UNITED STATES DEPARTMENT OF LABOR
BULLETIN OF THE WOMEN'S BUREAU, No. 52

LOST TIME AND LABOR TURNOVER IN COTTON MILLS

A STUDY OF CAUSE AND EXTENT

[PUBLIC—No. 259—66TH CONGRESS]

[H. R. 13229]

AN ACT To establish in the Department of Labor a bureau to be known as the Women's Bureau

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled, That there shall be established in the Department of Labor a bureau to be known as the Women's Bureau.

SEC. 2. That the said bureau shall be in charge of a director, a woman, to be appointed by the President, by and with the advice and consent of the Senate, who shall receive an annual compensation of $5,000. 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.

SEC. 3. That there shall be in said bureau an assistant director, to be appointed by the Secretary of Labor, who shall receive an annual compensation of $3,500 and shall perform such duties as shall be prescribed by the director and approved by the Secretary of Labor.

SEC. 4. That there is hereby authorized to be employed by said bureau a chief clerk and such special agents, assistants, clerks, and other employees at such rates of compensation and in such numbers as Congress may from time to time provide by appropriations.

SEC. 5. That the Secretary of Labor is hereby directed to furnish sufficient quarters, office furniture, and equipment for the work of this bureau.

SEC. 6. That this act shall take effect and be in force from and after its passage.

Approved, June 5, 1920.

U. S. DEPARTMENT OF LABOR
JAMES J. DAVIS, SECRETARY
WOMEN'S BUREAU
MARY ANDERSON, Director

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A STUDY OF CAUSE AND EXTENT

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LETTER OF TRANSMITTAL

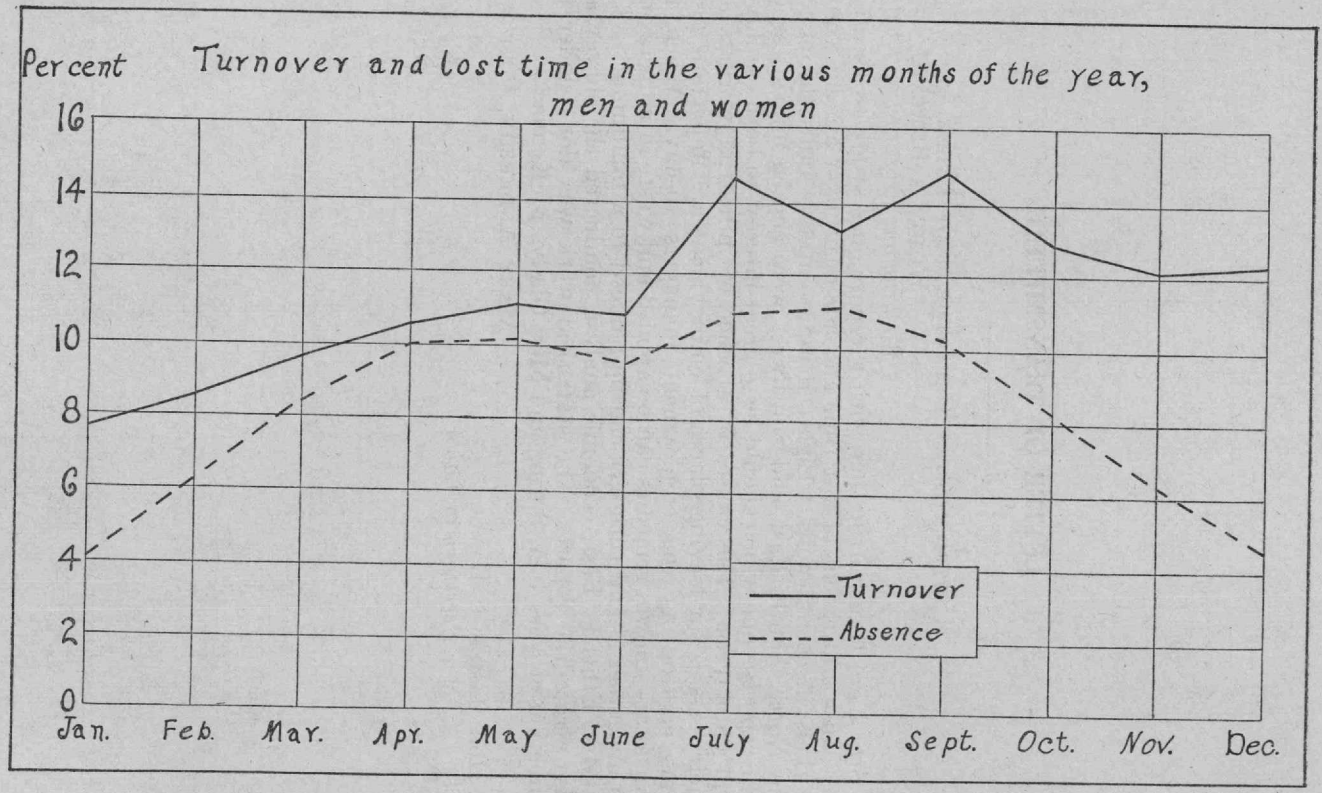
UNITED STATES DEPARTMENT OF LABOR,
WOMEN'S BUREAU,
Washington, February 6, 1926.

SIR: I am transmitting herewith a report on a study to ascertain the cause and extent of lost time and labor turnover among women workers in cotton mills. Eighteen representative mills throughout the North, South, East, and Southwest were chosen for this study. The report is one which should be of great interest to both employers and employees. The causes of absence of industrial workers and their reasons for leaving places of employment are important problems confronting the employment managers to-day. When the causes are known, remedies can be applied and waste in industry due to absenteeism and turnover can be reduced to a minimum.

Mrs. Ethel L. Best, economic analyst, conducted the survey and also wrote the report. The statistical work was done under the direction of Miss I. A. Spring and Miss Gladys McKenna.

MARY ANDERSON, *Director.*

Hon. JAMES J. DAVIS,
Secretary of Labor



LOST TIME AND LABOR TURNOVER IN COTTON MILLS

PART I

INTRODUCTION

HISTORICAL SKETCH OF THE COTTON INDUSTRY

The manufacture of cotton cloth goes back so many years that its early history is almost legendary. There is a reference to the cotton plant itself as long as 3,000 years ago when cotton was grown in Egypt as an ornamental shrub, but there is no mention of its being used to make cloth. (6, pp. 2–3.)[1]

India was, so far as the records show, the first country to use cotton in cloth, and the expression "threads of the loom" is found in the Hindu hymn 105, verse 8, of the Rig Veda dating back to 1500 B. C. (43, p. 53.) Herodotus mentions that "the Indians possess a kind of plant which instead of fruit produces wool of a finer and better quality than that of sheep; of this they make their clothes." (6, pp. 2–3.) Thomas Ellison in his handbook on the cotton trade states that the first reference to cotton being grown and used for cloth in Europe was in 950 A. D., which was about the time when the plant was introduced into Spain by the Moslems. (16, pp. 126–127.) He also points out that it was over 600 years later that the use of cotton for cloth was first mentioned in England, and the arts of spinning and weaving were probably brought over from Europe by Belgian artisans driven from their country by persecutions. Cotton was used in England to knit stockings as early as 1560, but it was not in general use even 100 years later, for in the diary of Samuel Pepys, as late as February 27, 1664, he speaks of a discussion as to "whether callicos be linnen or no," and remarks rather skeptically that "they [The East India Company] say it [cotton] * * * grows upon trees." (44, p. 54.)

The process of manufacture changed but little through these many centuries, and as late as 1700 the implements used were analogous to those employed in India 1,200 years before. (16, p. 127.) William Draper states that the spinning wheel was introduced into Europe about 1530, and every young woman was taught to spin—hence the word "spinster." (14, p. 98.) He also points out that according to one authority a hand spinner working on the spinning

[1] References in parentheses throughout this report are to "Literature cited," p. 135."

wheel could spin eight skeins a day, or a thread 4 miles long. To-day on a modern frame each spindle can produce that much or more in a day. Weaving in the home was usually done by men, and the children and older women besides spinning did the picking and carding—picking the cotton apart by hand and carding it on hand cards.

Some idea of the situation in regard to the early manufacture of cotton cloth in England can be gained from the following quotation:

> It will be interesting here to note how closely allied in the 17th century were the two great industries—agriculture and cotton. * * * Generally speaking, the farming was of that kind which did not call for any attention on the part of an expert agriculturist. The work was done by the members of the family. Whilst the husband and the sons worked in the fields, the wife and daughters attended to the churning and cheese making, and when these duties were done they turned to "carding" and "slubbing" and the spinning of cotton or wool, and prepared it for the loom. The number of looms in a house varied with the size of the family, and when the rent of the farm could not be raised from the agricultural side of the family's employments, the profits made on the manufacturing side were drawn upon to make up the deficiency.
>
> * * * It required six or eight "hands" to prepare and spin yarn of any of the three materials (wool, linen, or cotton) sufficient for the consumption of one weaver, so that labour was thus provided for every person, from the age of ten to eighty years (provided their sight was good and the free use of their hands was unimpaired) to keep them above the poverty line. (6, pp. 15–17.)

