locking were jobs common to all rolling mills, and were frequently held by women. Women occasionally worked at hotbed operators tasks. This required the operator to sit in a raised pulpit above or at one side of the cooling beds to operate levers and to move bars and strips of steel to the proper tracks on the conveyor. However, such jobs were not commonly done by women. 40

In one strip mill, a Women's Bureau representative found three-fourths of the workers in the finishing department to be women.

The task of scrap collection was handled by women in many instances. They collected scrap, cut it with burning torches and shears, and baled and tagged it for furnace charging. A few women served as shear and slitter operators, but in such work they were primarily assistants. 41

There were a few women employed as professional chemists and metallurgists, doing research and analyzing steel. The testing was largely routine and repetitive and required no unusual scientific

39 Ibid.
41 Ibid., p. 13.
background; however, it required ability to follow instructions and careful laboratory techniques. As testing processes were broken down, women were "found to be at least as good and often better than men in following detailed procedures under supervision. The praise of women as laboratory aides in steel is spontaneous and unsolicited," reported the agents of the Women's Bureau. 42

Women laboratory aides or technicians worked in both the central laboratories and in the large plants in the specialized laboratories. Their work often took them into the mills to examine coke furnaces, blast furnaces, open-hearths, and rolling mills. At different steps in the steel making process, the laboratory technician analyzed molten samples to see if the necessary materials were present in order to proceed further. The tests determined the accuracy of the components in the process up to the point of time of the test. "Such tests were done in a strict time limit. For every minute's delay in the laboratory there was a minute's delay at the furnace which could alter the composition of the heat." 43

One of the most satisfactory and effective areas for employment of women in steel was the electrical repair shop. Here they repaired and wound armatures, dipped coils in insulating varnishes and baked them in ovens, cleaned and inspected bearings and brushes, and did assembly, inspection, and miscellaneous bench-work jobs. 44

42 Ibid., p. 16.


44 Erickson, "Women's Employment in the Making of Steel," p. 17.
Some women were hired as helpers in the blacksmith and boiler shops. They tended hammers, followed the signals of the blacksmith, did welding, acted as "stick-in" men, setting hot rivets into holes for the riveter, did lay-out and fabrication of sheet metal. In making, pasting, and cleaning of cores, and in acting as molder's helpers, women would be working in a new capacity in steel foundries. Nonetheless, a number of women accepted such jobs.  

The Adjustment of Women in Steel Work  

As women were employed in steel production, they faced many tasks that were extremely strenuous. It required both time and patience until women were properly trained for these often dangerous jobs, and until they adjusted to their new situation.

Women worked in varied capacities in the steel industry. Yet, in all cases, women showed enthusiasm, adaptability and competence in their performance. One job, which was extremely tedious and lacked all glamor, was the shear job. One shear leader, Josephine B. Caporali, of a six-woman crew of the 42-inch shear in the scrap yard of Carnegie-Illinois Steel Corporation, expressed her attitude in this way: "I wanted to help out my country like everybody else is doing."  

According to the performance of the other members of the crew, the above statement was indicative of their own attitudes. Their jobs ranged from cutting scrap to charging box size for the open-hearth furnace.

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45 Ibid.


47 Ibid.
Conclusion

With few exceptions, positions taken by women in the steel industry tended to be those requiring the least skills and paying the least money. Since the work of the ladies received considerable praise, the question has to be raised as to why women did not come into more jobs that were more suitable and of a supervisory nature. The answer seems to lie in the fact that in steel as in no other industry the seniority rule operated rigidly against the women. Other factors that had some bearing on the lack of mobility or promotional chances for women in steel rest partly on the traditional idea that steel making is a man's job and that most of the jobs other than those of a labor classification expose the worker to high temperatures and require difficult skills peculiar to heavy industry; and partly on the position that women employment was temporary rather than permanent. There seems to have been the feeling that as soon as the war crisis was over, women would return to their homes and families.

The work in the steel mills was strenuous, heavy, hot, and dirty. Yet women were continually recruited for these tasks, and they accepted them in the spirit of willing participation in the productive war effort. They wanted to get the job done with little concern about the place or kind of job. Women seemed not to be very discriminating about employment. They were tried on almost every job. Only when the job was certain to be too heavy or too difficult were women refused the chance to try. In this capacity, women demonstrated a desire for adventure, propelled by both an inner and an outer motivation in an attempt to do everything
that was possible to keep the wheels of industry in motion and to end the war as soon as possible. As Douglas A. Fisher in "Steel in the War" observed: "Most of them came because they wanted to do work of direct value in the war while their husbands, brothers, sons, or sweethearts in the armed forces were away fighting for them."48

CHAPTER IX
WOMEN IN ARTILLERY AND AMMUNITION PRODUCTION
DURING WORLD WAR II

Types of Work

Ammunition and artillery production required many skills and hundreds of operations, and the assembly of the components of ammunition was found to be an occupation suitable for women. For example, ammunition and rifle assembly included the putting together of percussion elements, primers, boosters, booster caps, and fuses in many varieties and sizes. Moreover, the easily-acquired skills utilized in ammunition plants had great potential for both the war and postwar periods for experienced women could readily shift to other industries.

Very early in the defense effort ammunition making was therefore recognized as an industry suitable for female workers. In view of the demands for more and more ammunition by the United States and its allies, a summary of the principal occupations was made as early as 1941 with two aims in mind: to show the kinds of jobs that both women and men could do, and to make way for the more extensive use of women, as recommended to the commanding officers of contractor-operated plants and the chief of Ordnance Districts as labor supply policies.¹

It was found that one government arsenal employed women almost exclusively in one area, the mechanical time fuse department. One of the government arsenals inspected by the Women's Bureau as early as 1941 reported ninety-six percent of the employees in the mechanical time fuse department, were female, where three years before only two percent were women. Many of this large number of women were recruited from the needle trade occupations where women had developed their skills in fine embroidery.

The more than one-hundred parts of this mechanical time fuse assembly operation dealt with the assembly of parts varying from a fraction of an inch to several inches in size. The process of assembly was divided into "progressive steps similar to building a watch or small clock." As much of the work was intricate, small tools such as files, tweezers, hand drills, and screwdrivers were used. The operations included inserting wheels and moving parts, screwing, staking, and penning (drawing, bending, or flattening) sub-assemblies in place, setting equipment, firing pins, firing arms, and testing their action. Finally the movement was fitted into the fuse case.

In another area of similar work, representatives from the Women's Bureau inspected a United States plant making torpedoes in the summer of 1943 and found women doing most of the complicated assembly work. In one case, a woman put together the entire front part including all the mechanism. Women also learned to assemble the complicated gyro

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\[ 3\] Ibid., p. 11.
which required great precision. "They were taught to work with considerable independence and responsibility."[^4]

In the production of ammunition by the steel mills, women were employed in the forge, foundry, machinery, heat treatment, final assembly, and finishing departments. The work in the machinery and assembly departments done by women was not very different from that done in other shops not handling heavy metal fabrication. Women were operating all kinds of machines: grinding machines, presses, punches, saws, and special duty machines. The work was slow and heavy, for it involved the use by both men and women of heavy hoists and cranes in setting up the work. Women were also working with the men on lay-out work, following blue prints, working on templates, and using scribing tools and center punches. Agents of the Women's Bureau reported that "in an armor plate mill where parts were fabricated for combat vehicles," women were doing the major part of the layout and were doing most of the cutting of contour parts with single-torched oxyacetylene burners and were cutting long straight parts with gong or multiple fixed position burners. The work was not heavy but required "skill in directing the burners along contour lines."[^5]

Women were also working in the heat-treat departments as preheater furnace attendants, where they were dipping shells in molten-lead pots and charging and tending special rotary furnaces for shells. They were starting and controlling heat and timing furnaces and annealing ovens in which propeller, gun barrels, and armor plate parts were being conditioned. Heater helpers kept records of cold materials going into


[^5]: *Women's Employment in Steel, 1943; Women's Bureau, Department of Labor, 1944, p. 15.*
the furnace, heat time, and temperature. Tending furnaces was hot work, but usually limited to periods of short duration.6

In a study of two government arsenals by the Women's Bureau in 1942, it was learned that women were more numerous in the small arms departments than any other. They could, however, be used on a large scale in many other departments.

The summary of the principal operations in the manufacture of artillery-ammonition and components and the suitable jobs for the extended use of women in ordnance plants are as follows:

**Women in the Manufacture of Artillery-Ammonition**

<table>
<thead>
<tr>
<th>Metal Components Manufacturing:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tool making, adjusting, setting...M up machines, etc.</td>
</tr>
<tr>
<td>Machine operations...........M and W</td>
</tr>
<tr>
<td>Assembly....................M and W</td>
</tr>
<tr>
<td>Inspection................M and W</td>
</tr>
</tbody>
</table>

| Fuze Assembly (including detonators, fuze primers, boosters, etc.); Machine operations...........M and W | Could be used almost entirely |
| Assembly....................M and W | Do. |
| Inspection................M and W | Do. |
| Loading......................M and W | Do. |
| Packing......................M and W | Do. |

<table>
<thead>
<tr>
<th>Propellant Primers:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Body and head machine operations.....................M and W</td>
</tr>
<tr>
<td>Assembly of body and head...M and W</td>
</tr>
<tr>
<td>Loading (explosive operators)</td>
</tr>
<tr>
<td>Head......................M</td>
</tr>
<tr>
<td>Body......................W</td>
</tr>
</tbody>
</table>

6Ibid.
Projectile Manufacturing
Machine operations.............M
Inspection................................M
Painting..................................M
Packing.....................................M

Could be substituted in part on lighter projectiles
Could do 37-min.
Do.
Do.

Projectile Loading:
Melting pouring and compression explosives
Drilling fuze cavity ...............M
Cleaning threads and miscellaneous light jobs

Not suitable
Do.
Could be substituted in part.

Case Loading and Assembly:
Inserting primer.....................M
Weighing and pouring powder......M and W
Crimping case to projectile........M
Miscellaneous machine.............M
Painting and stenciling...........M and W
Packing.................................M and W
Inspection..............................M

Could do 37-min, and 75-min.
Could be used entirely.
Could be used entirely.
Could do 37-min.
Proportion could be increased.
No further extension possible.
Could do 37-min.

Bag Loading:
Bag sewing—
Cutting and trimming.............M
Power machine operating........W
Smokeless powder bag loading

Could be used entirely.

Weighing and loading.............W
Sewing loaded bag..................W
Black powder bag loading...........
Weighing and loading..............M
Sewing loaded bag..................W
Putteeing propellant charges.....M
Inspection.............................M and W
Packing................................M and W

Not suitable if hopper must be filled.
Not suitable.
Proportionate.
Do.

Explosive Manufacturing:
Smokeless powder.................M
Black powder.........................M

Not suitable
Do.
Recruiting Female Employees

With a knowledge of the many tasks that women could do in the ammunition plants, on July 31, 1942, Paul V. McNutt called for fifty thousand workers for ammunition plants within the Chicago area alone. Among these plants were the Kingsburg, the Elwood, and the Joliet Ordnance Plants. These plants manufactured ammunition for rocket guns and artillery ranging from the 105 millimeter howitzers to eight-inch guns. Few of these jobs required special skills, and so women were found to be able to do most of them.8

As the demands for increased production of ammunition and artillery continued inexorably, so did the demands for the increased employment of women. In late 1942, the Chief of Ordnance of the War Department sent out a Civilian Personnel Bulletin on the Employment of Women which read as follows:

SUBJECT: Employment of Women

1. The Secretary of War has stated it is the policy of the War Department to use women in all capacities for which they are qualified or for which they may be qualified by training.

2. In view of the heavy requirements for personnel suitable for military service, it is essential that immediate action be taken to provide for the replacement of male workers who may be inducted into the armed forces. Serious interruption in production will be the inevitable result of failure to take adequate action in this respect.


3. Commanding officers of all establishments of the Ordnance Department will adjust their procedure, policies, and working methods in such a manner that women may be employed to the maximum extent compatible with efficiency. This will necessitate careful re-appraisal of employment and production processes and cannot be considered solely upon the basis of present operating conditions.

4. This War Department policy supporting the maximum employment of women will be brought to the attention of all contractors, sub-contractors, and suppliers of the Ordnance Department.9

Not only was this view taken by the War Department and instructions outlined for the implementation of methods for the full use of women workers, but the Navy Department as early as July, 1942, had made an announcement relative to the increased employment of women. The Undersecretary of the Navy pointed out that the current or impending shortage of male labor in major war industry areas contained a threat to the uninterrupted competitions of the navy procurement program.... It's estimated that 2,000,000 additional women workers will be employed in war production during the next year.... To insure maximum war production from this large group of new industrial workers, it is essential that all Navy contractors and sub-contractors complete plans for the maximum employment of women in their productive force.10

These plans were to be immediately enforced by all Navy contractors and sub-contractors especially where there were critical shortages of male laborers. The rapid institution of employment plans for women in all industries, in short, was considered very necessary by all authorities responsible for munitions production.


Extent of Female Employment

Early estimates of some plant managers that they might use thirty-five to forty percent women workers increased from time to time. In 1942, three plants in the proposed thirty-five to forty percent category had gone far beyond thirty-five to forty percent and were employing sixty to seventy percent women. The leading plants by that time expected to use fifty-four to seventy percent. Two fuse assembling plants planned to use eighty to ninety percent female employees.11

In the Springfield Armory alone, the number of women employed went from fourteen in 1941 to a total of 1,883, or nineteen percent of all shop workers, by June, 1942. The number of female inspectors of ordnance there increased from twenty-seven in January, 1941 to seven hundred ninety-two in May, 1942. The percentage increase for the same period was eight and seven-tenths to forty-four and eight-tenths. For men, the number increased from 283 in January, 1941 to 976 in May, 1942, but the percentage of male employees decreased from ninety-one and three-tenths to fifty-five and two-tenths.12

There were similar increases in plants like the Benicia Arsenal Plant in California that hired seventy women in 1941 but in 1942 hired 334 and estimated that soon this number would be increased to 15,000. These women were employed as munition handlers, store keepers, box openers of loose shells, and assemblers of shells in ships.13


In the Boston Ordnance District, thirty-one women were employed in May, 1941. By May, 1942, 548 were employed. In this plant district women held these positions: seventy-nine inspectors of ordnance materials; fifty-five minor assistant engineer aids, three assistant laboratory aids; one junior engineer; one assistant attorney, and 321 clerks, typists, and stenographers. In a similar way, the district office of the Philadelphia Ordnance District was employing almost three thousand women by May 30, 1942.\textsuperscript{14} Many of these were clerical workers.

It was estimated that by late summer of 1942, peak production would be reached with employment of eighty thousand to one hundred thousand women workers.\textsuperscript{15} Such an estimate of the employment of women made it necessary that ammunition and ordnance plants be alerted in the Springfield, Massachusetts, Ordnance District, which embraced the State of Connecticut and the counties of Berkshire, Hampden, Franklin, and Hampshire in the State of Massachusetts. The number of increases for women in all positions was from ninety-two in February, 1941, to 1,524 in May, 1942, a percentage increase from twenty-two to fifty-four and one-tenth. The number of men in the same period increased from 326 to 1,291 but showed a percentage decrease from seventy-eight in 1941 to forty-five and nine-tenths in May, 1942.\textsuperscript{16}

According to a report of July 22, 1943, from Clinton Golden of the War Production Board, the Office of Labor Production and the Office of

\textsuperscript{14}\textit{Ibid.}, p. 28.

\textsuperscript{15}\textit{Ibid.}, p. 29.

\textsuperscript{16}Lucille Foster McMillin, The Second War (1943), pp. 28-29.
Economie Advisers, the employment of women in ammunition, except for small arms, numbered 202,673 out of a total of 592,678. Women, therefore, constituted thirty-four and two-tenths percent of laborers in ammunition. In small arms ammunition manufacturing the percentage was much higher. Women made up forty-six percent and numbered 118,758 of a total employment of 258,170. The proportion of female employment from January, 1942, to May, 1943, alone increased approximately forty percent. It was twenty-five and one-tenth in 1942 and thirty-four and two-tenths percent in 1943, in ammunition. In small arms ammunition, there was an increase from thirty-six and seven-tenths percent to forty-six percent. In ordnance there was an increase from twenty-three percent in 1942 to fifty-six percent in 1943. By May, 1943, the percentage of female employment in munitions or ordnance ranged from twelve percent in tank production to forty-six percent in small arms ammunition.17

The peak of employment was reached in the ordnance industry in February, 1943, when a total of 368,341 men and women were employed, and 97,279, or thirty-six and three-tenths percent, of these were women. By June, 1943, the number had reached 106,673. In terms of percentage of female employees, the peak of forty-seven and eight-tenths was achieved at the end of April, 1945.18


Four Case Studies

Not all employees in munitions and ordnance production were merely mechanical and manual laborers. Here are case studies of four highly skilled women who worked in the ordnance district of the Chicago area: Gabrielle Morrisse, Harriet Rusinoff, Sylvia Krakover, and Ruth M. Leuin. Miss Morisse was the first of four women expediters in the district. She came to the district with wide experience in war manufacturing. She had been manager of a war plant and had experience as a drill press operator and a milling machine operator. Men were amazed at her wealth of experience and knowledge, which equaled their own. Miss Morisse's special work was concerned with tank and combat vehicle contractors.19

Miss Rusinoff was another expeditor whose work dealt with ammunition contractors. Her background experience had been obtained while she worked for a tool manufacturer.20

Miss Krakover worked in the raw materials section of the expediters' area. She performed the task of helping contractors in the district get revised or improved delivery of ferrous and non-ferrous metals required for the manufacturing of ordnance materials. Miss Leuin, the fourth of the women expediters, was also a member of the raw materials section. She was instrumental in helping contractors get steel. At the same time, she was studying metallurgy at the Northwestern University Technological Institute.21

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20 Ibid.
21 Ibid.
Gun and Projectile Types of Work

Most of the small arms sub-assembly and final assembly could be done by women, as well as the inspection of small parts. In one plant sixty-two percent of inspection was done by women. In the machine operations of cannon and heavy guns manufacturing, about forty percent of the employees were women. Almost seventy-five percent of the workers in small arms were women. In the small arms plants, the work was light and therefore particularly suitable for women workers. Much of the work was done by machine operators. A large number of the operators were women. The number varied from plant to plant and from department to department. For an example, one firm had no women machinists, while in others as many as sixty percent were women.