The eighteenth century brought a tremendous change in the making of cotton due largely to the many inventions which took place during this period (18). In 1738 the fly shuttle was invented by John Kay, and a number of years later, in 1760, his son Robert invented the drop box. John Wyatt and Lewis Paul improved spinning by using rollers in 1738, but they were not used to any great extent until about 30 years later when they were patented by Arkwright. A carding machine was invented by Lewis Paul about the middle of the eighteenth century, the spinning jenny by James Hargrave in 1764, and the mule by Samuel Crompton, who worked on this device for some years, finally perfecting it about 1779. The loom of Richard Cartwright, which was perfected in its first form about 1787, was the last of the basic inventions. Although certain changes in these devices followed, each change adding some improvement to the machinery and method of manufacture, most of the machines in use in mills to-day involve the principle of these early inventions. It would have been impossible, however, to develop the manufacture of cotton cloth to anything like its present extent without Eli Whitney's invention—patented in 1794—of the cotton gin, which separated the seeds and fibers of the cotton, and without James Watt's invention about 1784 of the steam engine, which supplied power for extensive manufacture. The impetus to manufacture supplied by the invention of the cotton gin can be seen when it is realized that before the use of this device only 1 pound of cotton

could be separated from the seed in one day by a negro, while by the use of the gin 5,000 pounds could be cleaned in one day by a negro. (62, p. 101.)

In the greatest cotton manufacturing country in the world, Great Britain, cotton cloth as an article of commerce was scarcely known before 1766, although there was considerable cloth and yarn manufactured for domestic use. As late as the latter part of the eighteenth century it was largely a home industry, and in 1788 it was estimated that in England 159,000 men, 90,000 women, and 101,000 children were engaged in its manufacture in their homes. (6, p. 36.) From this time on until 1830 more and more of the work was taken out of the home and done in factories. This was true not only in England but in America, for although cotton was indigenous to this country its manufacture was retarded by the Revolutionary War, and immediately afterward by the difficulty of obtaining English machinery.

The earliest record of a cotton mill in this country was of one built in Philadelphia in 1788, and about the same time one was erected at Beverly in New England. (62, p. 149.) This latter mill was visited by Washington in 1789, and in his diary for October 30 he gives the following description of the Beverly mill: "The whole seemed perfect, and the cotton stuffs which they turn out, excellent of their kind, warp and filling both are woven of cotton." (6, p. 158.) President Washington probably made a special note of the fact that warp and filling were both of cotton because until the invention of Crompton's mules it was impossible to spin strong enough yarn for the warp, and flax ordinarily was used.

The growing of cotton increased in the United States with the invention of the cotton gin and the increased demand for cotton cloth for commercial purposes. Before 1780 cloth was manufactured in the home for family use, and in the South, especially, garments made of cotton were very generally worn. In 1786 Thomas Jefferson wrote: "The four southernmost States make a great deal of cotton. Their poor are almost entirely clothed in it, winter and summer. It is as well manufactured as the calicoes of Europe." (6, p. 187.) A great impetus was given in the United States to the manufacture of cotton cloth by the embargo act of 1807, the nonintercourse act, and the War of 1812, which almost entirely cut off trade with Europe (10, p. 4), but with the close of the war the country was flooded with foreign goods, and in 1816 Congress passed a tariff law providing a duty of 6¼ cents per square yard on cotton cloth, to protect the growing industry. (62, p. 197.) From that time the industry grew rapidly, especially in New England.

Mrs. Harriet Robinson, who worked in the Lowell mill between 1830 and 1840, gives a vivid description of the life of a cotton worker of that day. (46, pp. 30–31.) Her mother was a widow and kept the

mill boarding house, and as Harriet was one of the older children and as the family was poor, she went to work as soon as the mill would take her; that is, when she was 10 years old. The workers in the mill were all Americans, many were daughters of farmers and of fairly well-to-do families, who wanted to earn money for some special purpose and were thankful to have an opportunity, for in those days, Mrs. Robinson adds, very few occupations outside the home were open to women. Most of the women worked from 8 to 10 months a year and spent their vacations with their families or friends. The female operatives, according to a letter written by Lucy Larcom many years later, realized that mill work was "temporary and not the business of our lives, as we all knew, girls as we were." (46, p. 178.) Earnings were low, $2 a week and board for most of the women, although some were as high as $3 to $5, but the hours were the same for all; grown women and little girls began work at 5 a. m. and stopped at 7 p. m., with one-half hour for breakfast and one-half hour for dinner. (46, p. 31.) In spite of the long hours, Mrs. Robinson thinks the work was easier than later, when "operatives tend so many looms they have no time to think and are too weary to read good books or digest what they have read." (46, p. 205.) The good appearance of these early mill operatives is commented upon by a visiting Englishman, who writes concerning them: "All were clean, neat, and fashionably attired with reticules hanging from their arms, and calashes on their heads. * * * They lodged generally in boarding houses, and earned eight shillings six pence sterling per week independent of board." (62 pp. 206–207.)

The period to 1840 is the early or organizing period for the cotton industry in New England and the Middle States. Up to this time the operatives were Americans, but from 1840 on foreigners began to enter the mills. First came the Irish, then the English and Scotch, and later Germans and Austrians and operatives from southern Europe, and finally many French Canadians.

After 1840 until the Civil War the number of mills did not increase, but additions were made to existing mills, and the number of spindles steadily grew. The rapid growth of the industry is perhaps best illustrated by the rapid increase in the number of spindles. The following shows the number of spindles reported in the United States from 1805 to 1860 (10, pp. 5–7):

1805	4, 500	1825	800, 000
1807	8, 000	1831	1, 200, 000
1809	31, 000	1840	2, 300, 000
1810	87, 000	1850	3, 600, 000
1815	130, 000	1860	5. 200, 000
1820	220, 000		

The manufacture of cotton goods in the South grew much more slowly than in the North, and it was not until 1880 that the real development in the South began. In this year there were only half a million (542,048) spindles in the South (52, p. 46, tab. 18), while in the North as far back as 1860 the spindles numbered over 3,800,000 (50, p. xxi). From 1880 to 1920 the growth of cotton manufacturing in the South was more rapid than in the North, the number of spindles being increased by about 14,000,000 in the South and by approximately 9,000,000 in the North. (52, p. 46, tab. 18; 55, p. 176, tab. 27.)

The growth of the industry from the early days of the nineteenth century, when there were but 4,500 spindles throughout the country (10, p. 5), to 1860, when there were 5,235,727 (52, p. 27, tab. 4), surpasses any like increase North or South since that time. The Civil War halted the progress of the industry for several years in the North and for nearly 20 years in the South, but in spite of the setback the number of spindles by 1880 had more than doubled, 10,653,435 (52, p. 27, tab. 4), and by 1920 the number had more than trebled, 33,718,953 (55, p. 176, tab. 27), since 1880.

Although the growth of the industry may be best measured by the increase in spindles, it is also shown by the increase in the number of people employed. The tremendous expansion in machinery, however, was not accompanied by an equally rapid growth in number of operatives, for although from 1831 to 1860 there was an increase of 333.3 per cent in the number of spindles and of 443.3 per cent in the number of pounds of cotton consumed (10, pp. 6, 11), nevertheless the number of employees increased only 96.3 per cent. From 1860 to the present time this same condition has continued, increased spindles and production and a relatively smaller growth in numbers of employees. For example, in 1880 the cotton mills in the United States employed 174,659 operatives, and by 1919 the number had increased to 446,852, or 155.9 per cent over the number in 1880, whereas in this interval the number of spindles increased 216.5 per cent. (52, p. 27, tab. 4; 55, pp. 159, 176, tab. 2, 27.) The figures also show that the efficiency of production as well as the size of the industry increased, for in 1880 the average number of spindles per operative was only 61, while in 1919 it was 75.5 per worker. In 1860 an average of 9,412 square yards of cloth were produced per operative, while in 1905 an average of 15,134 square yards were produced. (10, p. 21.). This larger production is probably due to better machine methods, to the greater age of the operatives, and possibly also to shorter hours of work.

There is no question that machinery and methods of production are more efficient now than ever before in the history of the cotton industry. The automatic stop on looms, and the shuttles threaded

and fed by bobbins directly from the battery enable a weaver to care for many more looms than formerly. In the carding, spinning, and spooling departments improvements have been made, permitting a worker to care for more machines and thus lessening the cost of production. Machines have been speeded up, and more scientific arrangements to prevent the breaking of the yarn have been installed.

However, the actual organization of the mills has not been changed since the days of the founding of the Lowell mill by Francis Cabot Lowell, with its president who was the head of the board of directors, its treasurer who was the executive head, the superintendent who had charge of the laborers and their operations, the overseers over each department, and a master mechanic in charge of buildings and machinery.

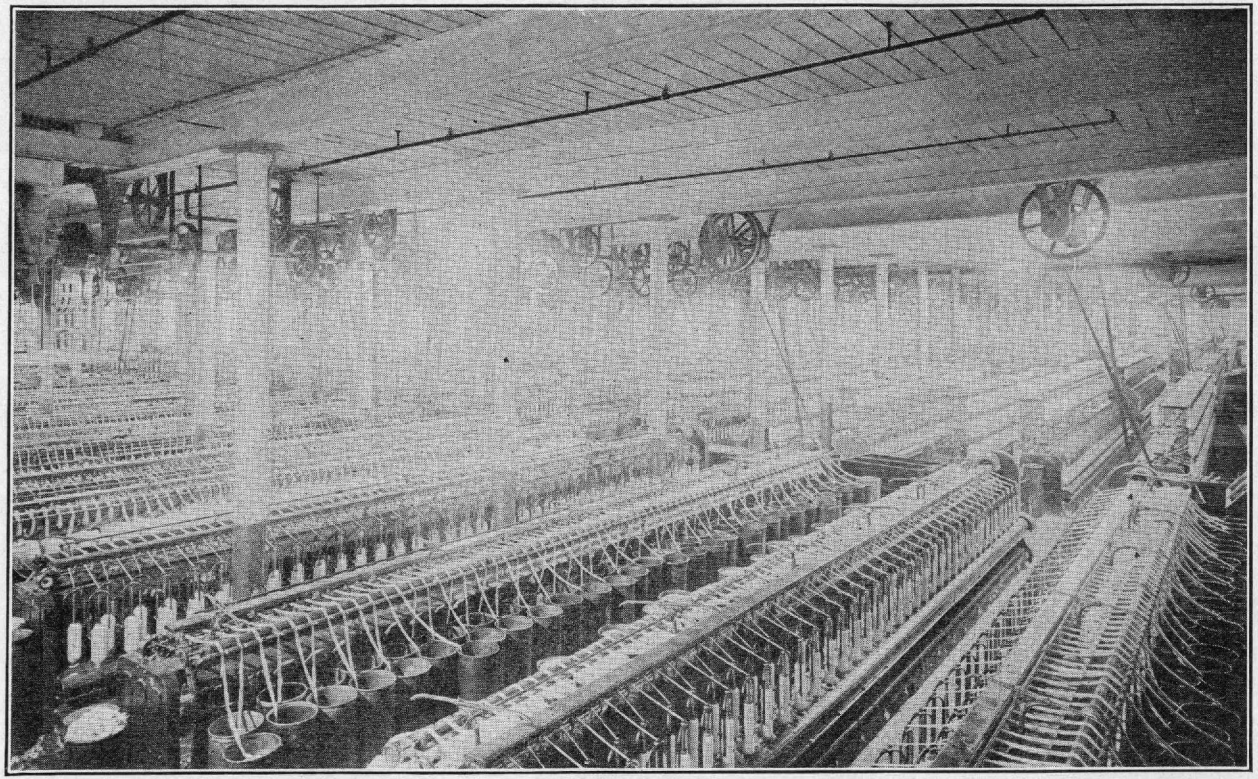
But no industry, however perfect the machines or organization, can be run without human beings, and it is apparent that, as the industry has grown, more and more men, women, and children have worked each year in the mills. "The modern cotton mill * * * employs more operatives than any other institution of indoor occupations." (11, p. 72.)

Probably no other manufactured product used so extensively for clothing and the home as cotton cloth gives employment to so many women. Many thousands who buy and use the finished article have but little idea of what the 190,566 women wage earners (55, p. 159, tab. 3) actually do all day in the mills. The following is a list of the processes of manufacture from bale to cloth; the ones which are starred comprise those on which women (in some cases men also) work:

Opening.
Picking.
Carding.
*Combing.
*Drawing.
Slubbing.
*Roving.
*Spinning.
*Spooling.
*Creeling.
*Beaming.
Slashing.
*Drawing-in, *twisting-in, *tying-in.[2]
*Weaving.
*Inspecting.
*Folding.
Baling and packing.
Shipping.

In the majority of these operations, at least until inspection is required, the women in the mill tend the machines, but with different machines this "tending" assumes different aspects. In the occupations of combing and drawing the operative places the lap which comes from the cards, so that it feeds into the comber or drawing frame, and when the sliver has passed through the machine she removes the cans into which the sliver has been wound. She also

[2] Different terms used for the same operation.



CARD ROOM

SPINNING ROOM

keeps her machines oiled. While the machines are running she may sit and rest. The cans of sliver weigh from 10 to 15 pounds and some women complain of lifting them, but as a rule the job itself is not a hard one. However, the lint and dust in the card room are considerable, and the room is usually warm and not so well lighted as the rooms where the work itself requires more light.

The can of sliver goes from the drawing frames to the slubbers, where the sliver is slightly twisted and wound on large bobbins.

From the slubbers the yarn goes to the intermediate frames, where it is drawn out and wound on other bobbins. The operative must handle the cans of sliver, piece the broken ends, and remove the bobbins when they become full, putting them, as a rule, on the shelves above the machines and replacing these bobbins with empty ones.

Work on the intermediate frames is practically the same as on the slubbers except that the machines are fed by roving that is finer than that used by the slubbers. The bobbins on which the cotton is wound are lifted 5½ to 6 feet above the floor to fill the creel, which holds many bobbins on top of the frame, and as these bobbins weigh from 1 to 4 pounds (57, p. 402) there is considerable strain involved, especially if the operative is short.

When the bobbins come from the speeders, they are placed by the spinner in the upper part of the spinning frame, and it is her job to see that the roving from these bobbins winds continously onto the spindles in the lower rows. If the thread breaks, as it frequently does, she must piece the ends; she must keep her row of "roving" bobbins full; she must brush the rollers, for much fine lint collects and the yarn will not run well unless the rollers are kept clean. A spinner must walk up and down the aisles between the sides of the frames in order to see when the ends are broken or bobbins run out. Spinners tend more sides of a frame than do the women in the early processes of manufacture and hence do more walking; a spinning frame is about 30 feet long and frequently contains along one side 128 spindles, although the number varies on different frames. The number of sides which a woman can watch or tend depends on her expertness, the count of yarn, the speed of the rollers, and the quality of cotton used. Probably the most usual number of sides tended by a spinner is 8 to 10, although children under 16 are frequently given only 4 to 6. When the yarn is running well, a spinner can sit down and rest, but how often such an opportunity to rest occurs during the day depends to a greater extent on the machine and cotton than on the worker.

The yarn that has been wound on the bobbins by the spinning is now rewound on spools, so that the thread will be longer and more even before being used for the warp. The women known as spoolers wear on their right hand a little machine called a knotter, which knots

the thread when it breaks, and they also must keep full bobbins of spun yarn in the lower part of the frame and remove full spools and replace them with empty ones on the upper row of the frame. Sometimes they will even carry their full spools over to the creel. A spooler's job requires very steady work and she rarely has a chance to rest, since the bobbins run out and must frequently be replaced.

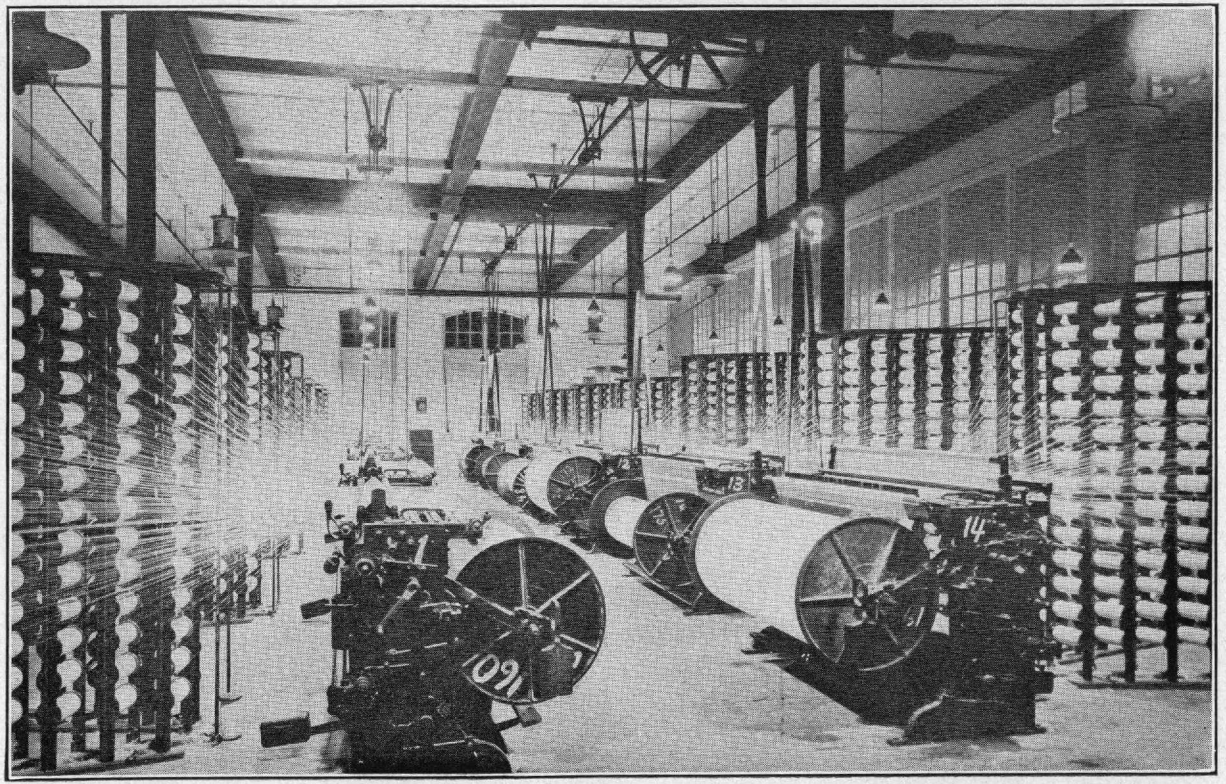
A creeler usually carries the full spools to the creel or rack where they are placed on dowels, so that the thread can be run off onto the beam. The creeler must see that the rack is kept full, and if the spools run out, she must replace them. As this rack is about 6 feet high and extends almost to the floor, much reaching and bending are necessary for this job.

The woman called a warper or beamer tends several beams, and if the threads of the warp break she ties them together. Her work requires considerable stooping but is easier than the creeler's, because the warper compared with the creeler has more time to sit and does less reaching and bending.

Drawing-in is done usually by women and only occasionally by men. It consists in drawing the warp thread through the eye of the reeds by means of a little hook. On plain goods this operation is usually done by machine, but on fancy goods it is done by hand and requires close attention on the part of the operative, as it is much like threading needles all day. The worker sits usually with her back to the light, and the harness with the reeds is placed in front of her. Good eyesight is necessary, but the workers seem to feel the general strain of attention more than the specific one of sight.