Women operated twelve kinds of drill presses. In one particular plant, eighty percent of the machines were run by women. Women also operated nineteen different types of milling machines and all types of grinding machines, with close tolerances and high finish. Through gradual machining and grinding raw stock that weighed 101 pounds was brought down to eighteen pounds finished steel parts.

In the manufacturing of cannons, there were many fewer interchangeable parts than in gun or small arms manufacturing, but the manufacturing of these required a knowledge of more processes. The work on the big guns required handling of parts which were too heavy for women. But women operated drill presses, vertical milling and

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23Ibid., p. 22.
turret lathes, and grinders. The large guns and cannons were tested at government proving grounds, and at one of these a thousand women replaced men in testing tanks, machine guns, trucks, and anti-aircraft cannons.  

Advantages and Limitations in Employing Women

As noted above, most of the components of artillery ammunition are small, and therefore the industry lent itself to the use of women in large numbers. Still another favorable factor was that large numbers of workers were machinists. Women were machine operators, bench and assembly operators, and inspectors. But women were "rarely concerned with the handling of explosives." In most of the machine shops there were small numbers of toolmakers. Women handled the packing of primers into shipping or storage containers.

By the time of World War II, the making of projectiles (missiles fired from guns) had improved considerably from the old method, due to the perfection of much of the equipment used in manufacturing them. In earlier times thirty to thirty-five separate operations were required on one projectile whereas only ten were required during the war. Much of this improved performance accrued from the use of multi-tool machines which could perform several operations that had formerly been done by several separate machines. These machines turned out projectiles of thirty-seven millimeters, seventy-five millimeters, ninety-millimeters, one hundred fifty-five millimeters, and three inches. Women could do well on the thirty-seven millimeter and the

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24 Ibid., p. 23.
25 Ibid.
seventy-five millimeter that weighed no more than eleven pounds, but few were used on the heavy ones—the ninety-millimeter or the one hundred fifty-five millimeter. The sequence in the operations of both the small and the large were about the same. The heavier ones were most fatiguing to women.\textsuperscript{26}

Similar problems existed in the operation of finished forged cavity shells. The shells, after having been received from outside forge shops, were then ready for the machine operation, which required an automatic shot blasting machine. The base end was centered either on a lathe or a drill press to "insure concentricity for all succeeding operations." An automatic multi-tool lathe was developed for cutting off the discarded metal at the base, for rough turning the head and body, and facing the base. The open end of seventy-five millimeter shells could be tapered on a crank press without heating, but all shells over ninety millimeters had to be heated before "nosing" or tapering. The exterior surface of the projectile was then turned on a lathe and the set screw hold was tapped on a drill press. Both ends of the shell and band were finished in a series of boring, reaming, and facing operations. It was not as practical to employ women on this operation as on the lighter ones.\textsuperscript{27}

The operations of notching, stamping, and knurling were repetitive tasks that required light work and few skills and could be done by women on the thirty-seven millimeter and the seventy-five millimeter.

\textsuperscript{26}Ibid.

\textsuperscript{27}Ibid., p. 11.
The rotating band on a projectile was a means of setting the shell into rotating motion and keeping it in straight lateral flight, the band being a trifle larger than the bore of the gun. The setting of the band was done on a hydraulic press (tire setter). Each shell and band was fed into the machine by hand, one at a time, before each pressing operation. The band was then turned on a semi-automatic lathe.  

Women operated punch presses, blanking out disks which were used as base covers on the ends of projectiles. Although all shells were inspected, usually by gauge and by electro-limit gauge that checked six dimensions at one time, they involved handling several thousand shells in one day. Therefore, women were well-suited to the thirty-seven millimeter inspection job. In fact, they could do all the inspection on the thirty-seven millimeter as well as insert the set-screws and grease the threads on both the thirty-seven millimeter and seventy-five millimeter shells.  

Both men and women made the final visual goggle checks and machine inspection. Some women used gauges and operated gauging machines which checked nine dimensions at one time. Women did considerable packing of cartridge cases into cardboard boxes, caseloading, and assembling.  

\footnote{28}{Ibid., p. 11.}  
\footnote{29}{Ibid.}  
\footnote{30}{"Women in the Manufacture of Artillery Ammunition," pp. 14-15.}
The shells, after having been loaded with the main bursting charges, were sent to an assembly line for fitting into a case filled with propellant powder. Women were used in large numbers in this job as the loading and assembly involved inserting the propellant powder into cases; fitting and crimping the projectile into the case; painting; stenciling of shells, cartons, and containers; inspecting; and packing. These operations were very simple, usually taking not much more than a week to learn.  

Loading projectiles was a heavy, manual, and dangerous task. Therefore, it was not thought suitable for women. But women were used for the unpacking, cleaning, and removing of nose plugs on shells lighter than seventy-five millimeters, when the shells were received at the loading plants.

The number of women employed in ammunition industries was determined by the millimeter of the shells; the smaller the shell, the larger the number of women used; the larger the shell, the smaller the number of women used. For example, the Tennessee Coal, Iron and Railroad Company forged shells of the one hundred fifty-five millimeter class, measuring six and one-tenth inches in diameter. The plant started production on these in November, 1941, attaining full scale operation in 1942. Its total output from November, 1941, to July, 1944, was 3,205,594 forgings. At that time out of a total employment of 207, there were twenty-five women employees.  

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31 Ibid.

At the Christ Park Works, near McKeesport, Pennsylvania, women made a variety of bombs and shells. Some bombs weighed as much as twelve-hundred pounds. The plant produced shells in both the smaller, and the larger categories.  

The percentage increase of women in artillery, small arms, and ammunition manufacturing from 1942-1945 was indicative of the vital role that women played in production. The lightness of much of the work made it suitable for the woman worker. The Navy and War departments consequently made special efforts to increase the use of women in industry. During the war, as new plants were being built, it was anticipated that approximately one-third or more of plant employment would be women. This estimate was fulfilled.  

The following statement from the Office of the Chief of Ordnance of the War Department on October 9, 1942, spells out the War Department's intentions relative to the use of women laborers.  

WAR DEPARTMENT  
OFFICE CHIEF OF ORDNANCE  
WASHINGTON, D. C. OCTOBER 9, 1942  

Civilian Personnel Bulletin No. 115  
Subject: Employment of Women  

1. The Secretary of War has stated that it is the policy of the War Department to use women in all capacities for which they are qualified or for which they may be qualified by training.  

2. In view of the heavy requirements for personnel suitable for military service, it is essential that immediate action be taken to

33 Ibid.  
34 Ibid.
provide for the replacement of male workers who may be inducted into the armed forces. Serious interruption in production will be the inevitable results of failure to take action in this respect.

3. Commanding officers of all establishments of the Ordnance Department will adjust their procedure, policies, and working methods in such a manner that women may be employed to the maximum extent compatible with efficiency. This will necessitate careful re-appraisal of employment and production processes and cannot be considered solely upon the basis of present operating conditions.

4. This War Department policy supporting the maximum employment of women will be brought to the attention of all contractors, subcontractors, and suppliers of the Ordnance Department.

By order of the Chief of Ordnance:

W. C. Pew
Lt. Col., Ord. Dept.,
Assistant 35

The three statements to the commandants, ordnance departments, the naval supplier stations, and officers to adjust their policies, procedures, and methods so that women could be employed to the maximum extent is an example of stimulants that created better working conditions for women in the plants and, therefore increased the numbers entering the plants as well as the productive capacities of the industries. Other stimulants were expressed from the news media as the following two excerpts taken from a special intelligence report of 1942 shows.

We call all business and professional women to fight for democracy. Your skills are needed on four fronts: the Battle of Ideas, Battle of Production, Community Offensive, and the Battle of the Peace.

Women can gain by participating fully in the war effort and in meeting its challenge. No one today is interested in feminism. The aim of this epoch is to establish the dignity of free 'men' women.36


As in all war industries, recruitment stimulants, job placement and adjustment were important factors to the full utilization of women in the ordnance industry.
CHAPTER X

WOMEN LABORERS IN AGRICULTURE DURING WORLD WAR II

During the war years of 1941-1945, the production of grains, wheat, corn, rye, barley, and rice was no less important than the production of tanks or guns. The production of potatoes, nuts, and fruits were no less important than the production of ships, planes, tanks or guns. The production of soya beans and cotton was no less important than the production of oil, coal, iron, or steel. For as an army could not move effectively either offensively or defensively against an enemy without strictly military items and supplies, it also could not move effectively without food and clothing.

Resistance to Employing Women

Yet World War II called thousands of farm hands and farmers away from the production of foods to the military services at home and abroad. The men and women who were left on the farms found it impossible with their dwindling labor force to plant, to cultivate, and to harvest enough to meet the ever-increasing demands for farm products. The one-non-depleted labor supply to which the farmer could turn was women, not the women already on the farm, but those women who were not farmers, that is, women from the towns and cities.

Although agriculture suffered from an acute labor shortage, there was no rush on the part of the farmers to recruit female help from the cities. Farm employers tended to be very skeptical about
hiring non-farm or city women for several reasons; and many women in turn, wondered, for instance, if non-farm women could stand the heat, dirt, and other unpleasant aspects of farm employment. The traditional farm woman could perform many tasks efficiently. But could the non-farm woman, with little or no experience, come to the farm and do farm work? The farmers who needed farm labor seemed to think they knew the answer already.¹

In spite of the skepticism, there were some farmers who were ready to try anything in the way of securing labor. There were also many women who were adventuresome and who were willing to do farm work. They felt it to be their patriotic duty to take the farm jobs vacated by prospective soldiers. They also wanted to try their hands at some of the labor tasks that men had been doing on the farms, and many girls or women who had regular jobs decided to spend their vacations on the farms. Thousands of high school and college girls, and some teachers, spent their summer vacations on farms harvesting vegetables, fruits, and berries. Even discounting patriotic rhetoric, there was some truth in the observation of writer Ruth Hogeland, who in 1943 described the women who helped on the farms:

You find out what Americans are made of in these circumstances. Here were girls they'd counted on in a great state plan to feed the fighters. Here were girls—pretty and feminine as they come—who pledged themselves to help in the production of enormous quantities of food and feed so that the life and the strength of the people of the United States might be sustained. Here

Recruiting Farm Labor

Although there was an abundance of pioneer spirit among women volunteering for jobs in both factory and field, there were also always the adverse or unfavorable attitudes expressed by some farmers toward hiring females. Therefore, in 1942, as the farm labor problem became acute, both progressive farmers and alert women's leaders set up projects to recruit female workers for the farms. The recruiters, sometimes without and sometimes with state aid and recognition, not only secured labor but were instrumental in breaking down farmers' resistances and adverse attitudes toward hiring women farm laborers. These men and women served as recruiters before the Extension Service of the Department of Agriculture was authorized by Congress with the responsibility of recruiting women for farm labor. Awareness of this problem of farm labor came early. Even before the war actually began, in August, 1941, a subcommittee of the Agriculture Department's Labor Committee proposed a plan for the enrollment of women and girls so as to assure an adequate labor supply. The success of the recruiters was substantial. As the war progressed, there were increasing numbers of women and girls ready to serve an increasing number of farmers ready to use them. "By the end of the 1943 season," according to an official contemporary report, "there was no question of the value of women's

2 Ruth Hogeland, "They Don't Know How to Say Quit," Country Gentlemen, 113 (Nov., 1943), 75.

work, no question of agriculture's need for them, and little question of the farmers willingness to employ them. 4

Early in the springtime of 1942, the Secretary of Agriculture, Claud R. Wickard, had informed the state and the county United States Department of Agriculture War Boards that all available women for farm work should be registered. The War Boards were to assist the local U. S. Employment Service in this task. In June, 1942, he said his advice to farm women was that "there was plenty of war work right on the farm and that they could usually make their most important contribution to the war effort by staying on the farm."5 By the fall of 1942, the Secretary had appointed a committee headed by the Director of Extension Work to consider ways and means to get the youth of the city to work on farms. It was learned that at that time the well-publicized farm labor shortages had in part stimulated the interest of women of the nearby cities and villages in farm labor. On January 23, 1943, Paul V. McNutt, Chairman of the War Manpower Commission issued Directive XVII which placed the responsibility of farm labor mobilization with the Department of Agriculture, which in turn directed the State Extension directors who made up the Extension Wartime Committee to deal with plans for the mobilization of all local labor resources.6

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But the federal government took even more radical steps to recruit women for farm labor. By the end of April, 1943, by Public Law 45, Congress had appropriated about $3.5 billion for the Emergency Farm Program, much of which was used for the recruiting of women farm laborers. The Extension Service of the Department of Agriculture was designated by Congress under the War Food Administration to continue to bear primary responsibility for farm labor.7

On February 3, 1943, Secretary Wickard requested both the Cooperative Extension Service of the Department and the State Extension Service to take responsibility for the development and supervision of a program for the organized recruitment and utilization of non-farm women for appropriate types of farm work wherever practicable.8 The Women's Land Army was set up by the United States Extension Service under the national leadership of Florence L. Hall. A Land Army Program was developed so as to coordinate the efforts of Land Army leaders. They were appointed by the Extension Service in each state and worked directly under the State Farm Labor supervisor, who was an Extension Service Man. These leaders used whatever methods were feasible in order most effectively to utilize female farm labor in the state.9 The Department expected to recruit sixty thousand; ten thousand for year-round work, and fifty thousand for seasonal work. These were to be considered the Women's Land Army.10 By the end of 1943, the

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7Ibid.

8Ibid., p. 41; Valentine, "Successful Practices."

9Ibid.

Women's Land Army made up 600,000 among the 3,500,000 emergency farm workers. The Land Army hoped to recruit 400,000 more during 1944 of an estimated needed number of 800,000 additional workers. The State Extension Service took responsibility for the placement of two hundred and fifty thousand workers in 1943.\(^{11}\)

The Extension Service and the United States Employment Service in the end were the major recruitment agencies. They used posters and descriptive circulars about job opportunities, established work projects, and even provided housing and other facilities.\(^{12}\) Many states channeled their publicity through the Extension Service Publicity Department. The press and radio were used extensively. Leaflets and posters were strategically displayed. Club organizations such as the Young Women's Christian Association, the United States Service Organization, and Civilian Defense, worked diligently to publicize and to recruit women farm laborers.\(^{13}\)

Many women's organizations aided the Extension Service of the Department of Agriculture in its recruitment project. Under the leadership of their chairman and their directors, women's clubs took leadership in developing and creating interest among women to promote the work of the emergency farm program and the Women's Land Army.\(^{14}\) They also promoted the effort of recruitment and the employment of women on farms. Among the representatives of organizations offering support were:

\(^{11}\) "800,000 Women Farm Workers Needed This Year," Labor Information Bulletin, 11, No. 3 (March, 1944), 5.


\(^{13}\) "Employment of Women Power to Fill Places of Men Who Have Gone on Active War Duty," Milk Plant Monthly, Sept., 1943, p. 5.

\(^{14}\) Ibid.
The Women's Land Army

As noted above, in order to recruit and utilize the available female labor supply more successfully, the Women's Land Army of the United States Crop Corps was organized. The major functions of the Land Army were to recruit and to train city girls for farm work and to work closely with the state extension services and to develop plans and methods for recruitment and training of women farm laborers. Learning to do farm tasks depended on proper training. Training programs, therefore, were set up by the Land Army in many areas to train women of nearly all ages and nearly all walks of life.

One of the training centers was set up at the State Institute of Agriculture on Long Island at Farmingdale, New York. A typical class was made up of twenty girls of varied backgrounds. In one class at the Institute, one woman was forty-five; the others were in their early twenties. Two were just out of high school, one had resigned a

secretarial job, one had worked in a defense factory, and one had come from Hawaii where her father was an engineer. She was a graduate of the University of Hawaii. Others had similarly varied backgrounds. Taking into consideration their wide range of interests and previous experiences, one of them could say:

But our wide variety of backgrounds was merged by one common denominator—the spirit of adventure, tempered by a realization of the importance of the work we were learning to do.16

The training program set up by the Land Army was rather rigorous. The trainees were oriented into the actual farm life situation. The women were brought from the cities and immediately placed into the role of farm laborers. As one of them observed:

We hadn't shaken the city dust off our shoes before we were hurried into the routine of farm life. Prodded out of bed at 4:30 a.m. for morning chores, we soon learned how strenuous is the activity of a farmer's day.17

In a lighter and perhaps a more fantastic note, another woman set her position by reference to her new experiences on the farm and as a member of the Land Army in this way:

Before I joined the Land Army, the only thing I knew was a city life of subways, cement sidewalks and salad lunches; but after three weeks of farm training and actual work in the fields, I could milk a cow, drive a tractor, put in a ten-hour day, hoeing, haying and harvesting—and I could and did devour a meal of meat, potatoes, and gravy that would do credit to an old-time farm hand. I have hay seeds in my hair—and I love it.18

The daily work of the trainee included poultry tending, field work, vegetable gardening, rural engineering, and any other task that

16 Jean Patterson, "Hayseed In My Hair," Country Gentlemen, 113 (Sept., 1943), 77.
17 Ibid.
18 Ibid.
had to be done on the farm. There was also some theory involved. Three mornings a week were designated for classroom sessions. In these sessions, the student learned about the general problems as well as the business angles of farm operation. They included such diverse subjects as overhead cost, diseases of animals, and the importance of doing a job well. For several days each week the students hoed and picked vegetables and did other necessary chores. After training, there were those who spent the whole summer on farms, others only a few weeks, a few days, or a vacation period. Some lived with farm families, others in specially designed camps. Most of them, however, went from their homes to the farms to work in the "peak seasons."  

More General Recruiting Problems

In order to bring more women into the farm labor force, labor Day of September 6, 1943, was utilized for a publicity campaign to heighten the interest of women in the farm labor programs. By request and cooperation of the Office of War Information and The National Publishers Association and 4-H clubs, leading farm magazines carried feature stories and cover displays of women working on farms in a variety of ways.

There were a number of qualifications that a woman farm worker needed. She needed to love the outdoor life. It was advantageous for her to love animals and the scenery of the country. Most women who were born and reared on the farm had through the years developed a love for

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19 Ibid.