In a mill with modern equipment the weaving is done frequently on automatic looms. This arrangement means that the worker does not have to fill or thread the empty shuttle; as fast as the thread is run off a bobbin, it is automatically dropped into a box and a new one shot down from the battery into the shuttle, and the weaving goes on. When a thread breaks, the loom stops, and the weaver must tie the thread. In some cases she must also keep the batteries filled, and usually she takes off her own roll of cloth and carries it, if not too heavy, to be weighed. In most mills she also cleans her own looms. Her job combines much walking, as she tends from 10 to 30 looms, with much stooping over the looms to pick up or tie the threads when they break, in some cases, a frequent occurrence. When the looms are running well, she can sit and watch, but in the majority of mills there is little provision made for sitting.

Inspecting the cloth can be done by the worker sitting or standing; it is steady work requiring fairly close attention but involving no other special strain except possibly that of sight.



WARPING ROOM

WEAVE ROOM

Folding is usually done by boys, but occasionally by women. As the worker in handling the cloth must stand and use the arms constantly, folding is a more fatiguing job than inspecting.

From these brief descriptions it is clear that few, if any, of the occupations performed in the mill by women can be classed as heavy work. But fatigue is not necessarily of the muscles. In a report on the health of munition workers the statement is made that the problems of industrial fatigue are primarily, and almost wholly, problems of fatigue in the nervous system and of its direct and indirect effects, and, the report adds, "muscles are probably never totally fatigued." (28, pp. 3–4.) Now, although mill work is not as a whole a strain on women's muscles, nevertheless the long hours, the constant standing and walking, and the heat and noise of the workrooms all are conditions which, unless proper care is taken, may result in excessive fatigue.

The question which immediately presents itself is: Do the conditions in cotton mills, enumerated in the preceding paragraphs, result in excessive fatigue for the women workers? In order to determine whether such fatigue exists, it is necessary in the words of P. Sargant Florence, "* * * first to show and measure the fact of a definite diminution [or indeed any variation] of working capacity, and, secondly, to associate this diminution with the fact of a definite increase in the length or intensity of activity [or indeed any variation in conditions of production]." (21, p. 102.) A measurement of output is frequently taken to show the effect on the worker of variation in conditions, but the textile industry is essentially a machine industry, and although production might show a decrease with the fatigue of the worker the amount would depend to a very great extent on the degree to which the human element is involved in the operation. A study made in England of the amount of variation occasioned by the human element on various jobs in cotton mills shows that the mean variation of experienced workers is not great. The following figures illustrate the mean variation by the job (26, p. 10):

Process	Number of cases	Mean variation
Weaving (fancy)	423	10.0
Winding (spooling)	46	8.3
Weaving (plain)	752	6.0
Slubbing	17	4.7
Drawing	22	4.0
Intermediate	15	3.2
Roving	27	2.9
Spinning (ring)	51	2.0
Spinning (mule)	32	1.9

A cotton operative, therefore, may experience great fatigue, and as long as she comes to work, her output will not vary greatly, but if she stays out or leaves her work and an inexperienced worker takes her place, the effect on the work may be far greater than when only her output while on the job is considered. The same is true for the worker. While at work she earns something, but when she is forced to stay out, for whatever cause, her income must stop, unless she has other resources, until she returns to work.

A well-known physician has said that "fatigue has a larger share in the promotion or transmission of disease than any other single causal condition you can name" (30, p. 61), so that fatigue not only would be reflected to some extent in the illness rate of the workers but would, therefore, be a cause of absenteeism. Also, according to Mr. Florence (21, p. 383), the bodies and minds of workers are affected by much the same industrial conditions as were found to be associated statistically with excessive turnover, absence, output, accident, and sickness. Therefore, whether illness, output, absence, or turnover is chosen as a means of measuring the effect of various conditions on the worker depends largely on which of these in a given industry is most responsive to the fatigue and unrest of the worker. In the textile industry changes in the absence, sickness, and turnover rate under various conditions would probably be more significant than a measurement of daily or hourly output, and as illness would be included in absence and, to a lesser extent, in turnover, the two facts of absence and turnover might best illustrate the effect on the textile worker of her employment. It is, of course, true that human beings vary in their susceptibility to working conditions and that much depends on their physical inheritance, hygienic or unhygienic habits, home conditions, and so on, but when groups of workers in a single industry are studied and there is found to be fairly uniform reaction on the part of most of the workers, regardless of age, marital status, or nationality, to certain industrial experiences, it would seem to be time to give careful consideration to these conditions and their effect on human beings. The general statement has been made that "management is constantly improving its nonliving machines and its processes—but on its utilization of its living machines it is in the grip of tradition." (39, pp. 3–4.) This is, to a great extent, true of the cotton-manufacturing industry, and with its wonderful growth and marvellous machinery it can not afford to overlook problems which affect its most vital element—the human being.

SCOPE AND METHOD

The present study was undertaken to ascertain the extent and cause of absence and turnover among women workers in cotton mills. Records were taken for men also but were not followed up by home

visits to ascertain the reason for the absence as was done in the case of the women.

There is in any healthy industry a normal amount of absence and turnover. Mr. P. Sargant Florence in his study of economics of fatigue and unrest gives a detailed analysis of absences of employees in certain American and English establishments, dividing these absences into avoidable and unavoidable ones. (21, pp. 179–211.) On the question of separations an employment manager, Mr. Magnus Alexander, of the General Electric Co., in a discussion of the cost of labor turnover has estimated the percentage of separations occurring annually among all employees which might be termed unavoidable. These figures are discussed in a later section of this report (see p. I05).

In a study of any special industry there are certain inherent problems to be considered in relation to the standards fixed for other manufactures. Some industries are seasonal, so that steady employment for the worker is possible at only certain times of the year, and others are subject to wide fluctuations due to change of style or habit on the part of the buying public. The cotton industry is not a seasonal industry, but in some of its branches it is affected by change in styles. However, the staple lines, or coarser grades of manufactured cloth, are not subject to any great changes, although together with all other staple commodities, they have years of depression which mean no work or part-time work for the employees.

In the present study there were chosen 18 mills, all but 2 of which manufactured the coarser grade of cotton cloth, such as print goods, drills, sheetings, tire duck, and osnaburgs. Two of the mills manufactured fine goods, and these were taken because they were more representative of the industry in certain sections of the country. An effort was made to select mills throughout the North, South, East, and Southwest which were representative of the industry, and mills in the following States were included in the study:[3]

Maine.	Maryland.
New Hampshire.	South Carolina.
Vermont.	Georgia.
Massachusetts.	Alabama.
Connecticut.	Mississippi.
New York.	Louisiana.
New Jersey.	Texas.

Mills were visited in large textile centers, in isolated towns, and in the country where they were surrounded only by the mill village. Some of the mills were units, with the officers and directors living in the same town as the mill, while others were part of a large corporation, managed by an agent or superintendent. In all of the mills selected

[3] Rhode Island was not included because of strikes in the textile industry in this State during the year studied.

for the study the cotton was carried from the bale to the cloth; in only two mills was the further process of bleaching or dyeing performed, but neither the bleachery nor dyehouse in these mills was included in the survey. The size of the different mills varied from 10,000 to 62,000 spindles, but nearly one-half of the mills contained from 19,000 to 30,000 spindles. The following table shows the number of male and female workers in each mill:

TABLE 1.—*Number and sex of employees, by individual mill North and South*

Mill	Number of names on pay roll during year	Men		Women	
		Number	Per cent	Number	Per cent
All mills	10,541	6,203	58.8	4,338	41.2
Northern mills	4,204	2,374	56.5	1,830	43.5
No. 1	346	163	47.1	183	52.9
No. 2	569	269	47.3	300	52.7
No. 3	484	283	58.5	201	41.5
No. 4	287	104	36.2	183	63.8
No. 5	416	259	62.3	157	37.7
No. 6	772	460	59.6	312	40.4
No. 7	199	106	52.6	93	47.4
No. 8	510	362	71.0	148	29.0
No. 9	621	368	59.3	253	40.7
Southern mills	6,337	3,829	60.4	2,508	39.6
No. 10	480	323	67.3	157	32.7
No. 11	223	118	52.9	105	47.1
No. 12	525	318	60.6	207	39.4
No. 13	1,005	625	62.2	380	37.8
No. 14	757	449	59.3	308	40.7
No. 15	1,478	805	54.5	673	45.5
No. 16	1,078	676	62.7	402	37.3
No. 17	365	243	66.6	122	33.4
No. 18	426	272	63.8	154	36.2

The material in this study was obtained from two sources, the management of the mill and the women workers. From the pay-roll books were copied the names of the men and women, with their attendance records for a one-year period. As many mill workers are on a piece basis, it was impossible in many cases to obtain the actual number of hours worked each day, therefore only a record of attendance could be made. If an operative worked at all on a given day he or she was marked "in," if no work was done, "out." This method of necessity underestimated the actual time lost but could not be avoided on account of the character of the pay-roll records. Of course, since days worked and not hours constituted the unit of measurement, the problem of tardiness could not be considered in this study.

From the mill records could be ascertained the number and duration of each individual absence, the relation of lost time to possible working time, the amount of time lost by men and by women, and also by the workers in various mills and in different departments,

and the number of separations taking place, according to season of the year and according to occupation. Information was given by the mill management in each case concerning any educational or welfare work being carried on and concerning conditions existing during the period studied which might have affected the absence or turnover in that particular mill. Through the cooperation of the managements opportunity also was given to make brief inspections of the working conditions in the mill and to take records of temperature and light.

Home visits were made to 2,354 women, or more than one-half of those for whom records of absence were obtained from the mill books. On these visits the worker's absence record, copied from the pay rolls, was carefully reviewed by the worker and frequently by her entire family, and the causes of her lost time were given. Other facts concerning the worker also were secured on these visits—age at beginning work and character of her first job, present age, nationality, marital condition, length of service in her present mill, why she left her last job, composition of her family, and to some extent her household duties. All these facts were felt to have a possible relation to her absences or to her change of position, and in connection with the work conditions have been carefully recorded and considered.

The period covered by the study was the calendar year 1922. This seemed to be a fairly normal year for textiles, succeeding, as it did, the depression following the World War. An effort also was made to select mills where work was running normally. No records were taken from mills that had shut down for more than two weeks during the year or where a short week of three or four days had been worked. The fact that the period covered by the study was one year and that what happened prior to January 1 and following December 31 of that year was, except where home visits were made, unknown to the investigator necessitated the establishment of certain arbitrary rules as to what should be considered absence and what should constitute a separation. It was finally decided to take a man's or woman's working time during the year from the day that his or her name first appeared on the pay roll to the day it last appeared, and to count as absences all interruptions from work which occurred during this period. This without doubt would result in a greater amount of absence than would be reported in an individual plant where the management could fix its own standard of where the dividing line should be drawn between absence and separation, but it had the advantage of showing what actually occurred to the individual mill operative in the matter of short and long absences from the mill during the year.

In the report a table is given (Table X) which illustrates by three different methods the average number of days lost per worker; first,

by including every absence in the entire time between the first and last appearance of the worker's name on the books; second, by considering that all workers losing more than 24 consecutive workdays were separated from the service and constituted new employees if, and when, they returned; and third, by considering all those with an absence of more than 12 consecutive days as so separated. Throughout this report the study of absences is based on the first method—that of counting all absences, however long.

In the method used the number of separations which took place during the year included only those workers who left and did not return during the year, with the exception of those whose names did not appear on the pay rolls for the last week in December. These were not considered as separations because this week was in some cases a rather slack time in the mills, and a number of workers, especially women, took the week off to catch up on household duties. This method of counting as separations only those workers who did not return to the same mill during the year would give a much smaller number of separations than the "quits" reported in single establishments, where usually a definite limit is fixed as to the length of time a worker may be absent and still be carried on the books. It was, however, considered wiser in this study to classify as separations only those persons who left the mill and did not return within the year 1922 and merely to show in a table the increase in turnover which would occur if all men and women with absences in excess of 24, or even of 12, days were classed as separations. For the women who were visited more accurate information could be obtained as to whether they had left the mill and had taken other work during their long absences, or whether they had been kept at home by illness or other causes; but for the other women whose records in the mill were taken and for the men only such facts could be used as were shown on the mill books.

The material used in this study was collected between the middle of January and the middle of November, 1923. All records were copied by agents of the Women's Bureau, and the information from the women workers also was given directly to the agents during calls on the workers in their homes. The most generous cooperation was given by the managements of the various mills and by the workers themselves. Without such aid from both sources it would have been impossible to obtain the many interesting facts contained in this study.

SUMMARY

I. Scope.

1. Number of mills visited—18 (9 in the North and 9 in the South).
2. Number of records on absenteeism and turnover—10,541 (4,338 for women and 6,203 for men).

3. Number of women interviewed as to causes of absence—2,214.

4. Number of women interviewed who reported reason for leaving their last job—1,066.

II. Labor force.

1. Women constituted 41.2 per cent of the workers in all mills, 43.5 per cent of the workers in northern mills, and 39.6 per cent of these in southern mills.

2. One-third (33.7 per cent) of the women in northern mills as against 1.4 per cent of the women in southern mills were foreign born.

3. Only 4.2 per cent of the women were under 16 years of age, over one-fourth (27.5 per cent) were under 20, almost a third (31.8 per cent) were from 30 to 50 years of age, and 1.5 per cent were 60 years and over.

4. Nearly one-third (32.5 per cent) of the 2,303 women for whom records were obtained reported an over-all period of employment of 15 years and over in cotton mills.

5. The average size of the families reported was 5.17 persons, and the average number of wage earners per family was 2.82.

III. Lost time.

1. In all mills men and women combined lost 18.6 per cent of their possible working time, women lost 21.9 per cent, and men 16.2 per cent. In northern mills men and women combined lost 13.2 per cent, women lost 16.4 per cent, and men 10.7 per cent. In southern mills men and women combined lost 23.3 per cent, women lost 27.4 per cent, and men 20.7 per cent.

2. In mills in isolated communities the workers lost 16.9 per cent of their time, in mills in larger centers 19.9 per cent.

3. In mills with scheduled daily hours of less than 10, men and women combined lost 13.2 per cent of their time, women lost 16.3 per cent, and men 10.6 per cent; in mills with scheduled daily hours of 10 or more, men and women combined lost 21.7 per cent of their time, women lost 25.6 per cent, and men 19.2 per cent.

4. In mills with scheduled weekly hours of less than 55, men and women combined lost 13.4 per cent of their time, women lost 16.3 per cent, and men 10.7 per cent; in mills with scheduled weekly hours of 55 or more, men and women combined lost 22.3 per cent, women lost 27 per cent, and men 19.5 per cent.

5. The amount of absence varied with the season of the year, but by men and women combined and by each sex more time was lost in August and in July than in any other month, and less time was lost in January and in December.

6. Of all the departments, the spinning (21.2 per cent) showed the largest proportion of time lost and the carding (13.1 per cent) the smallest for men and women combined. This is also true when men and women are taken separately; women in the spinning department lost 23.9 per cent of their time, and men 18.2 per cent; women in the carding lost 14.7 per cent, and men 11.1 per cent.

IV. Causes of lost time.

1. Of the reasons given by 2,214 women, more than three-fourths (78.9 per cent) were personal causes, the principal ones being illness of self, illness of others, home duties, rest, recreation, and another job; about one-fifth (19.5 per cent) were mill causes, such as "shut-down," "no work," "laid off," and accident in the mill; and 1.6 per cent were general causes, such as dispute, strike, and weather.

2. The most important personal cause was illness of women, which was responsible for almost one-fourth of all lost time (23.2 per cent).

The average number of days lost by all women workers on this account was 10.2.

The proportion of women interviewed who had lost time from illness was 61.3 per cent.

The average number of days lost on this account by women who were ill was 16.6.

3. The other important personal causes, with proportion of time lost due to each, were as follows: Home duties 19.8 per cent, illness of others 9.6 per cent, another job 7.6 per cent, rest 5.1 per cent, and recreation 4.5 per cent.

4. Women in the 30-and-under-40-year age group showed a larger proportion of lost time (23.2 per cent) than did any other age group, and averaged 54.7 days per woman during the year.

Women of 60 years and over showed the smallest proportion of lost time (15.3 per cent), and girls under 16 showed the lowest average number of days lost (28.3).

5. Single women lost 15 per cent of their time and an average of 34.1 days; married women lost 27.9 per cent and an average of 59.3 days; widowed, separated, and divorced women lost 19.1 per cent and an average of 45.6 days.

6. The greatest number of women lived in families with two wage earners, self and one other, and these women lost 23.4 per cent of their time. With the increase in the number of wage earners in a family was no corresponding increase in the proportion of lost time. There seemed to be little connection between the number of wage earners and the amount of time lost, but the cases having only one wage earner lost less time during the year than did those having more than one wage earner, excepting only the groups with eight or nine wage earners.

V. Turnover.

1. The turnover figures used in this study represent the number of separations which occurred during a year's period divided by the average number of full-time workers. According to this method, the turnover rate for men and women combined in all mills was 142.3 per cent, the rate for women was 142.5 per cent, and the rate for men 142.1 per cent.

2. The turnover rates as shown by three methods[4] of fixing termination of employment (see p. 104) were as follows:

	Termination when name disappeared finally from books within year period	Termination after 24 days absence	Termination after 12 days absence
Total	134. 4	164. 6	203. 8
Women	134. 9	173. 8	228. 9
Men	134. 1	158. 5	187. 3

3. According to the method used in this report, the turnover rate in northern mills for men and women combined was 94.9 per cent, for women 93.8 per cent, and for men 95.7 per cent; the rate in southern mills was 189.5 per cent for men and women combined, 198.4 per cent for women, and 184.3 per cent for men.

4. For all mills the shifting element constituted 56.1 per cent of the working force, and only 25.7 per cent worked each month in the year in the same mill.

5. The turnover rate varied widely in the different mills, ranging from 41 per cent in one mill to 377.3 per cent in another, with a majority of the mills reporting between 125 and 300 per cent.

6. Of all departments, the spinning showed the highest turnover rate for men and women combined, or 150.3 per cent; in this department the rate for women was 165.5 per cent and the rate for men 134.4 per cent.

7. The turnover rate for men and women combined was highest in the autumn (39.7 per cent) and lowest in the winter (28.3 per cent). The turnover rate was highest for women in the autumn (41.8 per cent) and for men in the summer (39.2 per cent), and lowest for women in the spring (29.7 per cent) and for men in the winter (24.7 per cent).

8. Mills located in large centers reported almost twice as high a turnover rate as did mills located in isolated communities.

[4] In this comparison of rates by the three methods one mill where complete data could not be secured has not been included.

9. In regard to scheduled weekly hours there was an increase in the percentage of turnover with each longer-hour group with the single exception of the group of mills in the over-48-and-including-54-hour classification. A marked contrast occurred, however, between men and women, for while the men in the 55-hour group showed a lower per cent of separations than did those in the 48-hour group, the women working a 55-hour week had almost twice as high a rate as had those who worked 48 hours.

10. In the three mills where some definite effort was made to hold the workers, the per cent of turnover was considerably lower than in the mills where no such effort was made. In the three mills specified the proportions of employees who showed continuous service periods of six months or more were 66.3 per cent, 55.9 per cent, and 77.6 per cent, respectively, while the average proportion of workers in all mills with this length of service was but 38.6 per cent.