20 Ibid.
animals and the country life. But the city women who became farm laborers during the war period often had not had the experiences and therefore did not know if they liked animals and the country life. With this in mind, recruitment appeals centered around what everyone needed for laborious tasks. Everyone needed good physical fitness. As farm work was primarily physical, the workers had to be in good physical condition. The physical strain of farm labor over a period of weeks and months was extremely great. The worker needed to be sure that she had the strength and the endurance to do the work. The farmer too, needed the assurance that those women sent to him or secured for his employment could do the work assigned. A doctor's certificate of physical fitness was the best means of assurance. Therefore, recruiters for women farm laborers made this statement:

It is earnestly recommended that this be the requirement of all women recruited for working groups under Government or private supervision or placed by Government or other agencies on individual farms.  

In addition to the emphasis on physical fitness, farm labor recruiters had to use a knowledge of and some sympathy and understanding for the city girl recruit. They had to locate those women who might be willing to work on the farms. The closely supervised women's Land Army, then, for example, had to find farmers who would hire them. And further responsibilities occurred, such as checking for training and living camps, to see that they were equipped with the necessary facilities and sanitary provision that would be adequate and would meet

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the health requirements. Land Army representatives had to see that there were cooks and supervisors and that proper arrangements for recreation were provided for the women workers. Land Army representatives were also to see that workers would have enough work to "more than cover expenses." The general policy suggested was:

Each separate camp or project needs a woman supervisor who will give full time to her project as long as it is running, and on the quality of this supervision depends to a considerable extent the success of the project.\(^{22}\)

For the successful and efficient employment of women, adequate supervision was needed in the fields and in the homes. As in other industries, working hours and rest periods had to be considered if maximum performance was to be obtained. According to program observers, women seemed to have been willing to work eight or nine hours a day but sometimes definitely worked only six. A fifteen minute rest period during both mornings and afternoons at a time when everyone could stop was found to be restful and refreshing. In afternoons, the more favorable quitting time was at five o'clock instead of five-thirty. One hour for lunch rather than a shorter time seems to have been more favorably accepted for it gave the worker time enough to eat her lunch leisurely and to have some time for relaxation.\(^{23}\)

Success of the Program: The Northeast as an Example

A study of the agriculture of the Northeastern region of the United States was made in 1943 in order to analyze and to alleviate the labor problems. The Northeastern region was one of the richest

\(^{22}\)Ibid., p. 32.

\(^{23}\)Ibid., p. 38; *Agricultural War Records Monographs*, p. 147.
and one of the most prolific in the production of many food items. The farms of the region furnished milk for the densely populated areas of the Eastern section. The value of their milk products exceeded that of any other region or division of the United States, and the value of its truck crops was greater than that of the whole country. The region also produced seventeen percent of the eggs and thirteen percent of the chickens produced in the United States. 24

From a close look at the Northeastern region during the war years, one can get a rather reasonable picture of the farm labor problem during World War II. The region included New York, New Jersey, Massachusetts, Pennsylvania, and Maryland. Although women were used in considerable numbers on poultry farms and dairy farms, the most extensive use of women seems to have been on the vegetable farms or truck and market-garden farms. They were used rather extensively in all regions where there were market-garden farms. Some type of truck farming went on all the year in certain regions of the United States. The greater labor needs ranged from the month of May to that of November. Milk and egg production went on all the time. 25

The National Record

The major work that women performed on the farms was more of the hand type than the machine type. They did outstanding work in bean picking in Oregon, for example, garden and truck farming in Kansas and New Jersey, and tobacco and cotton growing in North Carolina and

24 Ibid.

25 Milk Plant Monthly, 32. (Sept., 1943), 18.
Virginia. Although some women were trained in the use of farm tools and machinery in the Connecticut and the Maryland Agricultural Colleges or at Farmingdale, Long Island, and Washington, D. C., women did not use farm machinery on any large scale. Farms during World War II were in fact not nearly so mechanized as they were twenty years later.

According to the Agricultural War Records, it was necessary in the light of war demands and labor shortages to recruit some two million women into the Land Army, or to make placements of women in farm jobs during 1943 and 1944. In 1943 the number of female farm workers rose in the states from a minimum of eighty-four in Delaware to a maximum increase of 75,707 in Texas. Their employment constituted nineteen percent of the total agricultural employment in July, 1943, as compared with seventeen percent in July, 1942, and nine percent in July, 1940. Many volunteers responded to the love of farm production. Some of them had farm experience, but many of them had not. Recruiting women for farm work was one of the greatest tasks of the home front.

Conclusion

Many of those who joined the agricultural production labor force had never really thought that "they could give direct help or service to the war effort." They became the labor supply that aided so greatly

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in keeping the bread basket of the United States adequately replenished. The feat was accomplished to such an extent that "the farmers who had at first refused to believe that women could become as good at farming as men, freely admitted that women did many of the jobs as well as men and some of them even better." 29

The experience, the anxiety, the anticipation, the determination, the hope, and even the joy in the midst of dust, dirt, heat, and cold could be cited many times, in many places, by many women. Some of them went into the new experience of farm work with a will determined by the crisis at hand in a particular situation. Others approached the fields with a will that was marked by the patriotic zeal that a war was on and men were needed to fight.

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29 Lester A. Schlup, "Recruiting The Land Army," The Nation's Agriculture, 19: (May, 1944), 4, 18, 19.
CHAPTER XI
WOMEN IN THE RAILROAD INDUSTRY
DURING WORLD WAR II

The Railroad Industry

During World War II, the railroads moved more freight during the war than any other carrier in the United States. The railroads handled ninety-seven percent of all Army freight and express and about ninety percent of all Navy freight and express within the continental United States. The railroads also carried more than seven-tenths of all the commercial intercity passenger and freight traffic of the nation, military and civilian put together.¹ The railroads, were of course, also the transporters of war materials for thousands of industries in ever-increasing volume during the war years.

Railroad transportation was much faster than any other form of transportation. The system could even carry greater loads with fewer cars during World War II than in World War I. In fact, the new cars averaged twenty-five percent greater capacity, were loaded ten percent closer to capacity, and moved fifty percent faster behind more powerful locomotives. Nor was the railway industry static in the early 1940's. The emergency occasioned by World War

II brought about the improvement in the engine power of railroad machines. The full use of the electric diesel engine was accomplished during wartime. It made the trip from Chicago to the Pacific Coast with fifty cars of freight in only two days and four hours.²

**Railway Employees**

The railways had in their employ as many as 1,500,000 persons. By the middle of April, 1944, women made up 112,000 or more or almost eight percent of total employment.³ Railroad employees in general were classified into several major groups. Of the total, 16,500 were executives, officers, and staff assistants and 235,000 professional, clerical, and general employees. Work equipment, locomotives, cars, storehouses, and storage yards were kept in good condition by some 406,000 employees. Roadway and building workers involved another 310,000 workers. Station agents, telegraphers, truck-crossing flagmen, and those employed in transportation service other than train operation totaled 278,500 employees. There were 334,500 train and engine service employees and 19,500 masters, switch tenders, and hostlers.⁴

The heavy demands of the war of 1941-1945 so drastically increased transportation of the civilian and the military population and military materials that it was necessary to increase railway operating employees by 451,000. As a result of the United States national defense program, nearly a forty-three percent increase in employment or


³"Railroad Employment of Women Increases," *Railway Age*, 117 (July, 1944), 49.

business materialized in railroads between 1939 and 1944. During this period, also, more than 300,000 trained railroad workers left to enter the military service.  The overall employment increases and the transfer of thousands of skilled railway employees to the military led to the mass employment of women.

**Women in the Rail Industry**

World War II itself did not bring the first women into the railway industry. For more than one hundred years, women had been employed by the companies. As far back as 1855, the first woman to hold any kind of job on any railroad was a scrubwoman named Susan Moringstar, who was employed by the Baltimore and Ohio Railroad.  Large numbers of women had been utilized during World War I by the railroads, but a much larger number was taken on during World War II. By the end of World War II female employees numbered 117,307 on the railroads, compared to thirty thousand before the war.

Before the war, women's place in the railroad industry had been principally relegated to clerical work. Even those who served the industry during the First World War were "confined almost exclusively to housekeeping chores." Some remained as car cleaners between the wars. However, during World War II women held numerous occupations. Women clad themselves in coveralls, took picks and shovels and became track maintenance workers, thus winning the traditional name "gandy dancers." The washed locomotives and cars; checked freight, pushed

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hand trucks, worked in railroad blacksmith shops and boiler and machine shops. Some were employed as commission agents, car distributors, crew callers, crew dispatchers, chief blueprinters, draftsmen, crane operators, drawbridge tenders, crossing flagmen, and train dispatchers, and thousands of women were in the maintenance department. Others were machinist's helpers and truck gang workers. No women, before or during the war, however, served as a locomotive engineer or fireman. Female employment increased to as much as eighty-five percent of all persons employed by the railroads as secretaries, stenographers, typists, office machine operators, and telephone and switchboard operators by 1944.

In freight carriage and transportation, women were being employed as company secretaries, and assistant secretaries, treasurers and assistant treasurers, managers, supervisors of personnel, auditors, supervisors of contracts, directors, editors of railway magazines, administrators, attorneys, research and staff assistants, station agents, claim adjusters, chief clerks, general agents, statisticians, librarians, public relations directors and special representatives. Some women had been hired in various miscellaneous capacities such as interior designer and director of a railroad museum. Two railroads broke tradition in the dining car service by hiring women to take charge of the dining car services.

The passenger service division of the railroad industry employed women in highly responsible positions such as directors or managers

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8Ibid., p. 3.


10Ibid.

11"Women Track Gang A Success," Railway Age, 115 (July, 1943), 765, also 117 (Sept. 9, 1944), 412; 115 (Oct. 2, 1943), 332, 532; 117 (July 1, 1944), 57.

12Ibid., p. 5.
of women's travel bureaus, assistants to passenger traffic managers, supervisors of passenger train service, traveling passenger agents, passenger traffic solicitors and representatives, city ticket agents, and supervisors of hostess and stewardess-nurse service. Some of the women were used in promotional services such as making addresses to women's organizations. Some promoted vacation and special tours. Some were keen observers and became advisers in suggesting ways and means for the improvement of general railway passenger service.\(^{13}\)

With the transportation of large numbers of passengers during wartime, efficiency and punctuality were indispensable. In order to maintain efficiency on the road and in the terminals, workers were employed to clean, inspect, and service trains with such rapidity that the train could be reused within fifteen or twenty minutes. The workers, inspectors, and cleaners would start their work even before all passengers left and would finish as they were returning. Scores of women were employed for these tasks even while the train was traveling from one destination to another, thus reducing the time for cleaning at the terminals. At the Southern Pacific Eugene Plant, for example, William E. Jackson, departmental foreman, spoke highly of the jobs done by women. He said:

*It is unfair to single out employees for special mention, since all are equally deserving, but the so-called "mobile gang" at Eugene attracts attention because of its uniqueness. Here is a group of six girls always on the go—watering trains, cleaning, and washing caboose windows.*\(^{14}\)

\(^{13}\)Ibid.

\(^{14}\)Association of American Railroad Papers, p. 5.
The Southern Pacific Railroad, for example, lost as many as 7,203 of its male employees to the War service from the shops, roundhouses, stores, and offices. Women filled the vacancies. Obviously the public relations department did its best to suggest that the women were not only vital but competent:

But don't worry fellows, those big steam hammers at Bayshore Shops in San Francisco formerly manned by a couple of you, are doing all right. They are still pounding out their victory song. That fire lighter's job at Sparks is being taken care of, too. In the Brookland Yard at Portland, the rivet-heating furnaces are roaring as usual. And the giant turntable at Dunsmuir, though without its former operator, is still going round and round.15

Categories and Numbers of Employees

The number and the percentage of female railroad employees in various work categories during the war period show how womanpower was utilized. In April, 1945, the number of women employed by all reporting divisions of all Class I steam railways (excluding switching and terminal companies) was 115,876 or eight and sixteen-hundredths percent for the same month in 1944 was 112,063, or seven and ninety-four hundredths percent. The number and proportion of women in the major railway occupational groups are given in the following tabulation:

15 "Women Take Over Tough Jobs To Relieve Manpower Shortage," Southern Pacific Bulletins, Public Relations Department, Southern Pacific Company (Mimeographed, March 1, 1944), 49177-2, p. 3.
## Table 2

### Women Employed and Total Employment, April, 1944 and 1945, on Class I Steam Railways

(Excluding switching and terminal companies)

<table>
<thead>
<tr>
<th>Group</th>
<th>Year</th>
<th>Total Workers</th>
<th>Women Workers</th>
<th>Percent Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grand total, all reporting divisions</td>
<td>1945</td>
<td>1,420,511</td>
<td>115,876</td>
<td>8.16</td>
</tr>
<tr>
<td></td>
<td>1944</td>
<td>1,412,184</td>
<td>112,063</td>
<td>7.94</td>
</tr>
<tr>
<td>Total, all reporting divisions in which females are included</td>
<td>1945</td>
<td>1,122,464</td>
<td>115,876</td>
<td>10.32</td>
</tr>
<tr>
<td></td>
<td>1944</td>
<td>1,120,715</td>
<td>112,063</td>
<td>10.00</td>
</tr>
<tr>
<td>Executives, officials, and staff assistants</td>
<td>1945</td>
<td>14,884</td>
<td>19</td>
<td>.13</td>
</tr>
<tr>
<td></td>
<td>1944</td>
<td>14,521</td>
<td>18</td>
<td>.12</td>
</tr>
<tr>
<td>Professional, clerical and general</td>
<td>1945</td>
<td>230,716</td>
<td>80,026</td>
<td>34.68</td>
</tr>
<tr>
<td></td>
<td>1944</td>
<td>227,990</td>
<td>73,769</td>
<td>32.36</td>
</tr>
<tr>
<td>Transportation (Yard Masters switch tenders, and hostlers</td>
<td>1945</td>
<td>3,124</td>
<td>57</td>
<td>1.82</td>
</tr>
<tr>
<td></td>
<td>1944</td>
<td>4,857</td>
<td>53</td>
<td>1.09</td>
</tr>
<tr>
<td>Transportation (other than engine and yard)</td>
<td>1945</td>
<td>162,779</td>
<td>13,388</td>
<td>5.46</td>
</tr>
<tr>
<td></td>
<td>1944</td>
<td>161,722</td>
<td>11,908</td>
<td>7.36</td>
</tr>
<tr>
<td>Transportation (train and engine)</td>
<td>1945</td>
<td>91,688</td>
<td>277</td>
<td>.30</td>
</tr>
<tr>
<td></td>
<td>1944</td>
<td>92,855</td>
<td>264</td>
<td>.28</td>
</tr>
<tr>
<td>Maintenance of equipment and stores</td>
<td>1945</td>
<td>372,776</td>
<td>20,344</td>
<td>5.46</td>
</tr>
<tr>
<td></td>
<td>1944</td>
<td>379,447</td>
<td>23,310</td>
<td>6.14</td>
</tr>
</tbody>
</table>

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Railroad Labor Recruitment

Obviously there was a lot of propaganda and publicity aimed at attracting and keeping women in the railroad industry. A feature story on women's participation in railroading and in relieving the labor pressures of World War II was captioned "Women Take Over Tough Jobs to Relieve Manpower Shortage." The sub-caption read: "From Blacksmith Helper to Wringer Heater and Engine Wiper Women Are Proving Their Ability in the Wartime Emergency." A number of governmental organizations such as the Office of War Information, Office of Defense Transportation and the information services of the War Manpower Commission "cooperated in publicity campaigns for employment of women." The propaganda and publicity were surface symptoms of a careful campaign to attract female help into the railroad industry, but the primary recruiting agency was to be the railroad operators themselves, in contrast to government agency involvement in the recruiting of other industries.

Seeing the labor situation in a critical condition, Joseph B. Eastman, Director of the Office of Defense Transportation, proposed a program for its solution through the joint action of government, management, and labor. The program was to be passed on to the Association of American Railroads, The American Short Line Railroad Association, the Railroad Labor Executive Association, individual operators, and any government agencies needed to institute and to carry out the program. The proposal was prefaced with a letter to the chief executives of all

16 Copy in Association of American Railroads, J. J. Relley, President, to Executive Mensky Roads.

railroads and railroad labor organizations urging them to "organize and conduct a special railroad employee recruiting drive on an aggressive basis with the help of all available Federal agencies."\(^{18}\) Such a recruiting drive was to be the responsibility of three cooperating groups—the War Manpower Commission, Railroad Management and the Railroad Retirement Board.

The part of the proposal most significant for this study was the injunction to "recruit and enlist services of women employees to the fullest possible."\(^{19}\) The responsibility for developing and promoting this proposal was laid on railroad management. The Office of Defense Transportation remarked that: "The first step in the program would be for each railroad to list all jobs which in the judgment of its management can be filled by women, and then determine how many women by job classification will be required to fill these jobs."\(^{20}\) This, of course, was a sane approach to the labor shortage in transportation. The railroads were left alone in their recruitment plans even though they had priority to be assisted by the War Manpower Commission.

**Female Adjustment**

In a Chicago meeting of 1944, discussions regarding the employment of women in railroad transportation aroused considerable interest and summarized well the position of women in the industry. Cornelia Edge, Assistant Chief of Personnel of the Office of Defense Transportation, gave a review of the part that women were playing in transportation. She observed that in cases where "women had been properly selected for

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\(^{18}\)Ibid., p. 3.

\(^{19}\)Ibid.

\(^{20}\)Ibid.
the type of work they were to do and had received proper encouragement and training from their supervisors, they were filling adequately many jobs formerly held by men in the railroad industry."21 There were in 1944, according to Miss Edge 112,100 women railroad employees, or about seven and nine-tenths of total railroad employment. One-third of the employees of the air lines were women. Intercity bus lines had twenty percent; trucking for hire, eleven percent; warehousing, fourteen percent; the taxi business ten percent; and local transit, eight percent. 22

The adjustment of women to the jobs in the railway industry was made with only a reasonable amount of difficulty. From a study sponsored by the Office of Defense Transportation in Chicago, it was found that women could handle many kinds of work as laborers and helpers and small machine operators, especially if some efforts were made by the railroad shops to break up certain jobs and to give women the lighter and less skilled jobs. In such jobs, physical stamina and endurance were more important than size.23

The study noted that women needed training and brawn, but above all they needed intelligence and alertness, for women could have tools and equipment adjusted to their physical needs. Trained men could assist them in their work. They could be and were assisted by mechanical devices. Important factors in the success or failure of women in


22 Ibid., p. 2.

transportation were training, adjustments, and selection. Placing women with the proper physical qualifications and aptitudees in the proper job was a most significant factor.