VI. Causes of turnover.

1. Of 1,066 women who reported the reason for leaving their last job, 944 had left cotton mills and 122 had left other work places. Separations due to voluntary quits of mill employees accounted for 91 per cent of the total, and those due to involuntary reasons, such as "shutdown," "no work," "laid off," and "discharged," for only 5.3 per cent.

2. Personal causes were responsible for 70.7 per cent of all separations of women from mills; home duties and illness were the principal causes not only among the personal but among all reasons.

VII. Negro workers.

1. In the mills included in this study were 477 negro women and 86 negro men.

2. The proportion of time lost by men and women combined was 17.4 per cent, but the length of time during which this loss occurred averaged only 86.1 days per worker; negro women lost 18.5 per cent of their time, and negro men 13.9 per cent.

3. The turnover rate for men and women combined was 319.7 per cent; for women, 366.9 per cent; and for men, 180.2 per cent.

PART II

THE LABOR FORCE

No study of the industrial life of women can mean a great deal without some knowledge of the personal and home life of the workers. A visit to the homes and a talk with the women workers in the cotton mills not only supplied definite information about their lives but presented a picture of their surroundings outside their working hours and gave some idea of their standards and habits of living.

HOME ENVIRONMENT

According to the reports concerning the living conditions of the hundreds of women visited by the agents it is apparent that the homes of the workers can be divided into two distinct groups—those in mill villages and those not in mill villages. The work in the mills themselves was much the same whether in a small or large center; at least the difference did not depend on whether the mill was surrounded by a village or not, but the homes of the operatives, and to a large extent their lives, were circumscribed by this fact.

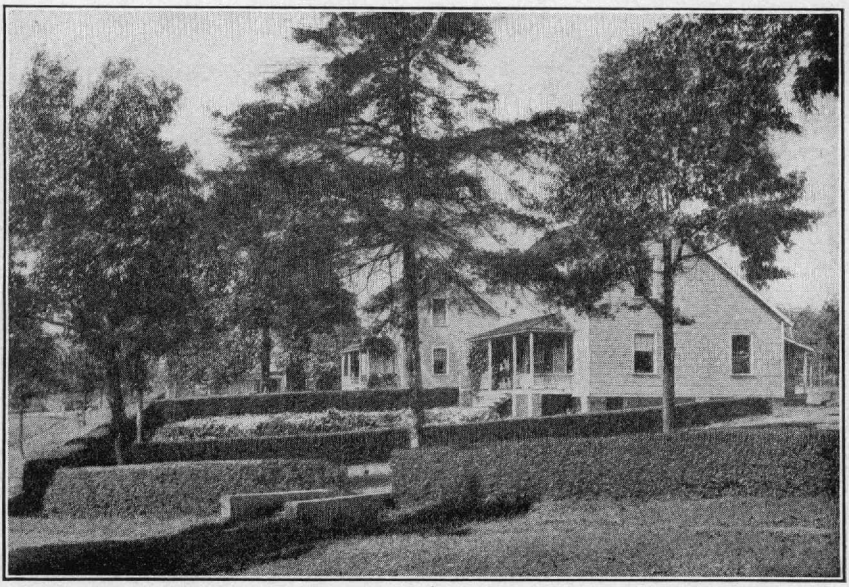
In 1906 Mr. Holland Thompson gave the following description of a southern mill village (49, pp. 140–141):

> When the mill is built in the woods, the trees are left for shade, but oftener some bare, worn-out hillside is the site of the village. Little grading is done, and the supporting pillars on one side may be 6 feet higher than on the other, giving the house the appearance of being perched upon stilts * * *.
>
> These mill houses have no running water, as few villages have a water system. Water is generally secured from wells, though occasionally from hydrants. The privy on the lot may be an unpleasant feature. A mill village is often monotonous. The general style of the houses and the colors are similar. Often streets and sidewalks are neglected, and the whole atmosphere may be depressing.

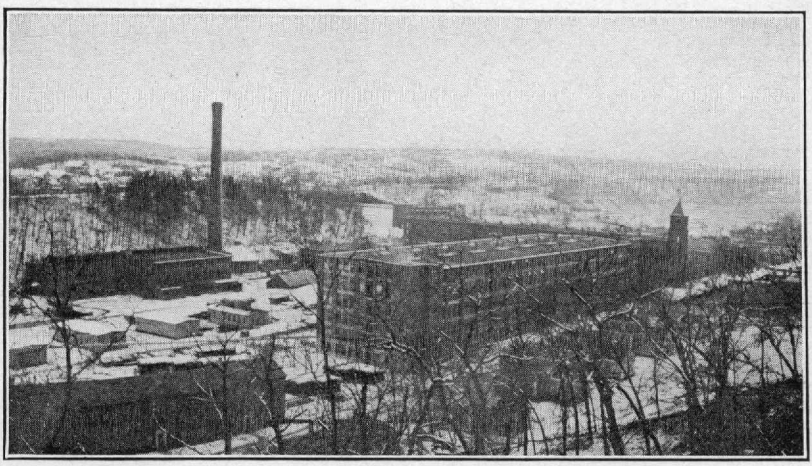
Although this brief description is true of many mill villages at the present time, many also have nicely painted white houses with piazzas, running water, electric lights, trees, hedges, and gardens. A good many managements are as proud and interested in their villages and mill houses as they are in their mills; nevertheless, they would probably agree with a statement made by a prominent southern manufacturer that the villages "are a very great handicap, and sometimes the mill owners would be very glad to unload and get rid of them * * * it is a totally unproductive arrangement." (48, p. 52.) In the South it is probable that the houses in the mill villages as a whole compare favorably with houses of other industrial workers,

although as a rule the surroundings are more barren than in a town or ordinary village. In the North, however, this is not necessarily the case, as the mill villages are older and have more vegetation. Nevertheless, in all mill villages, North and South, their worst features are their isolation and the lack of social and educational opportunities. By educational opportunities is not meant schools but the chance for workers to have normal relations and interests outside and unconnected with their mill work; that is, some separation between their private and industrial life. Mr. Tannenbaum in his study of the South briefly outlines as follows the limitations of the mill village: "It is built behind the mill, and is an adjunct to it. Its destinies are spun by the mill and it has no life of its own. It is not a town." (48, p. 58.) This summing up applies to most mill villages and accounts for certain conditions which exist especially in the South, where the village system is more prevalent than in the North.

Whenever any group of people is set apart, such selection tends to create a class and develop class consciousness both within and without the group. The mill village system has done this in the South, and, as Mr. Tannenbaum puts it, "once a mill worker always a mill worker" (48, p. 43), is certainly true of most operatives in southern mills. The workers who have come recently from the farms or mountains are rather apologetic about joining the ranks of "mill hands." One woman who was visited said that she felt "right bad" to have her daughter go into the mill and hoped her neighbors "back home" wouldn't hear of it. After becoming a mill hand there is little mixing with neighbors living in adjoining towns. A woman who was a resident of a town but who had formerly lived on a farm was surprised to learn that government agents were calling on the mill people. The mill village was located on the edge of the town where she lived, but she never had been inside one of their houses, nor did she know of anyone who had; and she was frankly curious about their homes, as though they belonged to people of a totally different race. Yet these very mill workers may have come from the same section and from the same stock as she herself. It is true that occasionally a more neighborly spirit is observed, as in the case of one townswoman who offered to visit in the mill village and help teach the older women, who had never had an opportunity to learn, to read and write. As a rule, however, the attitude of the inhabitants of adjoining towns is one of complete detachment from the mill village and its life, and no people, proud and shy, are going to force their way into a community that looks down on them as "just mill hands." The effort must be made by the neighbors in such communities and by people everywhere, in at least their thinking, to realize that mill people are like themselves, only with the handicap of



UNUSUALLY GOOD HOMES FOR WORKERS IN A MILL VILLAGE



A MILL ON THE OUTSKIRTS OF A TOWN

few opportunities and little leisure, and that the occupants of a mill village need outside aid to acquire these things.

The position of the mill operative is socially better in the North than in the South. There are fewer mill villages in the North, and therefore there is less isolation. The cleavage is less between mill operatives and other workers than it is along racial lines. In the North, for example, an American family which had two daughters, one employed in a mill and the other in a store, seemed aware of no feeling of inferiority, the only emphasis being on the fact that the girl in the mill made more money than the one in the store. However, a mill may be composed predominately of French-Canadians, Poles, Slavs from central Europe, or Italians, and these foreign elements will not mingle with the native population of neighboring towns, more because of the difference of language and customs than of occupation. A mill village in the North where many workers are of foreign birth is surprisingly uninfluenced by its American setting. Many of the women visited could speak no English even after living in this country for 15 or 20 years, and in one village the children playing outside the houses and on the streets were speaking a foreign language. Even with the added barrier of language, however, the inhabitants of the northern mill villages appeared to have wider interests and to suffer less from class distinction than did the workers living in the southern mill villages. The northern workers seemed to have more of a place in the social whole and to have established roots in their surroundings, while the southern operatives, as a rule, lived in a world apart and changed from one mill to another for very slight reasons or even for the sake of change.

The number of women it was possible to locate and visit in the year following that of the pay-roll period was indicative of the tendency of the workers to move about in this fashion. In 11 of the 18 mills visited 50 per cent or more of the women could be located. All except three of these mills were in the North, while only one northern mill was in the group in which less than 50 per cent of the employees could be found and visited. (Table II in the appendix.)

Frequently a family of mill workers makes a round of several mills and then returns to the mill whence it started because "it seems more like home"; very seldom do workers speak of returning to the original mill village because it *is* home. This desire for a home and background is a very natural one, and it is probable, as Mr. Frederic Lee remarks, "that industrial workers like other human beings prefer to find their niche in the world and remain in it." (38, p. 52.) If this be true there must indeed be a need for reorganization of living or working conditions, or both, in an industry where so many workers show such restlessness and desire for change. Mr. P. S. Florence (21, p. 387) points out that this desire for change is considered a

manifestation of unrest closely connected with fatigue, and he lays emphasis on the tremendous importance of a careful study and correction of the causes which contribute to these conditions. For after all, this desire for change shows maladjustment of the environment to the worker or the worker to his environment, and much further knowledge will be needed before a satisfactory solution can be reached.