There were discussions about the psychological differences between men and women. There were those people who felt that women should be considered as permanent employees in transportation rather than just emergency employees. Many thought that women should have some assurance that they could, after the war, expect to hold some of their positions earned in the war period. Some even thought that it would be unfair to women to hire them on a temporary basis only because such practice discouraged ambitious, high-grade women from applying for the jobs. The plans for women's work in transportation on a permanent basis was to some extent justified on the grounds that company loyalty could be better established. With assurances of job permanence, women could feel that they owed the company and the industry more than just a day's work, week's work or year's work for which they were paid. However, with the proper training, supervision, and counseling, women performed their jobs with seemingly little or no regard for whether the job would be permanent or temporary. They did their work well in spite of the many problems and inadequacies that prevailed in some railroad shops especially regarding suitable toilet and restroom facilities. Such problems were greatly improved by 1944 in all of the representative railroads except the Southern.

Providing proper facilities was a problem to all railroads because of the rapid influx of women into the industry. The Pennsylvania Railroad, for example, as did most of the others, found the

development of adequate facilities to be a big problem. Here was an operation that in 1942 had practically no women in its employ other than its clerical force, but in 1944, it had twenty-three thousand women employees and only nine thousand of them were clerical workers.25

**Postwar Employment Prospects**

It seemed to many Americans that women had found a permanent place in the railroad industry. Long before the war period, Brigadier General Frank T. Hines, for instance, administrator of the Retraining and Re-employment Office of War Mobilization, spoke on the "Problem of the Postwar Employment of Women," and was cited in connection with the railroad industry:

> If the employment problem is to be treated intelligently, the place of women in the postwar world will have to be taken seriously. Women in a democracy should have the opportunity to participate fully in the intellectual, social, economic, and the political life of the nation according to their ability as persons without restrictions because of sex or marital status.26

It was believed by a considerable number of people that at least one-third of working women would wish to remain in the labor force after the war. Many read in news reports on reconversion, that the right of an individual woman to work "must be recognized and provided for" in the postwar period, and no doubt they believed it.²⁷

A deciding factor in the postwar employment of women was the recognition that because of the loss of the husband and father of many

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²⁵Ibid., p. 6.


²⁷Ibid.
homes, the married woman—the wife and mother in many instances—would have to carry on the family function of bread-winner. In many cases, it would be a permanent undertaking for them. Therefore, prospects for job opportunity and security were just as important to them as to men.28

There was also mentioned the fact that women had found a new and, in most events, a hard-won economic status which they did not want to lose after the end of the war. It was felt that the Americans should "demand consideration for the status of women in all postwar plans." This was necessary during the crisis period and would be most desirable when the war crisis was over.29 Because of the extensive use of women in the railway industry during wartime crisis, women's organizations were formulated to promote the needs and interests of women in the railway industry.

Conclusion

The railroads as the greatest single transportation industry in the United States carried or transported in some instances from eighty to ninety percent of the freight of the country during World War II. This feat could not have been accomplished without the female inheritance of the vacant jobs left by men taken into military service. Whenever women moved into the industry, they gained the recognition of doing the job well. The close of the war brought an end to the employment of women in the more laborious jobs and skills in the railway industry. Nevertheless, in addition to the many clerical jobs during and since the

28 Ibid., p. 10.
29 Ibid.
war, a number of important and significant jobs in the railway industry both in freight transportation and passenger service continued to be held by women.
CHAPTER XII
COMPARATIVE PERFORMANCE OF WOMEN WITH MEN
DURING WORLD WAR II

Immediately after the Allied victory in the North African Campaign, General Dwight D. Eisenhower made a statement titled "Message for you from over there." In it, he stated:

Our fighting men standing shoulder to shoulder with our gallant allies, the British and the French, have driven the enemy out of North Africa. In this victory the ammunition made by American Industry, labor, and management, played a very important role. There is glory for all of us in this achievement.¹

Eisenhower was keenly aware of what the labor force on the home front was doing as well as the military on the foreign front. On the home front, the female labor force certainly helped to make the difference between success and defeat. As noted earlier, in July, 1944, the United States female labor force numbered 19,110,000 workers, the highest number in industry during the war. As Margaret Hickey viewed the number, she concluded that the overall manpower picture was satisfactory: women made up one-third of it. Without women, the almost staggering production records would have been impossible.² This, of course, was a glowing tribute to the utilization of women in the labor force of defense production during World War II. What one fellow woman said of other women perhaps does not carry as much weight as what men or their fellow workers said of them.

Impressionistic Evaluations

In many instances men who worked with women or observed them at work or employed them became cognizant of their labor skills and performance. One aircraft factory which had seriously doubted the usefulness of women employed them to the extent of forty-seven percent before the war was over. Even officers of some army camps had refused "to have women around the place." They could later "swell their chests and brag about how much better women were doing than men." Industry, whether aircraft, shipbuilding, steel production, ammunition production, transportation or agriculture often reported increased production and lower costs "particularly when men and women were employed at the same wage, in the same department, on the same job."^4

A Bureau of Employment Security survey in some California plants substantiated the idea that women in certain cases performed as efficiently in the same jobs, with the same pay in relatively the same circumstances or environment as men. The survey concluded that "with the same training and experience as men, even on different machine operations, women could be moved within a department as readily as men."^5 As writer Gulielama Alsop concluded in 1943, "Women who take and hold a job are considered as fitted for it as a man."^6

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^3 Ibid.

^4 Women's Advisory Committee, War Manpower Commission, "Wartime Women's Committee Maps out Important Policies" (Mimeographed, 1943), p. 5, National Archives.

^5 Ibid.

The New Woman

World War II largely created a new woman, a woman somewhat different from her predecessors. She not only had become acquainted with the house chores and tasks that through the years had been principally delegated to women, but she became the tool welder, machine handler, inanimate object manipulator, the factory and industrial labor type. She learned to obscure her feelings and to hide much of her feminity. Out of unusual demands of labor for war production, she acquired the ability to put vanity and emotion in the background and observe herself in her job just as men had done from time to time. Miss Alsop commented about the man and the woman in this way:

If he must be a tool and without emotion, so, too, must she. If he can learn, so too, can she. She can be an inanimate precision, too, not only does she make materials of war but she spends her money to enable the government to buy other materials that other girls make. She is right at the heart of the war.  

Women along with men were at the heart of the war in the production lines. They were, as men were, separated from their families. They worked the same shifts, day and night. Even though special efforts were made to place women on day shifts as often as possible, it was necessary for some of them to work the night shifts. Labor demanded emotional, psychological, and social adjustments of both men and women. It demanded also, alertness, physical stamina, and endurance. In addition, women were faced with the problems of child care, being away from home, housing, sanitary and health facilities, and strange environments and in general felt the strain of adjustment more keenly than men. Men for ages had

7 Ibid., pp. 44-45.
become job-movement and job-displacement conscious and, therefore, accepted changes and new environments as a matter of course.

One of the great problems of the war both during and after the conflict was social and economic adjustment. Women in general applied themselves very assiduously to the problems of war and labor. They earnestly sought for an integration of the problems of home and industry, war and peace, health and security for themselves, their families, and the nation. Millions of women joined men in helping to end the war, to build a lasting peace and build for the future a foundation of economic security and independence. They made the proper wartime adjustments in the face of many difficulties—even the seemingly impossible. They made great sacrifices of convenience and comforts that they had become used to. As Miss Hickey pointed out, "they have stretched their capacities for work and service...American women should come out of this war better citizens and better homemakers."8

Female Performance on the Farm

On the farms as well as in the defense production plants, women performed well. They planted, tended, and harvested corn, cotton, and tobacco in the South. They picked beans, tomatoes, and fruits in the east and Northeast. They worked on dairy farms, picked potatoes in Maine, and detasseled corn in the Midwest and graded and packed fruit on the West Coast. They pressed grapes in California wineries and

8Margaret A. Hickey, "Women's Role Today and Tomorrow," (Mimeographed, June 14, 1944), pp. 2-3, National Archives.
shucked oysters in New Jersey. Most of them started out with little or no experience. But they possessed a driving desire to learn and a zeal to keep at it. As noted above, many of them were teachers, stenographers, telephone operators, and business and professional women. Some gave their vacations to farm work. The zeal and the enthusiasm for their work "earned for them regular 'going' wages," and many farmers reported to their county agents that these women were the best "men they ever had."\textsuperscript{9}

A Vermont farmer, who was working a crew of eight women and four boys detasseling corn, made it known that he could use all the women he could get. He had much praise for them. "The women did the best job any crew has ever done for me," were the words of a Nebraska farmer. A New Jersey farmer claimed that he had "never had more satisfactory help in all the years" that he had been farming.\textsuperscript{10}

One woman as she observed a field where about twelve Smith College girls and fifteen local boys were working said, "These girls fear nothing. They are not afraid of hard work, of things they may have to do in the effort to win the war." An illustration of hard work was demonstrated one day in August, 1943, when 112 girls "gathered the almost unbelievable quantity of over two tons of beans on a farm in Belfast, Main."\textsuperscript{11}

Performance in Shipyards

As we turn from wartime farm production to production in industry, although in most cases the tasks were more varied and more numerous, reports of performance equalled those of the farmers. In shipyards,

\textsuperscript{9}Lester Schulp, "Recruiting the Land Army," The Nation's Agriculture, 119 (May, 1944), 18; Mary Elizabeth Pidgeon, Women's Work and the War (Chicago: Science Research Association, 1943), p. 34.

\textsuperscript{10}Ibid.

as noted above, women carried out some one hundred tasks ranging from laborer to personnel director and from a blacksmith to a naval architect. Women who were former and part-time housewives, sales girls, teachers, stenographers, college students, chorus girls, and beauticians became flame cutters, welders, shipfitters, foundrymen, sheet metal workers, crane operators, drill pressers, and lathe operators, truck drivers, electricians, and yard police. They adapted themselves to these jobs with amazing skills and performances. Beatrice Oppenheim observed women who worked outdoors in rain and snow. She observed others who labored in open sheds where the "whistling winds were 'drowned out' by the clang of steel." Women welders masked against an electric arc of steel 6,400 degrees hot "sewed a fine and well done seam in great plates of steel." Women boilermakers helpers climbed all over the ship and seemed relatively "at home atop a deckhouse."12

Some claims were offered that women were absent from work more than men, but in shipyards like the Dry Dock Company of Kearny, New Jersey, the Kaiser Richmond at Port Newark, New Jersey, and the Todd Shipyard of New York, it was found that absenteeism was no more frequent among women than among men. One factor determining this record might have been a result of the plan to give women more exacting physical examinations than men before they were assigned to their jobs. Most plants also set up more health safeguards for women than for men. Although much of the work was strenuous and physically taxing, the plants found that most of the

female employees thrived and performed their work well. Many of them even gained weight while holding down the so-called traditional male job.\textsuperscript{13}

**Performance in Other Factories**

A number of reports of women's performance are available. In 1943, for example, Mr. W. F. Weher, hazard engineer of the Western Electric Company at Kearny, New Jersey, said "Women are just about the same as men in factories...when first starting to work women are sometimes afraid of machinery but once trained, they follow instructions more scrupulously than men."\textsuperscript{14} According to another report, "Most shop foremen found that women were most adept at machine operation of all kinds." Women were proficient in precise and delicate work on small parts, where manual dexterity was involved and where repetitive operations were necessary. In one instance where a woman worked on a small assembly job, she performed her task at ten times the "speed of her male predecessor."\textsuperscript{15} Most foremen also found that women were more eager to learn. They were more consistent than men in applying themselves to their work. Strangely enough, according to Lucile Foster McMillan, women were found to be more durable than men in certain jobs, and less tired when engaged continually on one operation.

However, in some shops women were found to be inferior at benchwork. They could not rapidly and skillfully use the hammer and chisel. They were

\textsuperscript{13} Ibid., p. 71.

\textsuperscript{14} "Factory Girl Type Seen Ended By War," The New York Times, Mar. 25, 1943, p. 4.

also unable to perform adequately tasks that required great physical strength especially that of lifting heavy weights. A study made in New York in 1943 may serve as an example of what was taking place in other states. Almost 200 firms were visited of which one hundred and forty-three were manufacturing plants and fifty-six were non-manufacturing. There were 396,884 workers employed by these firms, of whom 154,587 were women. The study sought to learn of the problems arising in the replacement of men by women.

The employers had a high degree of praise for the performance of women on the various job replacements in production. The study reported that out of one hundred and thirty plants which gave the required information, eighty-eight percent indicated that women's production was said to be equal or greater than men's on all or some jobs. Seventy-one employers reported equal production on all jobs. Fifty said production of women was dependent on the type of job, and only seventeen said it was less on all jobs. Where production was less, the strength factor was usually involved.

Wages, Hours and Hiring Practices.

Based on a Women's Bureau study, hourly wages varied considerably in given industrial areas. For starting hourly wages, two plants paid sixty-five cents; two, fifty-five; two, fifty cents; and one, thirty cents. Beginning rates for both men and women ranged from thirty-five to sixty-five cents. Although wage differences existed, twenty-three plants had an entrance rate of sixty cents, with a progressive plan of five-cent steps at four week intervals until, at the end of twelve weeks, seventy-five cents was reached.

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16 Ibid.
17 Ibid.
18 Ibid.
Seventy cents was the highest rate for unskilled workers. At the end of twelve weeks, rates were assigned according to agreements through collective bargaining as established by management for the job.\(^{19}\)

The usual average hourly rate for women was less than seventy-five cents an hour. For example, at the Vultee Aircraft Plant, the average hourly wage for women and men was the same, seventy and one-half cents.\(^{20}\) Only nine plants reported an average rate of seventy-five cents or more for women. The highest hourly rate for any woman was a welder who received $1.32 an hour. There were two women in the covering department who earned ninety-five and ninety-eight cents an hour. Some of the highest rates by job for women were $1.10 for light assembly, $1.10 to $1.20 for inspection, $1.15 to $1.30 for filing light and burning and $1.10 to $1.15 for punchpress operators. There were also plant differentials in the work-hour day and the work week. Nineteen of the twenty-three plants scheduled an eight-hour day and a forty-eight-hour week. One plant had an eight-hour day and a forty-hour week. Another plant placed its women workers on a ten-hour day and fifty-seven-hour week.\(^{21}\)

In sixty percent, or eighty-six plants, of the total number inspected, women received entrance rates equal to those of men for comparable work. In another instance related to the displacement of men by women, the data showed that 874 manufacturing plants in the state of New York as of December 20, 1943, 607 or sixty-five percent paid the same entrance rates to men and

\(^{19}\) Women's Bureau Bulletin, No. 192, p. 16.


\(^{21}\) Women's Bureau Bulletin, No. 192, pp. 16-17.
women on comparable jobs. In the metropolitan New York area, eighty-two percent of the plants did so as compared with fifty-six percent upstate. A shipyard that had an equal pay policy for men and women made efforts to build up the confidence of women workers through equal pay and the use of their best abilities. The manager thought it to be "poor psychology" to pay women less than men, for it would at once make them feel inferior to men and then they could not be expected to do so well. According to the National Foreman's Institute, "you can't induct a woman into work and tell her she is going to fill the shoes of a man and then pay her only eighty percent of his wages without stigmatizing her instantly with the idea that she really isn't as good as the man whose job she took."  

**Comparative Production**

The manufacturing plants classified production figures below may serve as an index of the comparative job performance of men and women in other production and manufacturing plants.

**Manufacturing Plants, Classified by Comparative Production of Men and Women on Similar Jobs, New York State December, 1943**

<table>
<thead>
<tr>
<th>Comparative production of men and women</th>
<th>Number of Plants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>143</td>
</tr>
<tr>
<td>Equal production by men and women</td>
<td>71</td>
</tr>
<tr>
<td>Lower production by women than by men</td>
<td>17</td>
</tr>
<tr>
<td>Greater production by women than by men</td>
<td>1</td>
</tr>
<tr>
<td>Production of women dependent upon type of job</td>
<td>50</td>
</tr>
<tr>
<td>Equal production by men and women on some jobs, lower by women on others</td>
<td>17</td>
</tr>
<tr>
<td>Equal production by men and women on some jobs, greater by women on others</td>
<td>14</td>
</tr>
</tbody>
</table>

24.Ibid.
Equal production by men and women on some jobs, lower by women on some, and greater by women on others 13
Lower production by women on some jobs, greater by women on others 6
Not Reported 4 25

Accompanying these reports on comparative production were many laudatory statements on the success women had achieved in filling jobs hitherto reserved for men.\(^26\)

The performance chart would seem to indicate that the work of women compared favorably with that of men, in that the equal production shows a seventy-one percentage figure based on the actual performance. Therefore, job performance of women within the same industrial environment and on the same jobs with men as replacements gave an answer to the question that had been in the mind of perhaps every industrial and defense production employer: Could women adequately and efficiently master men's jobs?

The performance of women also dispelled many faulty generalizations such as that women make poorer supervisors than men and that women have very little mechanical adeptness, aptitude, and skill.\(^27\) It was learned, moreover, that women were superior in performance in jobs that required a great degree of patience and accuracy.

One of the lessons of the war experience was that the real test of job performance is based on "dexterity and mental alertness." In a number of tests and job operations, women were found to be excellent in both

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\(^{26}\) Ibid., p. 24.

finger and more general manual dexterity. There seems not to have been any real or concrete proof that women were generally more patient than men in their jobs, nor could they generally "excel men in close accurate work, nor is there evidence that men make better supervisors. There is some evidence, however, that women are superior in speed in working with the fingers and hands in routine performance.\textsuperscript{28} Such may be to some extent attributed to the fact that women have smaller fingers than men.

\textbf{Special Production Incentives and Devices}

The outstanding contributions made by women were aided by a variety of devices to increase the production of female workers. One typical example is provided by a production committee called the Rayon War Production Committee who organized the Women In Production Service (WIPS) in 1943. The organizational committee was made up of five women representing management and five women operators representing labor. They were representatives of the Spruance Rayon Plant of the DuPont Company at Ampthill, Virginia.