COMPOSITION OF THE LABOR FORCE

A considerable change has taken place in the last 125 years in the relative number of men, women, and children employed in the mill. Various reports show that before the manufacture of cotton goods became such an important industry the number of children was very large. In 1788, according to Mr. George Bigwood, when the British cotton industry was in its infancy and was carried on in the home, many children were employed in the earlier processes; that is, more than a fourth of the workers in the home were children and about one-fourth were women. (6, p. 36.) After machinery had been introduced and most manufacturing was done in factories, another English authority (3, p. 462) states that over one-half of the 1,500 workers in a cotton mill in the early part of the nineteenth century were children under 15 years of age.

At about the same period in the United States a report of the Committee of Manufacturers to Congress gave a brief summary of the conditions of cotton manufacturing in this country, which placed the number of women and female children at 66 per cent of the total number employed, while boys under 17 years constituted nearly a fourth. (4, p. 59.) According to Moses Brown (62, p. 174) most of the work in the old Slater mill near Providence was performed by children between the ages of 8 and 14 years of age. As cotton manufacturing in the United States increased, more and more children were employed, as well as more men and women, but the proportion of children has shown a steady decrease since 1899 and with slight fluctuations the proportion of women also has decreased. (53, p. 40, tab. 6; 55, pp. 159, 161, tab. 3, 5.) How these proportions have shifted is illustrated by a large mill near Boston where the force in 1825 consisted of 48 males and 297 females, and in 1907 of 554 males and 262 females. (57, p. 30.) Secretary Gallatin in 1810, after receiving reports from 87 mills, estimated that in 1811 the cotton mills of this country would employ 500 men and 3,500 women and children. (1, p. 88.) It should be remembered that at this time very little weaving was done in mills and this estimate, therefore, was probably for yarn mills and can not be compared with the majority of mills of to-day. There are no census figures for this early period, but in 1870 (51, p. 395, tab. 8 B), when appeared the first

report in which men, women, and children under 16 were listed separately, the proportion of women was 51.4 per cent and of children 16.9 per cent; from 1870 until 1909 the proportion of women operatives showed a steady decrease. From 1909 to 1914 there was a slight decrease in the proportion of women, followed by an increase in the next five years. (55, p. 159, tab. 3.) In this present mill study 41.2 per cent of the operatives were females. (Table 1.) This figure includes those under 16 as well as those over and is very nearly that shown by the census for 1919, which reported 42 per cent of the total force to be females. (55, p. 159, tab. 3.)

The tendency to employ a smaller proportion of women is attributed by Mr. Melvin Copeland (10, p. 114) to the fact that more men are available than in the earlier pioneer days, and that the heavier machinery—the result of technical changes—run at higher speed requires greater muscular and nervous effort and therefore calls for more men. It would seem probable also that the steady increase in wages has played a larger part in making men "more available" and in rendering the work of women not quite so necessary to increase the family income.

The figures in the present study show that the mills in the North had a larger proportion of women on their pay rolls than had the mills in the South, the figures being 43.5 per cent and 39.6 per cent, respectively. (Table 1.) This may have been due to the fact that with fewer industries in the South, more men were obtainable, or to the employment of boys in southern mills on work done by women in the North. The character of the work, whether on coarse or fine goods, did not seem to affect the proportion of women to any extent in this study, as all of the mills selected, with two exceptions, were engaged on similar work. When the work is coarse, the proportion of those, usually men, employed in the preliminary processes will be greater, and there will be fewer fine frames, which in most cases are run by women. However, in the mills manufacturing coarse goods more spinners, also women, will be required, as the coarser yarn runs off the bobbin faster than do the finer counts. The same is true of spooling, so that the extra women necessary in a fine-goods mill because of more intermediate frames are offset by the increased number of spinners and spoolers required when coarse cotton thread is being spun. The large part played by the management or by circumstances in deciding the number of women who shall be employed may be shown by comparing two mills in the North engaged in the same sort of work and two mills in the South also on similar work. Of the two northern mills, one reported 52.9 per cent of the force to be female and the other reported 37.7 per cent, while in one of the southern plants women constituted 47.1 per cent of the force and in the other they formed 32.7 per cent of the employees. In the different

departments where both men and women worked the variation in the proportion of men and women was wide and seemed to bear no relation to the work itself. (Table I in the appendix.) According to unpublished data, one mill weaving coarse goods had 12.2 per cent of its weavers women, and another, also on coarse goods, had 62.2 per cent women. In one spinning room where yarn for sheetings was being spun 80.7 per cent of the force were women, while in another also manufacturing yarn for sheetings, only 41 per cent were women. It was rather surprising to find that the proportion of women was less where the operatives lived in mill villages than where they lived in noncompany-owned houses. (Table XXXV in the appendix.) This may have been because the young boys in the family, instead of going into other industries, went to the mills, since it is customary, when a family lives in a mill house, for the members who are old enough to work to be employed in the mill.

NATIVITY

In the Southern States, where the greatest amount of shifting had taken place, the problem of adjustment, at least, was not complicated by different nationalities and many languages. The workers were almost entirely native born of native stock, and in only one mill in the South were there any foreign-born workers reported. (Table III in the appendix.) This mill was located in a seaport, and 15 women visited here reported that they were born in a foreign country. In the other eight mills visited in the South not one woman was born outside the United States. This is not surprising when one realizes the very small proportion of foreign-born workers in the South. The following percentages computed from the census figures for 1920 give some idea of the proportion foreign-born women constituted of the women workers in different divisions of the country. (54, p. 364, tab. 10.)

Division	Per cent
New England	27.5
Middle Atlantic	21.4
South Atlantic	1.9
East South Central	.6
West South Central	4.3

Thus the proportions of foreign-born women were almost negligible in the parts of the country included in this study, especially in the East South Central division, which includes the States of Kentucky, Tennessee, Mississippi, and Alabama. In recent surveys made by the Women's Bureau of women workers in four Southern States—Georgia, South Carolina, Alabama, and Mississippi—only 0.3 per

cent, 0.4 per cent, 0.5 per cent, and 0.3 per cent, respectively, of the women reporting on nativity were foreign born. From these figures, it is certain that the women workers of the South are homogeneous, at least so far as their American birth is concerned. In the early days of the cotton industry in the North, much the same condition in regard to foreign-born workers was reported as exists in the South to-day. Mrs. Robinson, writing of early mill days in Lowell, says that no foreigners appeared until after 1840 (46, p. 12), when the Irish workers began to come to the mills. At the time the present study was made, over 80 years later, it was found that about two-fifths (41.3 per cent) of the women working in New England mills who reported on the subject were born outside the United States. Not far from three-fifths (57.7 per cent) of the women in one mill whose nationality was reported were foreign born, and in no mill in the New England group was the proportion of foreigners as low as 25 per cent. The mills in the Middle Atlantic States had a larger proportion of foreign-born women workers (16 per cent) than had the southern mills but a considerably smaller proportion than had the New England establishments.

The proportion of foreign-born women in the northern mills was about one-third of all the women workers. (Table III in the appendix.) The country which supplied the greatest number of foreign-born women to the northern group of mills was Canada, which contributed 55.8 per cent of all the foreign-born women workers in this section. From Great Britain, which ranked next in the number furnished, came 14.7 per cent, and from Ireland, one of the first countries to send workers to the New England mills, came only 2.6 per cent of the foreign born. Outside New England the majority of foreign-born workers came from Italy and central Europe. Workers from different countries were found congregated in certain centers rather than scattered throughout the Northern States. For example, in New Bedford operatives from Great Britain, Germany, and Portugal were found, while most of the Poles were in a mill in central Massachusetts. Canadians of French descent were, however, an exception to this condition, for they were found in large numbers in all the New England mills and also in a neighboring State.

AGE

Cotton mills have always demanded the services of many young persons, and although very young children are no longer employed the number of workers under 18 years of age is higher than in most other industries. The 1920 census reports that for all manufacturing and mechanical industries children from 10 to 18 years constituted but 6.3 per cent of the total number of workers, while for cotton mills

the corresponding figure was 16.5 per cent, nearly three times as great. (54, pp. 35, 482, tabs. 4, 8.) The tendency in cotton mills is, nevertheless, to employ an increasing number of older women, and a glance back over the past 40 years shows that the proportion of older workers has steadily increased.

Table 2 shows that the women in this present study were rather evenly divided between those 25 years and over and those under 25, but the older group were, of course, scattered over many more years than were those under 25 years. The number of workers under 20 was a little more than one-quarter (27.4 per cent) of all the women who reported on age. A very small proportion (6 per cent) of the workers were 50 years and over, but a surprisingly large number of women (31.8 per cent) were in the middle-age group, 30 and under 50 years. This was a larger proportion of women than in the group under 20 years, but this would naturally be the case, as the number of years included in the period also was greater.