The WIPS were the women who were to fight the war on the industrial front. They were to be compared with the WAVES or the WACS. Each woman laborer in the WIPS was to wear the emblem of the organization on the left shoulder of her uniform. She was to also wear bars indicating her rank. Ranks were stepped up as: First Class, Senior Grade, Junior Lieutenant, Senior Lieutenant, Captain, and Major. Rank or promotion was based on work performance, support of the war effort and defense activity. A senior

\textsuperscript{28}Ibid.
lieutenant, for example, was to "invest at least ten percent of her salary in war bonds." She was to "maintain a perfect safety and attendance record for ninety days, offer at least one suggestion to increase production, and engage in some civilian defense activity." 29

It may be interesting to note that as a result of the organization, WIPS, suggestions for increasing production efficiency was "running 700 percent above the 1942 average." One woman, Ella King, offered twenty-seven suggestions. Another, Lura Mayton, offered her first suggestion in eleven years at the plant and qualified for senior lieutenant rank for the best suggestion out of a total of 570 for the month of May. 30 More than half of the Spruance production went into war materials, aircraft, self-sealing tanks, army-marin combat jackets, army field jackets, canopies and shrouds for cargo parachutes. 31

Based on general performance, women were given equal opportunity with men. When women made good on their jobs, they were to be given a chance to be upgraded and an opportunity for transfer the same as men. In one aircraft plant, a woman was given as her first assignment operating a grinder. Quickly mastering this machine, she was given a more difficult job of building jigs. Mastering this, she was allowed to make dies, a job in which her skill and accuracy could be fully utilized. An aircraft engine plant gave all women doing monotonous work an opportunity to take training for complicated machines or more skilled inspection jobs.

30 Ibid., p. 21.
31 Ibid.
Some women became on-the-job inventors. Two women shipfitter trainees for instance, invented a device that cut the time on their job sixty percent. The invention was a stop-gauge that performs a cutting operation on a shearing machine in the plate shop which proved to be automatic and more accurate. A woman working in a sand mill department of a steel foundry made a suggestion that resulted in an ingenious device that cut down the time involved in communicating test results. It was a clock-like device placed about the door of each testing room that enabled the mill operator to see at a glance what the moisture content was. "Formerly, a tester would walk over the mill each time and shout the results."  

Implications for the Future

There was a need to provide for more effective use of women in defense, and to provide methods and standards for fitting women into the vital war-industry jobs, the more so as it was discovered that "haphazard" selection policies resulted in hiring inefficient employees, excessive absenteeism, and high labor turnover. Such policies also increased the problem of employers in developing an efficient female labor force. The Women's Bureau under the direction of Mary Anderson set basic principles for choosing women for war industry jobs under these headings:

Sizing up the Job or Woman  
Selecting the Women for the Job  
The Application Blank--The Interview  
Aids in Selecting Women  

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32 Ibid., p. 2.  
A job analysis revealed not only the extent of the skills learned by women, but also the physical demands upon the women workers in terms of strength, posture, and exposure to hazards. It also indicated something about plant organizations, types of fellow workers.  

The death or disabling of many men during war increased the need for women's work. As Mary Elizabeth Pidgeon observed:

> This country must use effectively the valuable skills of women workers demonstrated markedly during the war period. Women before the war constituted a fourth of all workers. Now women must be accorded opportunities for: Adequate training, equal pay, advancement based on ability and a share in policy making relative to their work and to American life.  

She was of the opinion that equality for women themselves rested on developing their own skills as far as possible, taking active part in labor unions and professional organizations connected with their work, and learning more about the question of the economy that affected them equally as much as men.

Attesting to the efficiency of women in production, Miss Pidgeon pointed out in 1944 that

> of 140 executives who commented on this subject to the National Industrial Conference Board, nearly sixty percent stated without qualification that the production of women workers who were on jobs formerly held by men were equal to or greater than men on similar work.

She continued by saying that "an employer relations representative of the United States Employment Service, states that women doing acetylene gas

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34 Ibid., p. 2.

35 Mary Elizabeth Pidgeon, Women Workers in Transition, Department of Labor, Women's Bureau, Special Bulletin No. 17, 1944.

36 Ibid.
welding passed Army-Navy tests two to one better than men." This kind of efficiency added to the belief that the skills so displayed by women in the industrial war plants of the country were a national asset that "should continue to find effective use." After the war, Miss Pidgeon asserted, arbitrary dismissal of women should be forestalled by developing constructive measures to improve the economy and provide full employment for all who want to work. 38

According to the proposed recommendations as to women and their consistent relations with the International Labor Organization, it was suggested that the "redistribution" of women workers in the peace time economy should be organized on the principle of complete equality of opportunity on the basis of their individual merit, skill and experience. Such skill and experience had been displayed during World War II.

The Office of War Information, the War Manpower Commission, and the Women's Bureau of the Department of Labor, all were aware of the need for changes in job adjustment and classification that manufacturers had to make. All could agree, including industry, that most of the changes and the psychological adjustment relative to employer-employee relations were for the most part a part of modernization and outweighed in importance the cost of the "mechanical changes and job simplifications that were required. 39

Observation and study showed that many jobs that did not require the strength of men were before Pearl Harbor traditionally denied to women. During the war many of these were completely taken over by women. With the changes both in mechanics and in attitudes, the distinction between man's work and woman's work in many areas became almost nonexistent. 40

37 Ibid.  
38 Ibid., p. 24.  
40 Ibid.
It may be reasonable to say that some women were and are stronger than others. Some jobs were more suitable to some women than to others. Therefore, job specifications and classification according to available manpower and womanpower was a necessary and determining factor in comparative job performance whether by men or women. In some cases, it was feasible to make certain job divisions to accommodate the available labor supply to the tasks at hand. Neither woman nor man could effectively perform a task that was too heavy or too physically depressing. Jobs needed to be assigned by employers that were not too physically debilitating to either women or men.\textsuperscript{41} During World War II it was recognized that conditions had to be provided in order for working women to maintain a stable and healthy condition and to perform high quality production over an extended period of time. An eight-hour day and not more than forty-eight hours a week was reasonably accepted.\textsuperscript{42}

It had been assumed as a reasonable, practical and factual thing that men as a group are generally and "Significantly stronger than women." But over and above the physical strength imbalance, it was found in wartime that "men and women differ very little in their native ability to learn new occupations."\textsuperscript{43} Women differ very little in their general performance, alertness, aptitude, stamina, endurance and abilities. All have their weak points and their strong ones. But judging from American World War II experience, women and men seem to be more similar in both their strengths and weaknesses than dissimilar.

\textsuperscript{41}Ibid.


\textsuperscript{43}"Womanpower," \textit{Milk Plant Monthly}, p. 24.
CHAPTER XIII

TOWARD SOCIAL AND ECONOMIC EQUALITY—EQUAL PAY FOR EQUAL WORK

The Importance of Women Workers

More than sixteen million women, a third of the nation's working force, played a significant role in the record breaking production of 1941-1945. Increasingly the nation had come to recognize its skilled womanpower. At the time of Pearl Harbor twelve million women were in the labor force, but by 1945, only four years later, there were over eighteen million. Some six million female workers entered the labor force between December, 1941, and December, 1944, while only two million left the labor force. In 1940, twenty-two percent of all women found jobs outside of their homes. In 1944, thirty-one and five-tenths or one-third of the women population over fourteen years of age was in the labor force outside of the home.¹

In March, 1944, female labor was distributed as follows:

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Factory workers including foremen</td>
<td>4,920,000</td>
</tr>
<tr>
<td>Clerical workers</td>
<td>4,380,000</td>
</tr>
<tr>
<td>Domestic Service</td>
<td>1,570,000</td>
</tr>
<tr>
<td>Prof. and Service Professional</td>
<td>1,490,000</td>
</tr>
<tr>
<td>Saleswomen</td>
<td>1,240,000</td>
</tr>
<tr>
<td>Proprietors, managers, and officials</td>
<td>650,000</td>
</tr>
<tr>
<td>Farm workers</td>
<td>560,000</td>
</tr>
<tr>
<td>Other services</td>
<td>1,670,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>16,480,000</td>
</tr>
</tbody>
</table>

Among these workers were seven million single women compared to 9,400,000 married.

₁C. E. Ware, "Reconversion of Women," *Current History, 8.* (Mar., 1945), 200.

Such numbers led to major questions concerning the role women would play after the war: Should married women return to the home? Should single women give up their jobs to the returning veterans? How many women would the postwar world include? As one writer, C. E. Ware, observed in 1945:

Surrounding these issues as questions is a maze of social, religious, and economic considerations which should be carefully weighed.... Complicating this issue of postwar employment is an unfortunate carry over of chivalry which dominates the thinking of many Americans who have long since abandoned the custom of relinquishing bus seats to women.³

Why Women Worked

Many believed that women worked in industry during the war for political reasons and for pocket money. Some believed that women were a source of workers to be called in during an emergency, and then discarded to their traditional tasks when no longer needed. The Women's Bureau studies showed many such beliefs to be fallacious. The studies indicated that women were not a transient, negligible minority of the labor power of the United States. Women worked for the same reason as men: to support dependents. They had skills and abilities which industry needed. Without female labor, the national level of production would have drastically declined. Ware noted that the ability of women to hold their jobs after the war would depend largely on "forces unrelated to women's abilities or needs, but in a greater measure to the archaic attitude toward the place in their ranks. The customs and traditions of labor unions were similar to those of employers. Until war needs created full employment,

³Ibid., p. 202-203.
women were frequently looked at as "interlopers and wage cutters who undermined union standards."\textsuperscript{4}

**Possible Changes after the War**

The war made men and women aware that factory work, like office and household work, need not be a monopoly of either men or women. Because of the war needs, the traditional barriers largely faded away. Women became the equals of men on the job. They gained freedom from economic frustration. They gained economic independence through hard work and by striving for equality and the obliteration of discrimination. War suggested a tentative program for giving women their full rights in the postwar economic world. This program aimed at eliminating all legislation that discriminated against the employment of married women. The program was also framed to give women equal rights with men.

One suggestion proposed the inclusion of provisions in the Fair Employment Practice Commission Codes that would eliminate discrimination on the basis of sex, that would provide equal pay for equal work, and that would establish arrangements for proper housing and baby care for the children of women workers. Representatives of the Women's Bureau believed that the four freedoms were not fully accorded to women and consequently they had to be assured within America as well as abroad.\textsuperscript{5}

**Wage and Opportunity Differentials and Agitation**

As the demands of war production on labor intensified between 1940 and 1945, the demand for women laborers grew accordingly. With this growth

\textsuperscript{4}Ibid., p. 204.

\textsuperscript{5}Ibid.
many responsible men and women became very much concerned with the wage inequalities that existed between men and women, especially, in view of the pre-war discriminatory practices of most industries and manufacturing concerns. The latter had made differentials in the rate of pay based on sex rather than the job itself. To women and to many men, this was clearly discriminatory, and had to be abolished as soon as possible. Two leading Congressmen felt that differential wage rules based on sex were a "weak link in the wage structure that must be removed without delay."  

Under the prevailing discriminatory conditions, special "women's rates" were permitted by companies like General Electric and Westinghouse, even though seventy-two thousand of the two hundred thousand workers represented by the United Electrical, Radio, and Machine Workers Congress of Industrial Organization were women. Both men's and women's jobs were "subjected to the same job evaluation, but the so-called women's jobs were placed in separate women's labor grades and paid rates considerably below men's jobs of the same content." At Westinghouse female rates varied from twelve cents to twenty cents an hour below men's rates. In the General Electric Erie Plant's job evaluation manual, it was stated:

The value per point for day work performance is to be set to established day rates with a maximum permissible day rate of 5 per cent above, while, the value per point for incentive performance is to be 15 per cent higher than for day work. For female operators the value shall be two thirds of the value for adult male workers.

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6 "The Extent of Wage Differential Based on Sex," Capital Release, U. S. Senate Committee on Education and Labor, Washington, D. C., June 1, 1945; Mary Anderson Papers, Women's Archives (Schlesinger Library), Radcliffe College, Cambridge, Massachusetts.

7 Ibid.

8 Ibid.
The interest in and the controversy over the equal rights movement, the equal pay idea, and the equal opportunity plan, clearly revealed the widespread discrimination against women in the labor force. This situation led men like Senator Wayne Morris of Oregon and Senator Claude Pepper of Florida to introduce Bill S-1178 in Congress in 1945 to "eliminate discriminatory wage practices based on sex and to provide Equal pay for Equal work for women and other purposes." 9

The attempts in 1945 to get an equal pay for equal work bill passed by Congress coupled with a relatively intense drive for an equal rights amendment reflected widespread sentiment for bringing about legal equalization in job opportunities for women. The attempts were symptomatic of the appearance of new opportunities for women. They were indicative of the persistence of many discriminatory attitudes against employing women even though they had proved during the World War II period that they could do almost any job that men could do.

The authors of the bill were aware that women were producing the weapons of war. Therefore, they suggested that the new law guarantee occupational equality for women in many industries throughout the United States. Senators Morse and Pepper expressed their concern in the following manner: "Women had demonstrated their ability to turn out the same day's work as men" and "no longer should be treated as second class workingmen.... From now on they should be assured the same pay for the same work." 10

9 Congressional Record, 91, Part 5, 79th Congress (June 21, 1945), 6411.

10 Ibid.
Other people, like the Senators, had a feeling that unequal pay for women would give employers an excuse for cutting all wages during the reconversion period. Such an attempt, it was feared, might first be carried out by the "chiselers" and then the forces of competition might compel other industries to follow suit. This would create a downward wage spiral that would hurt all wage earners and would decrease their purchasing power. Subsequently, production and employment would also suffer and a depression could occur.

In 1945, a statement from Mrs. Eleanor Roosevelt made specific reference to the bill introduced in the Senate by Senator Claude Pepper. This same bill was expected to be introduced in the House by Mrs. Mary Norton. The First Lady indicated that Congress had found wage differentials in industry based on sex which constituted unfair wage practices. This led to labor disputes and depressed wages. The practice also prevented the maximum utilization of all of the labor force and thus endangered the national security and general welfare. She summed up her position by saying that:

...Basically there is no excuse for not paying an equal wage for equal work, and there never has been. The principle holds good, I think, in the professional field as well as in the field of industry, and it certainly should hold good in all the service fields.\textsuperscript{11}

The Equal Pay Bill

In principle, the Equal Pay Bill conformed to the decisions or guidelines laid down by the War Labor Board which in 1945 established, for the first time, the "equal pay for equal work" principle without regard to one's sex or race. The major provisions of the bill indicated that it would be unfair wage practice for any employer engaged in and

\textsuperscript{11}Tbid.
affecting interstate commerce to discriminate between sexes by:

(1) Paying a different wage to a female employee for the same job.
(2) Laying off a female worker and replacing her with a male employee unless it was for a good cause or based on a nondiscriminatory seniority system, or any act of Congress which requires veterans preference.12

The proposed equal pay bill had some aspects very similar to the Fair Employment Practice Commission Bill, especially in its orders and administration. It was to be administered in much the same way, except that it was to be administered by the Women's Bureau, an established government department under the Department of Labor.

The director of the Women's Bureau was to be given power to investigate complaints, issue rulings, hold hearings, give interpretations and issue cease and desist orders with the privilege to petition the United States Circuit Courts for enforcement of relief. The Director was also to have the power to set up industry committees, similar to those provided by the Fair Labor Standard Act, to study and/or investigate those industries practicing wage discrimination against women. The Committee could also make recommendations on such things as the evaluation of training and employment and appropriate wage rates ratio between job classifications. The Director even would have had the right to study training and such other practices that affected a person of either sex's ability to qualify for and secure and maintain the same job as a member of the opposite sex.13

The Norton Bill

Another bill, H. R. 526, was introduced in the House of Representatives by Mrs. Mary T. Norton on January 3, 1945. Its purpose was to promote the principle of equal pay for equal work: 14

A BILL

To promote the principle of equal pay for equal work.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, that any determination of wages hereafter made pursuant to (1) section 7 of the War Labor Disputes Act; (2) the Stabilization Act of 1942, as amended; (3) section 8 of the Fair Labor Standards Act of 1938, as amended; (4) the Act of June 30, 1936, entitled "An Act to provide conditions for the purchase of supplies and the making of contracts, or (5) the Act of March 3, 1931, entitled An Act relating to the rate of wages for laborers and mechanics employed on public buildings of the United States and the District of Columbia by contractors or sub-contractors, and for other purposes, as amended, shall apply to workers without regard to sex. 15

The Norton Bill was referred to the Committee on Labor. 16

Commentators such as one in The New York Herald Tribune noticed that the Norton and the Pepper Bills had similar goals: "That women who do the same work should be given the same pay as men." One significant difference between the two bills, however, was in the administrative organization rather than in purpose or intent. The Senate Bill would have set up an administrative unit under the Director of the Women's Bureau of the Department of Labor, while the Norton Bill provided for a separate administrative bureau.


15 Ibid.

16 According to a letter from Mary Anderson, Director of the Women's Bureau of the Department of Labor, to Miss Ruth Young, Executive Secretary, United Electrical, Radio, and Machine Workers of America, (CIO) dated June 25, 1945, the Norton Bill still had not been introduced, as the first paragraph of the letter indicated. The bill was introduced in committee, but seems not to have gotten out of committee.
The Senate Bill reads:17

The Congress hereby finds that the existence in industry of differentials based on sex is an inequality in compensation standards which constitute an unfair wage practice and (1) leads to labor disputes (2) depresses wages and living standards of employees, male and female; (3) interferes with and prevents an adequate standard of living; (4) has serious detrimental effects on the standards of living of families of deceased and disabled veterans; (5) prevents the maximum utilization of our labor resources and plant capacity essential for full production in war and peace; (6) endangers national security and general welfare and thereby burdens and obstructs commerce.18

When the Senate and House bills were introduced, there was a large degree of optimism that the legislation would find adequate support for passage. But there were also serious doubts in the minds of many as to whether prejudices and discriminations against women were far enough removed for a successful passage. In this light, the Independent Woman suggested that women conduct hearings similar to those held by the Senate Hearing Committee to stimulate interest in the equal pay movement, in the hope that this would help destroy opposition to the bills.19

The Christian Science Monitor of April 13, 1946, carried a letter from Miss Mary Anderson. Even though she, at that time, was no longer the director of the Women's Bureau, she discussed what women really expected in the equal work plan. It was her opinion that the slogan, "equal pay for equal work," although very popular, was misleading. What women really wanted was "the rate for the job," regardless of sex, especially since the work that women did was just as skilled as that done

17 New York Herald Tribune (June 27, 1945), clipping in Anderson Papers.

18 Appendix Congressional Record, 91, Part 12, 79th Congress (July 28, 1945), A-3675.

by men. She said: "Thus the actual wording in the bill, work of comparable quality and quantity, is a much more realistic approach."20

Most working women who were covered by the equal pay bill agreed that they did not want pay differentials, either in their favor or against them. They did not expect to be paid proportionately higher than men. "Women simply wanted to be paid the same hourly or price rates, or the same weekly or monthly rates for the same hour schedule—where their work was comparable with men's."21

There seems to have been, in regard to equal pay for equal work, a kind of conspiracy or practice by which employers labeled some jobs differentially in order to keep cheap labor available. Such labeling of jobs implied that men's jobs required more strength and skill than women's jobs; therefore, men should have higher wages for their work. However, in most instances such differentiation was a myth, and it was not, at the end of the World War II, possible to say so.

Even so, Miss Anderson found a prevalence of the false idea about women's ability to work and the discriminatory practices against them to be truthful rather than mythical. As she summarized it:

Thus there is still need for State Legislation to safeguard women's interests by controlling, at least to some extent, the exploitation of women's labor in ways not experienced by men. For such a reason, I want to see Federal and State equal pay Bill passed.22

20 "Which Road Women Workers," The Christian Science Monitor Magazine Section, April 13, 1946.

21 Ibid.

22 Ibid.
Wartime Equal Pay Efforts

The awareness of differential discrimination in women's jobs was not a discovery of 1944-1945 or 1946. An issue of the Wall Street Journal of November 25, 1942, had recorded an event in Canada which noted that as many as 8,500 employees of the Ford Motor Company of Canada had walked out of the Windsor, Ontario, Plant. The United Auto Workers Union officials claimed that the walk-out came as a result of the Ford Motor Company's "recent employment of women at less than rates formerly paid to men."23

The United Rubber Workers of America viewed this development with some alarm, but made a pledge that a similar walk-out would not take place in the United States. Officials of the United Rubber Workers of America were already discussing the subject of equal wage rates, without discrimination, with the War Labor Board.24 They were optimistic that employers of American industries would follow the decisions agreed on by the War Labor Board, the United States Rubber Workers of America, and the Congress of Industrial Organizations: all advocated the equalization of labor rates. On the other hand, "at various times the equal pay bills were opposed by business organizations, notably, the National Association of Manufacturers and Chamber of Commerce of the U. S."

Finally, however, the president of the National Association of Manufacturers, in a press release of May 1, 1942, recommended "equal pay for equal performance by women in war production plants."25

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24 Ibid.
25 Ibid.
The Official government policy was embodied in this order:

General Order No. 16  
(Adopted November 24, 1942)

Adjustments which equalize the wage or salary rates paid to females with rates paid to males for comparable quality and quantity of work on the same or similar operations, and adjustments in accordance with this policy which recognize or are based on differences in quality or quantity of work performed, may be made without approval of the National War Labor Board, provided that:

1. Such adjustments are reported, when made, to the Division of Review, Analysis and Research of the National War Labor Board, together with sufficient information to show that they are in accordance with the policy referred to above:

2. Such adjustments shall not be subject to the Board’s ultimate power of review, but any modification or reversal thereof will not be retroactive:

3. Such adjustments shall not furnish a basis either to increase price ceilings of the commodity of service involved or to resist otherwise justified reduction in such price ceilings.  

Controversy Over Equal Pay

With such advocacy by leading men and organizations in industry and manufacturing in 1942, it would hardly seem to have been necessary to have worked as diligently to get a bill through Congress that would legally grant equality in pay rates to women. While there were suggestions, and recommendations by outstanding groups and people in 1942, women, at the time, still had not had the full opportunity to prove themselves to be capable and efficient workers. And, as noted above, during the years between 1942-1946, women who went into production did have to prove their ability to perform efficiently on the production line. Yet, the intensity of the campaign to promote the equal pay for

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26 Ibid., p. 16; General Executive Order No. 16 adopted (Nov. 24, 1942), Copy in Anderson Papers.

equal work bill reflected the fact that many industrial manufacturers still had not fully and wholeheartedly committed themselves to the equal wage policy. The hard core opinion remained: "The maintenance of a differential between male and female rates of pay for the same work is a crafty, ingenious device adopted by some cunning, ruthless employers to depress male wage levels."28

Others claimed that inequality of pay between men and women was a penalty on the soldier who was patriotically serving his country on the battlefield. If wage differentials were a devious means by which some employers tried to lower all wages then the returning soldier would find his own economic status reduced. Similarly, if equal wages were not paid to females, then the woman who left home (or even a career) and subjected herself to unusual situations and sacrifices to keep the wheels of production in motion, was being shortchanged or cheated out of wages she was entitled to receive, and which had already been determined and appropriated for the work done.29

Resistance to Equal Pay

The failure of industry to adhere to the equal pay concept either as a wartime policy or as a permanent policy appears to have been the major force that stimulated interest in a bill to bring equality in wages for all who performed certain tasks of comparable status.

Some other reasons for the failure of industry to accept the equal pay plan may have rested in part on the persisting belief that women could do only light work and therefore should not receive equal pay on

28Lewis, Equal Pay for Equal Work, p. 20.
29Ibid., p. 10.
that account. This rationalization for wage differentials was largely undermined by a Women's Bureau study that appeared in a pamphlet entitled "Equal Pay for Women in War Industries." The study claimed that lightness of operation could not form any adequate basis for determining a wage scale because lightness itself does not measure or reveal the skill required to do the job. The study revealed that in many instances a light job required a greater degree of energy and skill than a heavier one. Such a job could and many times did have greater importance. Some jobs demanded a careful and delicate touch, rapid machine operation, manual dexterity and quickness of both hand and brain.

The study implied that each job should be analyzed in terms of several features or characteristics peculiar to the job, and the rate of pay should be adjudged on this basis. For example, the importance of the job could be considered along with the degree of dexterity and intelligence required to perform the task. With regard to machine operation, the Women's Bureau study summed it up this way:

A light machine requiring great speed of operation for the accomplishment of a quickly monotonous process may be far from exacting, actually may use up more energy than work requiring chiefly muscle or brain, and entailing but little dexterity of judgment. It may be far more important to the product than some of the heavier jobs and may be worth a better wage.

The question of wage equality was an integral part of the general problem of labor throughout World War II. Sometimes it received more publicity than at other times. At times, the entire problem seemed to disappear, especially during the critical years of the war when the

30 Department of Labor, "Women's Bureau Study."

the pressures of labor shortages became more noticeable. As the war years began to come to a close in 1944-1945, cutbacks in production became a reality. Layoffs, government cancellation of war contracts, and reconversion plans were set forth. The wage discrimination and differential question then became more and more conspicuous as evidenced by the campaign for equal pay legislation that got under way in 1945.

Organization for Legislation

A number of organizations bound themselves together under the direction of Miss Anderson, former director of the Women's Bureau of the Department of Labor, to form the National Committee to Eliminate Wage Differentials Based on Sex. The leading organizations were these:

- The American Association of University Women
- The National League of Women Voters
- The National Business and Professional Women's Clubs
- The National Women's Trade Union League
- The National Board of the Young Women's Christian Association of the United States of America
- The National Council of Catholic Women
- The National Consumers League
- The National Council of Jewish Women
- Service Star Legion, Inc.
- The Federation of Labor
- The Congress of Industrial Organizations
- Congress of Women's Auxiliaries of the C. I. O.

These organizations expressed their hostility toward the inequalities in women's pay and they called for legislation to establish legal equality in the American labor wage scale. A rationale of the new organization was set forth in 1945:

A number of organizations both men and women, have felt for a long time that women in industry have been used as under bidders in the labor market and have received a much lower wage for practically the same work as men, have organized themselves for the purpose of introducing an equal pay bill in Congress, which

32 Mary Anderson to Eric Johnson, President of American Chamber of Commerce, May 11, 1945, in Anderson Papers.
will cover interstate commerce. We want this bill to implement stability in postwar employment to keep purchasing power at as high a level as possible, as well as for justice to the working women. 33

Support for this effort was solicited from American leaders like Eric Johnson, President of the American Chamber of Commerce, Alvin E. Dodd, President of American Management Association, and Ira Mosher, President of the National Association of Manufacturers. A letter was also sent to William Green, President of the American Federation of Labor and to Sidney Hillman, President of Almagamated Clothing Workers of America, to stimulate the interest in the Equal Work, Equal Pay Bill. 34

What Miss Anderson's alliance wanted by way of federal legislation was outlined in an eleven-section act, entitled "An Analysis of Proposed Federal Wage Discrimination Act of 1945." The most significant sections are spelled out below. These selected sections of the document illustrate quite clearly what was needed in order for women to secure equality in the American labor pay scale.

Sec. 1. Purpose and Title of the Act—Finds that wage differentials based on sex burden and obstruct commerce among the states, and undermine the security and general welfare of the nation. Declares that it is the policy of Congress to remove them. Proposes this Bill as the "Wage Discrimination Act of 1945."

Sec. 2. Prohibition of Wage Rate Differentials Based on Sex—Make it unlawful for any covered employer (1) To pay any female employees at a lower rate than he pays or has paid to any male employee for work of comparable quantity and quality; (2) to discharge any female employee and replace her with a male (except under specified conditions, one of which is to protect reemployment rights of returned veterans); (3) to discriminate against any employee for giving assistance in enforcement of the Act.

33 Ibid.
34 Ibid.
Sec. 3. **Administration**—Establishes an Equal Pay division in the Women's Bureau of the Department of Labor, under the Director of the Bureau. Gives the Director administrative and rule-making powers. Authorizes her to appoint among other employees, an Administrator to be in immediate charge of the Division.

Sec. 9. **Government Contracts**—Employers found to have violated the Act are prohibited for a 3-year period from receiving award of any Federal Contract, unless otherwise ordered by the Director.

Sec. 10. **Definitions**—Employer (among others)—Makes the Act apply to all private employers of eight (8) or more employees rendering service for wages.

Sec. 11. **Separability**—Safeguards legality of the Act in the event any section is found invalid.35

On May 11, 1945, Miss Anderson wrote to Alvin E. Dodd, President of The American Management Association. She included a copy of a bill to be introduced in Congress with a statement that...

> We are very anxious to implement stability in postwar employment, to keep purchasing power at as high a level as possible, as well as to do justice to the working woman.36

Dodd, in his reply, announced his agreement with the objectives of the Equal Pay Bill, but stated:

> I can't take the action you suggest because we are "different" from organizations which do take stands on this kind of thing. We deal entirely with techniques and methods.

He continued, however, by saying:

> ...I am glad to see you bring to bear all your wealth of experience on this sort of thing. I don't know whether or not legislation will accomplish it, but even if it only helps to "hold the line" when the downturn comes, it will have been well worth the effort.37

Both Dodd and Miss Anderson were aware of the problem involved in women employment and the establishment of the equal pay principle.

35 Copy in Anderson Papers.

36 Mary Anderson to Mr. Dodd (May 11, 1950), in Anderson Papers.

37 Ibid.
Other Campaigns in 1945

There were several bills being prepared in 1945 for congressional approval. Groups supporting and opposing the legislation quickly emerged. The efforts of Miss Anderson and the leading women's groups in America in support of the "equal work, equal pay bill" illustrate one type of response. Another reaction at the time was revealed by the introduction of an Unequal Rights Amendment. The so-called Unequal Rights Amendment referred to the creation of pay scales based on sex, or sex differentials, rather than on job content. The Unequal Rights Amendment was opposed to the Equal Rights Amendment because of its disregard of the natural differences of men and women. 38

A National Committee to defeat the Unequal Rights Amendment and to promote equal opportunities was organized under the chairmanship of Mrs. Thomas F. McAllister of Grand Rapids, Michigan, and the secretaryship of Mrs. J. Austin of Washington, D. C. Miss Anderson, Chairman of the Equal Pay Committee, approved the creation of the new committee. On July 7, 1945, one hundred copies of a promotional release along with a covering letter and copy release from the Senate office were received by Mrs. McAllister, who then sent them to her State Chairman of the National Committee of Michigan. She also sent twenty-three copies to leading newspapers and wire services of Washington and New York.

38 National Committee to Defeat the Un-Equal Amendment and To Promote Full Opportunity. Anderson Papers; also "Comments By the Secretary of Labor To The Judiciary Committee of The House of Representatives on The Equal Rights Amendment, 1945, pp. 1-6, Anderson Papers.
The releases were sent on July 20, 1945. They contained a resolution supporting the principle of equal pay based on the content of the job rather than the sex of the individual worker. They called for the enactment of legislation which would eliminate sex differentials in wage rates. The national committee claimed the support and the approval of forty-one organizations, all of which wanted to defeat the Unequal Rights Amendment and to promote equal opportunity.

Mrs. McAllister announced that "the principle of equal pay had made considerable progress during war-time but not enough to become an integral part of our industrial economy." She saw the basic position of the forty-one cooperating organizations as a "definite step forward in attempting to safeguard women's employment in the reconversion period and to assure returning service men that they will not be subjected to the dangerous practices of under-cutting." 39

The forty-one organizations were not only concerned about equal pay for women but were also interested in preventing general wage declines when the men returned to their former jobs. The fact was that any person who willfully accepted or who was forced to accept a job at a lower rate promoted the practice, approved by many private manufacturers, of under-cutting wages. As noted above, if this occurred on a widespread basis during the reconversion period, the whole economy might be depressed and both the worker and the manufacturer deleteriously affected.

The forty-one organizations of the National Committee to defeat the Unequal Rights Amendment and to promote full opportunity made the following resolutions:

WHEREAS the only means for women workers to escape being used as undercutters in competition for jobs is through the establishment of one wage rate applicable to every person hired to do the job.

WHEREAS the safeguarding of existing wage levels is vital to the maintenance of postwar purchasing power.

THEREFORE, the committee to defeat the Unequal Rights Amendment and to promote equal opportunity will support any sound effort including legislation to put into effect the practice of paying the rate for the job.

Among the organizations giving sanction to the above resolutions were the following: Amalgamated Clothing Workers of America, American Civil Liberties Union, American Federation of Teachers, Brotherhood of Locomotive Firemen and Enginemen, American Communication Association, Brotherhood of Railway and Steamship Clerks, Freight Handlers, Express and Station Employees, Congress of Industrial Organizations, Union Rubber Workers of America, CIO, and International Union of United Automobile, Aircraft, Agricultural Implement Workers of America.

Conclusions

The effort to obtain legislation guaranteeing women equal pay for equal work was in many ways similar to the women's suffrage movement. In the suffrage movement, the states took leadership in enacting laws that gave women the vote. During the World War II period, the states took leadership in introducing and enacting equal pay legislation. The states of Michigan and Montana enacted such legislation before World War II. During the War, New York, Massachusetts, Illinois, and Washington enacted similar legislation. In 1945, seventeen other states introduced equal pay legislation. Among these states were California, Oregon, West

40 "Resolutions," 1945, Anderson Papers.

41 Ibid.
Virginia, South Carolina, Ohio, Pennsylvania, Indiana, Wisconsin, South Dakota, Maryland, Connecticut, Utah, New Jersey, Colorado, Vermont, and Rhode Island. According to a United Nations study:

Equal pay for men and women for work of equal value had made great strides...Today it is a reality for millions of women workers and an accepted principle of social policy almost everywhere...The principle of equal pay for women is now proclaimed in the Constitution of a large number of countries, either explicitly or as a result of prohibition of discrimination based on sex in the economic field.

The federal government, through the Fair Employment Practice Commission and the War Production Board, made some attempts to eliminate discrimination in employment and in wages in government plants. But private industry was much more reluctant to adhere to the equal pay, equal work principle. The fight for the principle was a broad and extensive one which included efforts to get both an act and an equal rights amendment passed. Moreover, throughout the postwar period federal legislation attempted to prohibit discriminatory wage practices against women in private industry. The Truman, Eisenhower, Kennedy, and Johnson Administrations all supported these efforts. The proposed amendments and acts are discussed in the next two chapters.

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^Ibid.


CHAPTER XIV

THE EQUAL RIGHTS AMENDMENT

During the later years of the war and those immediately following, organizations existed for the purpose of promoting legislation to establish the equal pay principle by an act of Congress. At the same time, there were other organizations working with equal diligence to bring about an Equal Rights Amendment to the Federal Constitution. The proponents of the Equal Rights Amendment felt that a Constitutional Amendment was required in order to assure women full equality in all facets of American life. The two measures were not necessarily equivalent, as the difference in supporting groups illustrates.

The Equal Rights Amendment was initiated through a joint resolution SJ-61. This resolution called for a passage of a constitutional amendment stating the rights of women and men should be co-equal. Senator George Radcliffe suggested:

The adoption of this amendment would be a forward step and a wise one. Its adoption would certainly be one of the most important stages in the development of opportunities for women.... It may be that economic conditions of other days did not make it imperative that such rights and privileges exist in a full sense. Nevertheless, for many years women have given unmistakable and entirely convincing evidence that they are entitled to equal opportunity with men, and that society in the broad sense of

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1 Congressional Record, 91, Part 14, 79th Congress, 1st Session (Jan., 1945), 285; Appendix, A997.
the term would be greatly benefited by the exercise
by women of such rights. 2

Opposition to an Equal Rights Amendment

There was a considerable amount of opposition to the Equal Rights Amendment. Some believed that the proposed amendment would freeze women's progress in the labor area, and would affect adversely previous social and economic gains. 3

According to a 1945 letter addressed to Senator Carl Hatch, the chairmen of the leading women's organizations were opposed to the Equal Rights Amendment. The letter was from the Commonwealth of Massachusetts Minimum Wage Commission and listed nine state organizations opposed to the Equal Rights Amendment. Among those organizations were the following: The Boston College of Social Work, The Boston Young Women's Christian Association, the Boston Women's Trade Union League, the League of Women Voters, the State Federation of Labor, and the National Council

2 Ibid., Part 3, May, p. 4100; also, Statement of Congress of Industrial Organization in opposition to Joint Resolution 61, copy in Anderson Papers. (The proposal which had come as a result of a joint resolution called Resolution 61 to the sub-committee of the Senate Judiciary Committee of September 23, 1945, read: "Equality of Rights under the law should not be denied or abridged by the U. S. or any state on account of Sex."

"Congress and the several States shall have power within their respective jurisdiction to enforce this law by appropriate legislation." There were those who felt that the Fourteenth Amendment made adequate safeguards against the mistreatment of women under the law for it provides that "No State shall deny to any person within its jurisdiction the equal protection of laws." From this statement, it would seem that the Fourteenth Amendment would guarantee any citizen or individual against any State or Industry which discriminated unreasonably against a worker because of sex.)

3 Ibid.
of Negro Women. They had this to say:

Many of these groups, over a period of twenty-five years, have been vitally interested in the extension of protective labor legislation for women and they feel that the Equal Rights Amendment would be detrimental rather than progressive. Your cooperation in bringing about an unfavorable report to the joint judiciary committee is urgently sought.4

These groups had four reasons for their opposition to the Equal Rights Amendment—typical reasons for general opposition to the Amendment. They found that the Amendment would not help working women because it would eliminate protective measures which many of the industrial states then had. They believed that sweat shops and unhealthy conditions would prevail in industry, including the cancellation of such beneficial legislation as minimum and maximum wage and hour laws. (They also thought that the laws which were designed to protect women as mothers and potential mothers would be nullified by the Equal Rights Amendment.) It would bring about confusion in regard to many of the Federal laws designed for benefits in Social Security and old age and survivors insurance. Also, "the Amendment would prevent the enactment of any future State or Federal legislation which would not apply equally to men and women."5 The Congress of Industrial Organizations in its seventh Constitutional Convention in Chicago even passed a resolution against the Equal Rights Amendment.6

4 Commonwealth of Massachusetts, Sept. 25, 1945, Anderson Papers, Women's Archives (Schlesinger Library), Radcliffe College, Cambridge, Massachusetts.

5 Ibid.

6 Copy in Anderson Papers.
William Green, President of the American Federation of Labor in a press release of February 8, 1943, spoke for himself and the Federation by saying:

The American Federation of Labor will oppose the enactment by Congress of a Constitutional Amendment providing for equal rights for women. Such a constitutional amendment would place in jeopardy all laws protecting women in industry.  

The President of the Congress of Industrial Organizations, Phillip Murray, stated that the proposed amendment "actually conceals the means of robbing women of the rights and protection that have been won for them." He thought that certain beneficial provisions such as maternity and widows' pensions, aid to dependent children and other social security protective measures would be abolished. It seems also to have been Murray's candid opinion that such an amendment "would not secure equality of treatment for women except at the heavy cost of abandoning the great body of laws" that had protected "women workers from exploitation." Miss Frieda Miller, head of Women's Bureau was in agreement with the CIO.

The Secretary of Labor observed that a large number of women in leading organizations were opposed to the Equal Rights Amendment. These included seventeen million women workers, three million of whom were members of trade unions. They were those who would be most directly affected by an equal rights amendment. Therefore, they were vigorously opposing the


8Appendix, Congressional Record, 91, Part 10, 79th Congress, 1st Session (March 1, 1945), A996.

amendment through the affiliated labor organizations in cooperation with the American Federation of Labor and the Congress of Industrial Organizations and the National Women's Trade Union League.

The opponents to the Equal Rights Amendment seemed to have been less fearful and more sure about this opposition than the supporters were.

The Debate Over the Amendment

As one reads the proposals for and those against the Equal Rights Amendment, one can readily see that there were conflicting opinions about the purpose and the effect of the Amendment. There were differences in the National Women's Party about the Amendment. Advocates in and out of Congress differed greatly on the merits and demerits of the measure. For example, there were those who suggested that industrial laws, when applied to women and not to men, are among the gravest discriminations against women. By contrast, Mrs. Florence Kilchelt, Chairman of the Connecticut Committee for the Equal Rights Amendment, in a statement for the press, asserted that she did not "wish to see sound industrial legislation for women abolished."

Supporters of The Equal Rights Amendment

In Congress, Representative Fadjo Cravens, Democrat of Arkansas, to the Judiciary Committee of the House of Representatives on July 16, 1945, stated his reason for supporting the Equal Rights Amendment in this way: "Many of the claimed benefits accruing to women under existing discriminatory law will be found upon examination to be without

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10 Ibid.

11 Ibid.
substance and largely used to exclude women from fields of activities in which they are qualified to act." He also implied that there was agreement among many women's organizations appearing before the Committee hearings who "expressed a sincere desire to waive so-called preferential benefits now accorded to women by various laws."12 In regard to this problem, Walter Reuther, Vice President of the United Automobile Workers of the Congress of Industrial Organization had asserted publicly that the real solution required another approach: "the answer to this post-war problem lay not in special privileges but in the creation of 60,000,000 peace time jobs in America."13

Senator Pepper, sponsor of the Equal Rights Amendment, in a letter to Faye Stephenson, President of the Congress of Women's Auxiliaries of the Congress of Industrial Organizations, said that the fears of the opposition were not well-grounded:

I have read carefully the statement of your views in which you express the fear that enactment of this legislation (the so-called Equal Rights Amendment) would interfere with legislation for the protection of women. It is my opinion, however, that if this bill were passed, it would be made clear that it would not affect legislation designed to protect women because of their physical differences, I am equally interested in retaining these laws and feel this policy should be kept.14

Likewise Senator Francis I. Mayer, also a sponsor of the Amendment, addressed a letter to the National Committee to defeat the un-Equal Rights Amendment. On June 22, 1945, he wrote:

13Ibid., p. 3.
14Copy in Anderson Papers; Congressional Quarterly, 2 (1946), 494.
I want to assure you that I am unalterably opposed to the abrogation of any of the gains women have made in the past through protective legislation and I will do all I can to see these rights are in no way endangered.16

Emma Guffey Miles in an address on February 10, 1945 before the National Association of University Women at Boston, Massachusetts commented:

The history of the movement of the equal rights amendment parallels closely the fight for the suffrage amendment. Strange as it may seem, many of the arguments against the equal rights amendment are almost identical with the anti-suffrage arguments of more than a century before.10

Mrs. Miles expressed the feeling that "much of the argument against the equal rights proposals under law was due to ignorance."17 A comment of this kind was an indictment against the League of Women Voters, the Consumers and the Congress of Industrial Organizations which were perhaps the most highly organized groups against the amendment.

It was believed that under the Equal Rights Amendment women could be held responsible for the support not only of their children but also of their husbands. The courts might, therefore, be overburdened in the states. The Amendment would remove state restrictions and limitations on occupational opportunities. It would also establish the wife's equality concerning the disposition of property. That is, a husband might not dispose of property without his wife's consent.18 All in all, the proponents of the amendment felt that the general and overall level

15Ibid.
16Copy in Anderson Papers
17Appendix, Congressional Record, 91, Part 10, 79th Congress, 1st Session (March 1, 1945), A994.
18Ibid., p. A995.
of the status of women would be raised to that of men. Senator Claude Pepper said: "The only sure and safe method, therefore, to give them equality is through the equal rights amendment." 19

Because of so many conflicting and seemingly contradictory views among the supporters of the Equal Rights Amendment, the proponents were confused as to what they really wanted and what they expected to be the outcome of the amendment. I think, however, that the proponents were much less sure of the effects of the Amendment after its passage, even though women had proved their equality in the production plants.

Representative Joseph E. Talbott, advocate and supporter of the Amendment, sought to allay some of the fears and to obliterate some of the confusion by making his views known in a statement to The New York Herald Tribune, July 1, 1945: "I would assume that minimum pay protective devices, and minimum daily or weekly hours of employment would remain unchanged by the passage of the Amendment." 20

A letter by Senator Joseph F. Guffey of Pennsylvania, to Mrs. Thomas P. McAllister, chairman of the National Committee to defeat what some referred to as the un-Equal Rights Amendment, revealed his faith in the amendment and his opposition to those who did not support the amendment. He firmly expressed his point by saying:

That you should ask me to withdraw my name as a sponsor to the Equal Rights Amendment is an astounding request as I did not permit my name to be used without first being irrevocably convinced that this amendment would benefit all women while you apparently think only of women for whom you would approve minimum

19 Ibid., p. A997.

wage and hour laws, etc., which you would accept for yourselves. Your whole argument regarding working women seems as if you had progressed no further than World War I. Then working restrictions on women seemed to be necessary but now that the long work day is gone forever and the Fair Employment Practice Act had been declared constitutional, working women should be certainly permitted to choose not only their own type of job, but have the same rights as men to bargain for hours, pay, and time for employment, thereby advising equally with men.21

Leading ladies like Mrs. Eleanor Roosevelt and Miss Frances Perkins seem to have taken a middle of the road or conservative position with the recognition and expectation that women would gain their rights within the existing legal order.

It was thought that Mrs. Eleanor Roosevelt in her column "My Day," while neither taking a vehement stand for or against the Equal Rights Amendment, would make some definite statement regarding it. She expressed her belief that women should work to remove discriminatory laws from the statute books rather than for the passage of an amendment.22

The Secretary of Labor, Miss Frances Perkins, was also observantly aware that women during the war and other periods had made considerable gains especially through the Fair Employment Practice Commission and the equal pay policy of the Federal Government. From such a view she thought that the remaining civil and political disabilities of women could be removed without a constitutional amendment, "so broad that its results cannot clearly be foreseen." She continued saying:

Correcting legislation and judicial interpretation of the common law have been the means of successfully getting rid of obsolete disabilities and bringing laws up to date. These methods should

21 Copy in Anderson Papers

22 Ibid.
be continued; they are preferable to the blind procedure of constitutional amendment. Women who have devoted their lives and careers to women's interest have since 1923, when the amendment was first proposed, vigorously opposed its adoption as a method of achieving their goals. 23

As one views the conflicting opinions, propositions and expectations coupled with the fears and uncertainties of the effects of an Equal Rights Amendment, and paralleled by the expressed opposition in the leading ranks of women support in general, it is not difficult to surmise the fate of the purposed amendment: it failed.

Recent Equal Rights Legislation

The struggle for equality of wages in industry that went on during the war years, 1941-1945, did not materialize into law until the passage of the Equal Pay Act of 1963 and the Civil Rights Act of 1964, which moved toward the removal of discrimination and inequalities in wages for women workers in industry. These proposals required that women be paid at the same rate as men engaged in similar work "assuming seniority was equal." An important specification of the proposals was that the wage scale should be based on an upward adjustment of women's wages to match those of men. This provision allayed the qualms of the United States Chamber of Commerce and the Association of Manufacturers who feared that a downward adjustment would occur to match men's wages with that of women.

The acts of the 1960's represented a long-delayed fruition of the special efforts for equality of wages which were originally attempted in 1945 and 1946 when the Senate Education and Labor Committee on June 21 introduced women's equal pay bill (S 1178) sponsored by Senators Wayne

23 Ibid.
Morse, Republican of Oregon, and Claude Pepper, Democrat of Florida. These efforts were backed by floor action of Senators Joseph H. Ball, Republican of Minnesota, and Robert A. Taft of Ohio.24

In 1950, the Senate Labor and Public Welfare Committee discussed another bill (S 706) for equal pay for women. Again it was backed by Senator Taft. Ten years later, the Kennedy Administration supported a women's pay bill (HR11677) which also failed to pass. Finally in 1963, with the support of the Kennedy Administration, the vote of the Senate on May 17 and that of the House on May 23, and the signature of President Kennedy, a women's equal pay bill (S1409) was passed and became the Equal Pay Act of 1963.25 The Act provided that subject to the Fair Labor Standard Act of 1938:

No employer was to discriminate on the basis of sex in payment of wages for jobs requiring equal skill, effort and responsibility. Difference in wages based on seniority, merit and piecework were permitted. Employers were forbidden to reduce the wages of any employee in order to comply. Unions were forbidden to discriminate against employees on the basis of sex.26

After a labor crisis of four years, and a legislative struggle of more than twenty years, federal legislation established equality of labor wages for women. Nevertheless, equality had to be more extensively emphasized and more firmly established by writing it into the Civil Rights Act of 1964.

The Senate Labor and Public Welfare reported a bill (S 1937—S Report 867):


25 Ibid.
26 Ibid.
To promote equal opportunities in employment without a regard to race, color, religious or national origin and to establish an independent Equal Employment Opportunity board to adjudicate complaints of discrimination.\textsuperscript{27}

Representative Howard Smith supported a section of Title VII that would:

\begin{quote}
Prohibit discrimination in employment due to sex (in addition to the factors of race, color, religion, and national origin already in the bill.)\textsuperscript{28}
\end{quote}

Representative Emmanuel Celler suggested that Title VII, the Fair Employment section of the 1964 Civil Rights Act, contain a clause requiring that the Equal Employment Commission would seek to obtain voluntary compliance before filing court suits to obtain compliance.\textsuperscript{29}

In a previous debate on the bill, Representative Celler had said:

\begin{quote}
Enactment of the bill will shine in our history...
Civil Rights must no longer be merely a beautiful conversation of sweet phrases and pretty sentiments.
Civil Rights must be the woof and warp of the life of the Nation.\textsuperscript{30}
\end{quote}

Representative Katherine St. George, Republican of New York, supported the new bill by pointing out that it would correct "something that goes back to the dark ages."\textsuperscript{31}

One may recognize that after several major crises and a legislative struggle of twenty years, equal employment opportunities were finally written into the Civil Rights Act of 1964.

\textbf{Conclusions}

The equal pay provision of the Civil Rights Act represented a culmination of the struggle for equality of opportunity by providing

\begin{itemize}
\item \textsuperscript{27}Congressional Quarterly Almanac, 2 (Feb., 15, 1964), 356.
\item \textsuperscript{28}Ibid., 352.
\item \textsuperscript{29}Ibid.
\item \textsuperscript{30}Ibid., 345.
\item \textsuperscript{31}Congressional Quarterly, 2 (1946), 494.
\end{itemize}
a legal base for a full economic democracy. Women's work as laborers in the defense plants of World War II--aircraft, shipbuilding, steel construction and ordnance was a valuable contribution to the world of work in America. Their skillful and efficient performance stimulated an awareness of a greater interest in equality for all. The recognition of the need for a more egalitarian society was an outgrowth of the war crisis and women's part in it. The awareness and recognition stimulated the interested American during and immediately after the war period to engage in public discussion and political action to make equality a reality. No concrete national legislation or law was established to assure the equality of women, however. Women, nevertheless, following the war period became more politically minded and more active in politics and government. They entered fields in the higher echelon of labor, management, government, politics and the professions. Women's acclimatization into these areas continued to propel the movement toward that equality which is now legally found in Title VII of the Civil Rights Bill of 1964.

It should be recognized, however, that there were also certain other psychological and sociological drives and impacts that joined with political and legal drives. These forces worked together to break down the support for discrimination on the basis of color and sex. These positive forces sought to establish full equality of opportunity for everyone in these United States. In particular, the struggle for women's rights merged with the psychological and sociological drives for equal rights for everyone who had been denied equality of social and economic opportunity.
CHAPTER XV

THE STATUS OF WOMEN DURING AND AFTER WORLD WAR II

"Under the pressure of wartime manpower shortages, five million women doffed aprons and left their homes for the nations' industrial plants."¹

The total number of women employed between 1940 and 1945 rose from thirteen million in 1940 to eighteen million in 1945. This was almost one-third of the civilian labor force. Business Week pointed out that: "Old prejudices against women, held by both employers and male workers since mid-victorian days of silks and satin, lace and perfumed idleness, were forgotten, at least, for so long as there were more jobs than men."² Twenty years later at least some of the wartime progress had been made permanent. "...I know how hard it has been for a woman to get recognition but it's easier now and will be easier in the future..."³ This statement by Mrs. Lillian B. Green, a writer in Steelways in 1964, may be expressive of the thoughts of millions of Americans regarding the woman worker.

What About Women Workers In Industry After The War?

When looking at the large number of women who replaced men in men's jobs in World War II, one may question if women wished to hold their jobs after the war. If so, how badly did they wish to retain them after the war?

² Ibid.
Did women need to retain these newly acquired tasks and payrolls? How much did they improve their status of emancipation? One may also question if women made considerable progress toward equality. Some have pointed out that because of the dual role that most women had to play during the war, many of them were anxious to return to the home fires only, rather than to those of the forge, the rivets, and the welding rods. Others have shown that women wanted to retain their jobs. During the war a labor vacuum had been created by the vast need for men in war services. Women had efficiently filled this vacuum with their labor. At the same time, among many of these war industry workers, a need had been created for them to do what men had done. They learned that they could do these tasks as well as their male counterparts and therefore wished to continue doing so.

The women war workers had acquired an independence that they had never known before. This was both a financial and a social independence that satisfied a psychological longing. In many instances while husband, father, or brother was away at the business of fighting, women became the major bread winners. They became heads of households. They became business women. In many cases, they kept the home fires aglow as bright and as brilliant as before. The capable and efficient way in which they had taken care of things gave them a sense of worth and security that they had never before experienced. Therefore, to a large extent, women wished to retain this kind of situation or condition that was created during the crisis of the war.

Thus, in looking at women in the labor force, we find that a majority of them wanted to keep their high paying industrial jobs, but they found that
most employers after the war preferred to hire men rather than women.

The following quotation illustrates this problem:

With V-J Day, industrial jobs tumbled. Women under the union principle of last hired-first fired, were a large part of the first mass lay off... what has happened since then dispelled a widespread belief that women were working just for patriotism and "pin money" and would leave industrial plants when emergency jobs ended, and has dashed the hope held by women and more progressive trade unionists that industrial barriers had been permanently lowered by a demonstration that women can perform many industrial jobs.4

Women needed to be protected in their jobs. Women's organizations and labor unions in the United States, as noted above, had made some efforts to secure protective legislation in their special interest, and in handling the women labor problem.

The Women's Bureau Survey

At the end of the war, the Women's Bureau of the United States Department of Labor conducted a survey that indicated that the majority of the women in industrial plants wanted to stay on. The survey showed that seventy-five percent to eighty percent of new female industrial workers wanted either to continue in or return to the plant positions that they held during the war. "One spot check taken in Mobile, Alabama, indicated that 22,500 of 27,000 women wanted to keep the jobs they had taken for the duration"5 This meant that in 1945 "there were five women available for every two jobs opened to women in 1940." This meant also that four of every five women employed during the war needed to


5Ibid.
continue working because of "higher living costs or changed conditions at home."  

The women wanted to hold high paying jobs, rather than just any jobs; therefore, when many were laid off, they ignored service jobs and preferred to collect unemployment insurance rather than take low paying service jobs. Because of low wages, some women remained unemployed even while industrial jobs for men remained unfilled, indicating to some degree that employers were interested in shifting to the traditional pattern of employing men for men's jobs and paying them in like manner. The practices of discrimination developed in spite of the excellent records that women had made in industrial jobs during the war.

The survey by the Women's Bureau had shown that women could compete successfully with men in industrial skill and performance. "During the war, eighty percent of more than 1,800 classifications of industrial jobs were handled by women, and they were found in all but thirty of 534 occupations." In many cases where particular machine operation or light metal work involved repetitive and monotonous work, the Bureau found that operating efficiency actually increased when women replaced men—a pattern noted in earlier chapters of this work. Nevertheless, after the war women found that many plants in which they worked during the war were hiring on the basis of "men only" in late 1945. Some plants which did hire women began to reclassify them on a peacetime rating of third class mechanics. They used the lack of experience as the basis of classification.

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6 Ibid.

7 Ibid.
"Jim Crow" and Women's Rights

Susan B. Anthony II felt that the mobilization of men by the government in 1940 "was a matter of dealing with full citizens, accustomed to working in the world, accustomed to an independent concept of living and an assured status of free human beings." When it was necessary to mobilize women, "the process," she said, "involved overcoming certain aspects which can be termed broadly Jim Crowism." She continued by saying:

For centuries women like the Negro had been held to a sort of subcitizen level. Not only were they not inspired or encouraged to come out of the kitchen into the world of self-expressed work, but they were actually encouraged by prejudice to remain in the home, pliant and timid, unlearned, inept and inert. So it was that when the need came upon us for women to work, the problem was not merely one of finding the fields in which to use them; it was rather to fire them with enthusiasm and confidence—a group that was only just beginning to feel at home in its right to vote, its right to engage in office work, in selling and in the professions and in the right to hold public office.

Miss Anthony seems to have recognized that women before the Second World War were in a similar situation or condition as the Negro in terms of rights, privileges, and full citizenship in American life. Their participation in labor and the general war efforts of 1940-1945 better illustrated their desire and ambition to acquire full participation in America and to establish a situation of life equal to that of their male counterpart.

Women learned that they were unable to participate fully in the rights and privileges of citizenship. This applied especially to the citizen's privilege to work for his country, equally with all other citizens, according to his capacity, ability, and choice of work. Many agreed with Phyllis

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9 Ibid.
Bottome, a distinguished British novelist, author of *Private Worlds*, who felt that there was "less and less difference in modern warfare between a man's and a woman's task."\(^\text{10}\)

If a woman served in a target area in any capacity or in the Armed Forces, or in a strategically productive or industrial area, she might be as subject to the dangers of warfare as the military men. Much the same discipline, interests, virtues, courage, and morale are required to do an effective and efficient job. "There can be no doubt that the characters of both men and women can be enormously strengthened by the new task set to them," Miss Bottome observed in 1944.\(^\text{11}\) It was very important to both men and women in time of crisis to be on equal footing of responsibility and accomplishment.

**Performance as a Criterion for Equality**

It may seem that Secretary of War, Henry Stimson had this in mind when he suggested a voluntary military army. He suggested that a voluntary auxiliary army be created to work behind the lines to assume the duties of army regulars, and he elicited discussion of the idea. Total war was as much the concern of women as of men, because women have at least as large a stake in the national security, it was argued. One editorial suggested that:

Undoubtedly women in armies would disturb a good many of our fixed notions about chivalry. Women at work have already upset a good many of them. Modern war has brought the fighting line to the home itself. Defense is no longer a mere matter of

\(^\text{10}\)Phyllis Bottome, "Women After Three Wars," *Independent Woman*, 23. (Feb., 1944), 40.

\(^\text{11}\)Ibid.
forts filled with soldiers but the immediate concern of every town, even every household. No longer is there any question of women going to war. The most deadly warfare has already come to the women.\textsuperscript{12}

At the beginning of World War II, both employers and the government were reluctant to hire women. Not only were they reluctant to employ them but also reluctant to train them for employment. From July, 1941, to February, 1942, only one woman for every twenty men got "warming-up industry courses." Out of seven hundred thousand workers who were given training to teach trainees higher skills, less than one percent were women.\textsuperscript{13}

Industry did very little in the first year after Pearl Harbor to get women into training and into defense jobs. The United States government, after having learned that eleven thousand war employers were denying women an adequate place in their plants, released a factual analysis of what women could do in industry. The analysis indicated that women, if allowed, could perform four-fifths of some three thousand occupations studied, and in the portion of jobs not then suited to women, it was learned that a simpler breakdown in the operation of these jobs could make them suitable for women.\textsuperscript{14} However, even in the governmental training programs there seems to have been some lack of full preparation and adjustment, for, by the end of 1942, less than one-eighth of the women students were taught in the government's training program for higher paid scientist and managerial employees.

Governmental Agencies and Individual Interest in Equality for Women

The Government found it expedient to issue an order prohibiting discrimination against women in training courses. This was largely necessary

\textsuperscript{13} Anthony, Out of the Kitchen into the War, p. 49.
\textsuperscript{14} Ibid., pp. 48–49.
to destroy the practice of opening certain industries to female employment while others were closed to them. Yet women were anxious for war jobs. By April of 1942, the number of women's job applications had climbed from twenty-nine percent to thirty-three percent. 15

In April, 1942, the Women's Bureau and the War Manpower Commission established the Women's Advisory Committee of the War Manpower Commission. The WAC became a vital agency for studying the problems of labor during the war and for the development of plans for the utilization of women in industry. The WB, the WMC and the WAC made studies, proposals and recommendations and solicited agreements among war agencies for standards of working conditions, training hours, wages, child care, housing, and safety for women war workers. 16

While agencies were making studies and investigations of women's work, many individuals gave personal views and comments about the work of women. Agnes Rogers, for example, gave a pictorial account of what American women had been doing for the past fifty years. The work attempts to show that there are many different kinds of women. Miss Rogers traced their history from the "sheltered women" of the nineteenth century to the emancipated freedom-loving women of the 1940's. She had this comment:

Along with streams of criticisms, there runs a mighty river of adverse admonition. No sooner have their critics proved that the miserable offender is unworthy to live, than they demand of her an all-round perfection that would be nothing short of miraculous. The American woman of today must be an expert housekeeper—a wise, conscientious and loving mother, always there when the children need her, but

15 Ibid., p. 50
16 Ibid.
standing aside when her presence might threaten the full development of their individuality. She must be a delightful, helpful, and thrifty wife, ready to administer comfort or share in gay adventure. She must be a useful member of the community, informed on broad political trends as well as possible danger spots in the local school board. She is also a citizen of the world and should be able to name the current president of France, have constructive ideas on what to do with the atom bomb, and say what's wrong with our foreign policy.\(^\text{17}\)

Miss Rogers discerned the note of traditional expectancy that had grown up around the American woman while she was still greatly shackled by the traditional male dominating subjection concept. This concept received a terrible shaking and almost an uprooting during World War II, but still lingers on in the minds and attitudes of many male Americans.

The impact of the war on female employment has intensified the debate on the woman's role in American society. Some believe that every woman should follow the career or vocation of her own choosing while others feel that women should not work unless compelled to do so by the absence of a male bread winner. Others say women's place is in the home. The dilemma is summarized by Robert W. Smuts:

> It is always difficult to measure attitudes, still more difficult to discover how attitudes influence behavior, and perhaps impossible to assess with any precision the role of changing attitudes in any series of events. The question of women's employment involves two subjects which lie near the center of human emotions: work and the relationship between men and women. One may at least be certain, therefore, that the changes in women's work have been profoundly influenced by what people have thought and felt about work and about women.\(^\text{18}\)


Mary R. Beard, in her classic study of tradition, stated that women were members of a subject sex throughout history. The traditional role of women in society had exerted "an almost tyrannical power over thinking about the relationship of men and women for more than a hundred years." Mrs. Beard traced through history the legal, economic, social, intellectual, military, political, moral, and philosophical status of women. Using Anglo-Saxon common law as expounded by Sir William Blackstone, she illustrated the traditional legal subjugation of women.

She emphasized, however, that equality would enable women to escape from the historical tyranny of man; "that having been nothing, woman can become everything through the emancipation from her past." 

The Second World War with its abnormal conditions provided women with the opportunity to destroy the bonds of traditional tyranny and to participate more fully in American life. Though the global conflict did facilitate a vast expansion in the employment of women, honor and recognition "still lay far behind those accorded man." 

In spite of the failure of Americans to accord women the respect due them, they continue to serve "as the classical labor reserve, supplementing men when there is a shortage, and replacing men when processes and wage differentials make it possible." To them, "as to other minorities, have been transferred the hostilities engendered by boom-and-bust production


20 Ibid., Editors Notes.

with its cargo of continual job competition and threatening unemployment and thus has been the recurrent myth that women work for pin money."22

This, however, seems to be far from the truth and is only a part of what some wish to believe as they endeavor to perpetuate the long accepted belief that if women work, it is mainly for frills and fancies.

**Why Women Worked After the War**

According to one fairly recent observer, most women work for the same reason most men do--because they must. "They work because they have economic responsibilities; and this is true of women of all ages and of all marital status groups."23 This was a point that was frequently reiterated in the hearings on the Senate equal pay bill which failed to become law in 1945. Earlier the National War Labor Board had officially announced that the wages of women were to be set in accordance with the equal pay principle of "comparable quantity and quality of work on comparable operations."24 This would make efficiency the real test for assessing the amount to be paid for a particular job. This principle continued to be the goal of female workers insofar as they constituted a minority group.

The Women's Bureau after interviewing over thirteen thousand women employed in ten big war production areas throughout the country found that eighty percent of those who planned to continue working after the war made this decision on the basis of economic need. Only eight percent hoped to continue to work in order to raise their standards of living. to educate

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22 Ibid.


their children, or to buy homes. Another eight percent based their decision to work on interest in their jobs.\(^{25}\)

Another survey conducted by the New York State Department of Labor in 1944-1945 interviewed 1,000 women who were employed in war plants. The study indicated that ninety-three percent of those who hoped to continue to work after the war declared financial responsibility toward themselves and/or dependents as their motive for working. Only five percent worked because of free choice.\(^{26}\)

**Self-Assertion and The Psychological Impact of Change**

Self expression was found to be another reason why women worked. Some women desired to make a contribution to society in a field of their choice which was suitable to their personality. This kind of aspiration is common to both men and women. There is a psychological need that can be fulfilled only through meaningful work. In many cases women could fulfill this need only by accepting jobs outside of the home.

For a number of years, many women have been concerned with one basic question. They ask—are all women aware of a divine inward and/or outward drive for equal right and status with men in all phases of labor and professional activity? Has such a drive or psychological appeal affected all women? Writers like Beverly Benner Cassara, Margaret Mead, Pearl Buck, and Agnes E. Miers agreed that even though the idea of full and equal status does not fully appeal to all women, the status of women in our society is changing significantly. Miss Cassara says, "the ambiguity which clouds the whole problem of women's role in the modern age leave

\(^{25}\)Ibid., p. 41.

\(^{26}\)Ibid.
some women denying the existence of change itself while others suffer
because awareness of self-expression and individual development sup­
posedly open to them are still inaccessible." 27

Some women were supposedly unaffected by the movement for change
in women's status and by the drive to remove restrictions and discrimina­
tory practices. The forces of social change, however, were creating new
standards for women. For example, many of the traditional tasks of
women, such as working in kitchens, caring for the young, nursing the
sick, and laying out the dead have become modernized and institutionalized.
Therefore, women's attentions have been turned increasingly to status
building tasks in other areas. 28

Mary L. Wiggerman, an associate economist of the United States
Bureau of Labor Statistics and an Associate Editor of the Monthly Labor
Review, looked at the change in the status of women during World War II
as part of a long evolutionary movement, yet one which showed such
impetus during that period as to be almost revolutionary. She mentioned
that:

The almost incredible changes in women's work which
gained such momentum during World War II constitute an
evolution of over 100 years dating back to the shift of
industry from the home to the factory. In ever expand­
ing ranks women have become wage earners away from their
husbands in both manufacturing and public service in which
they play an increasingly significant role. 29

It was an established fact that 250,000 married women returned to
work each year. One third of the labor force in 1944 and 1945 was made up of
women, thus creating the kinds of psychological and sociological pressures

27Beverly Benner Cassara, Editor, American Women: The Changing
28Ibid., Introduction, p. ix.
29Mary Wiggerman, "Women Workers in War Time and Reconversion,"
The Woman Worker, 1947, 3-4.
for eliminating professional prejudices against women. Bessie Hillman, as vice-president of Amalgamated Clothing Workers Union and author of *Gifted Women in Trade Unions*, estimated that twenty-three million women were employed in business and industry by 1960. However, only eighteen million of these were members of labor unions. Frances Perkins, Secretary of Labor under the Franklin D. Roosevelt Administration, Frieda Miller, Women's Bureau Director, and Miss Anderson worked assiduously to make "the Labor Department a fountainhead of progress and reform in matters affecting women workers."\(^{30}\)

The feminine side of a masculine civilization seems to be a key line in a typical book representation of this movement, *The American Woman*, written by sociologist Ernest R. Groves, a work which discusses women's advance in status in a masculine-dominated setting. It notes that the functions of a woman as worker, wife, and mother have been valued but that the specific desires to contribute to American development outside the home have not generally been welcomed, primarily because "they threatened invasion of man's prerogative."\(^{31}\) Man has tried to beat back the forces that have attempted to take away what he considers as his prized prerogative. What Ernest Groves has said about women and World War I could be paraphrased for World War II.

The crisis of war introduced the value of change. The value of change came from the eruptive influence of the war crises. Women's participation  

\(^{30}\)Ibid.  

in the war broke through the crust of tradition, allowing new ideas and seeds of social change to come to life. It also brought particular stimulation by disturbing the prevailing routine and by multiplying the willingness to experiment. Recognizing the value of change, many also desired to find a solution to the conflict and the unrest that were an unavoidable concomitant of the rapid revamping of the relation of the sexes. 32

Recognition of Woman's Role

The whole country had paid high tribute to women workers for their unexpected skills and heroic services in the war effort. Government, management, labor, and the general public had joined in the chorus of praise for their services. The observant and the alert knew that similar recognition would have to be given to women after the war. Miss Anderson made an appeal to the conscience of the American people in regard to this by saying:

I wish and urge for the sake of both men and women and the nation that the widespread recognition be definitely accorded women in order to bring them into the planing for reconstruction. That is the only sound procedure in a progressive democracy, which should utilize all the skills of all its people. 33

This kind of wish began to materialize in a Women's Bureau survey taken in early July, 1944 in nine major war communities. Detroit, Dayton, Springfield, Ohio, Wichita, Kansas, Elkton, Maryland and Buffalo, New York, were the nine major areas. The survey was also to be extended to the Middle Atlantic and Southern and Pacific Coast states to ascertain what jobs

33 Ibid.
women held before the war, their family responsibilities, and what they planned when their jobs were finished. The purpose seems to have been to aid women in the shift from a wartime economy to a peacetime economy.

**Equality to What Extent In the Postwar Period?**

Many forward and progressive-minded Americans saw the inequality suffered by women from time to time and attempted to remove the inequalities by a Congressional amendment.

An amendment intended to secure full equality of legal rights for women was first introduced in the United States Senate in 1923. But in spite of constitutional attempts for women's rights and the lobbying by women's organizations, women have not gained full legal rights in all aspects of American social and economic life; even though the mere fact of citizenship is to be accepted as the basis for full and unrestricted rights and privileges. But it is a very difficult and slow process to change the traditionally accepted attitudes of all people. The past twenty-five years, however, have witnessed the continuous growth of opinion favorable to the realization of the democratic ideal. Edward Steichen, a world famous photographer, has referred to women as our "greatest undeveloped resource of today." Nevertheless, the contributions and the potential contributive power of women should not be in any way overlooked. Women who need to work and who want to work should be given the opportunity to do whatever kind of work they desire to do.

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Conclusion

In both war and peace, in positions both great and small, women have manifested their great capabilities. Yet, it stands as one of the paradoxes of our affluent society that from 1945 to 1964 women were still demanding equal pay for equal work and the end to specific discrimination against women. In 1953, President Eisenhower in a statement to a woman's conference celebrating the women's rights movement said:

It is within your strength to accomplish these things in which you believe, but only if you make your goals known and persist in demanding action. And there is not a single man in the government who can resist you if you really want to do something.36

This seems to have been illustrated many times from the smallest labor task to the greatest and highest professions and occupations in labor, science, business, and government. We know that every vestige of job discrimination has not been removed. A few traces of it linger on. But those women who have become aware of their own psychological and sociological need to experiment, to venture, and to do any of the things that men do, have been relatively successful in overcoming opposition and tradition. In the efficient performance of the chosen or selected task, they brought the United States closer to an egalitarian system in labor, in business and in politics. In this fight and drive, women found opposition in industry, labor, and government. The forces for change, however, have been more effective, as verified by the passage of the 1964 Civil Rights Law against job discrimination and the bill for job opportunity for women in the military in 1968. President Lyndon B.

Johnson seemed to have recognized this when he signed into law a bill to provide equal job opportunities for women in military service which suggested that women might achieve the highest offices. The trend for job equality which gained great impetus during war time has continued to expand into many areas of American life.

One may conclude that in times of war and in labor and industrial crises, women are available as a reserve labor supply to be utilized whenever the need arises. For women, the great need and the great challenge was World War II. The war created a situation which became a challenge to women in their struggle for equality in all phases of American life.
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