TABLE 2.—*Age of the women interviewed, 2,349 reporting, by mills North and South*

Mill	Number of women reporting	Women whose age was—															
		Under 16 years		16 and under 20 years		20 and under 25 years		25 and under 30 years		30 and under 40 years		40 and under 50 years		50 and under 60 years		60 years and over	
		Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
All mills	2,349	99	4.2	546	23.2	482	20.5	334	14.2	435	18.5	313	13.3	104	4.4	36	1.5
Northern mills	1,249	46	3.7	280	22.4	251	20.1	178	14.3	221	17.7	176	14.1	73	5.8	24	1.9
Southern mills	1,100	53	4.8	266	24.2	231	21.0	156	14.2	214	19.5	137	12.5	31	2.8	12	1.1

When the youngest age group, girls under 16 years of age, is considered, the number and its relation to the total are found to be small. Only 4.2 per cent of the 2,349 women who reported their age were under 16 years. This is a smaller percentage than was found by the census figures collected in 1920, when female operatives under 16 years were found to constitute 6.8 per cent of the total female force. (54, pp. 39, 386, tab. 4, 6.)

There has been so much said concerning the large proportion of young workers in southern mills that it is surprising to find such little difference in this respect between the northern and southern mills included in the present study. In the South the proportion of females under 16 years of age was 4.8 per cent of the total number of female workers, and in the North it was 3.7 per cent.

In fact the per cent is slightly higher for the South than for the North in most of the groups up to that of 50 years and over, when the proportion of women is more than twice as high in northern as in

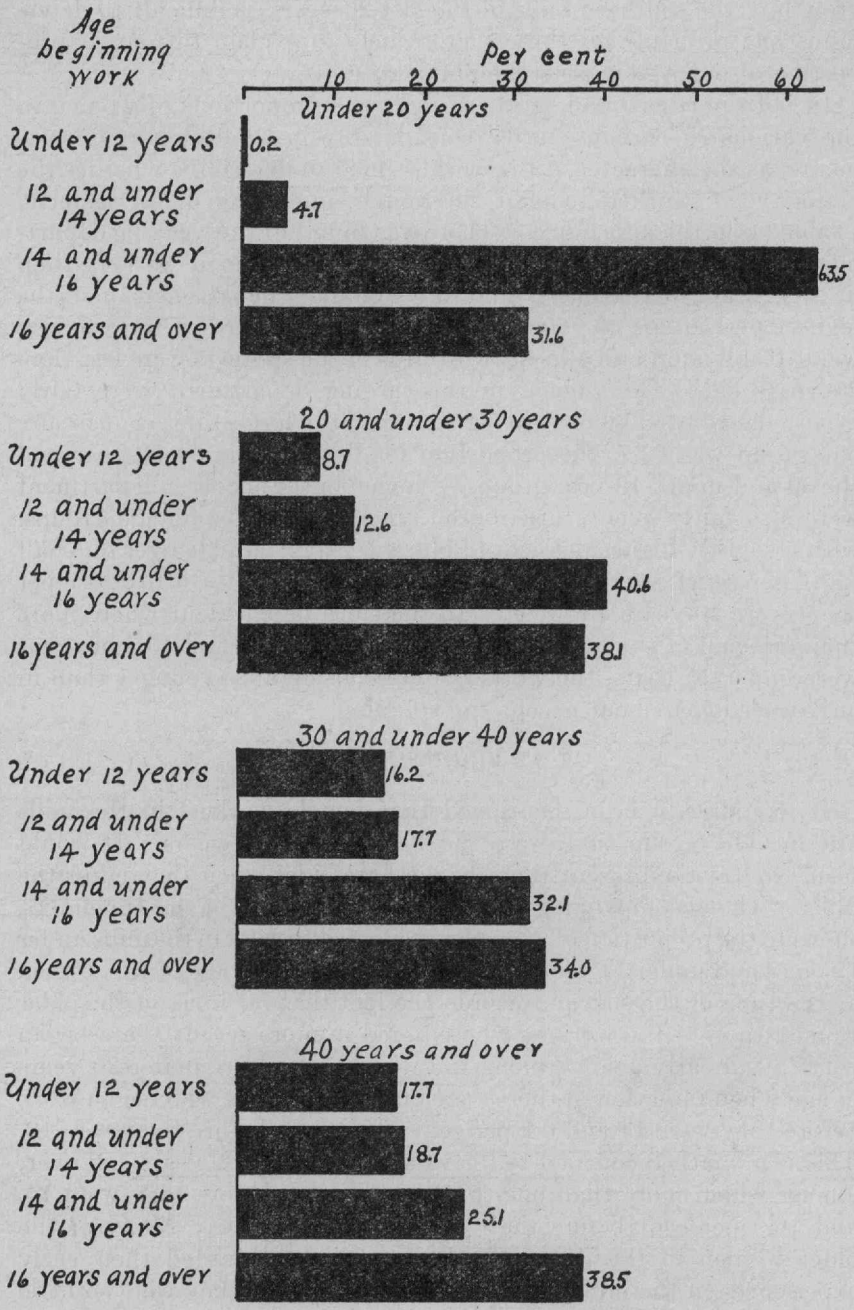
southern mills. Whether the larger proportion of older women in northern mills is due to the cooler climate, to the shorter hours of work, to the somewhat higher age at beginning, or to the greater growth of the southern mills in the last 20 years, is difficult to determine, but probably all these factors help to explain this larger proportion of older women in the northern mills.

In both northern and southern mills the proportions of women in the various age groups varied considerably in the different departments, as the character of the work seemed to determine whether the majority of workers should be young, middle-aged, or elderly. (Table IV in the appendix.) There was found in the weaving department for all mills a larger proportion of older women workers than in any other department, and the spinning department had the highest percentage of young girls. Nearly one-third of the weavers were 40 and over, and almost two-thirds of the spinners were less than 25 years old. The women in the carding department were fairly evenly distributed among the age groups; the largest per cent in any one group was 22.7, the proportion for both the under-20-year and the 30-and-under-40-year group. Women in the spooling department were also fairly evenly distributed among the different age groups, with a slightly higher per cent of older workers; a little over one-half (56.1 per cent) were 25 years and older, and about a fifth (20.7 per cent) were 40 years and over. In the cloth department where more than one-half of the women were less than 25 years and 40.3 per cent were under 20 years, the workers were considerably younger than in any other department except the spinning.

AGE AT BEGINNING WORK

It has already been mentioned that female workers in the mills are an older group than were the workers in past years. It would seem that at the present time the girls are older when they enter the mills. The accompanying chart (based on Table V in the appendix), showing the proportion of women who started to work in the mills under 12 or 12 and under 14 years of age in relation to the age of the women at the time of the survey, records the fact that far more of the older women than of the workers who entered in more recent years began work at an early age. Among the women who were under 20 years of age when interviewed there were only 4.9 per cent who began work before they were 14 and 0.2 per cent who began before they were 12. This is in marked contrast to the women who were 30 years and over, among whom more than one-third began work before they were 14, and 16.9 per cent before they were 12 years of age. Many of the older women in the course of the interview recounted their early experiences in the mill, some of them stating that they were so little when they first went to work that they had to stand on boxes to

Age of women at beginning work, by age at time of survey



reach the bobbins. One woman, after talking of her own life said, "I'm right glad my children aren't let do it to-day." Mrs. Robinson, in her account of early mill days in New England (46, pp. 30–31), tells of going to work with many other little girls when she was 10 years old. They all worked from 5 a. m. to 7 p. m., just as the older women did. She goes on to say that the children of those days, although their hours were exceedingly long, did not work very steadily, at least in some of the mills. Mrs. Robinson was a doffer and worked about 15 minutes in every hour, and when not actually engaged in doffing she and the other little girls were allowed to "read, knit, and even play out in the mill yard." The part she minded most, and could not get used to, was getting up so early in the morning, and this practice is still felt to be a hardship by many mill workers in places where the starting hour is early.

As the speed of the machines and the arduousness of the work increased, hours were shortened and fewer children and more men and women were employed. The Commonwealth of Massachusetts passed a law in 1842 limiting to 10 a day the hours of children under 12 years of age employed in the mills, thus showing a faintly dawning realization of the necessity of safeguarding the child in industry. (46, p. 31.)

It is true, however, that even to-day most of the workers in the cotton industry start work when young. Of the 2,003 women who reported their age at beginning work, 90.5 per cent began before they were 20 years old, and nearly two-thirds (62.8 per cent) entered the mills between the ages of 14 and 18 years.

A larger proportion of the women in the South than in the North began to work when very young. The greatest number in the South entered the mill between the ages of 12 and 16 years, while in the North the majority entered between 14 and 18 years. The proportion of women who began work before they were 14 was more than twice as high in the South as in the North. On the other hand, the per cent of women who began mill work at 30 years or over was four times as high in the southern as in the northern mills.

TIME IN THE TRADE

The large number of women who began work in the mills of the South late in life is rather surprising in view of the fact that the proportion of older women actually at work in the mills was higher in the North than in the South. These conditions would therefore indicate a longer length of service in the northern than in the southern mills. Most women who work in cotton mills begin their wage-earning career in the mills and spend most of their working life there; this fact seems to be equally the case in the two sections of the country. Of the 2,336 women who gave information of their early working life, only 333 women (14.3 per cent) tried other work before

going into the mills. (Table V in the appendix.) These women who went to work in other industries were slightly older on beginning to work than the women who went directly to the mills, since the proportion of the former group who started work before they were 14 years of age was but 10.5 per cent as compared with 22.1 per cent of the latter group. After they have once learned to tend a machine the women seldom leave for other work, or if they do try other jobs, they drift back to the mill sooner or later. During a shutdown a few years ago in a northern city some of the mill operatives tried to obtain work in other factories, but as a rule they were unsuccessful, because, as several managers explained, "they'd leave us and go right back to the mills as soon as they opened." Of the women who were working in the mills at the time this study was made, 85.7 per cent began work in a mill, and although some probably tried other jobs during the period covered by their cotton-mill work, they eventually drifted back to the mills.

A study made by the Metropolitan Life Insurance Co. among industrial policyholders (15, pp. 37–38) showed that a higher percentage of mill operatives than of any other manufacturing group were in the same employment when the policies were paid as when they were issued. The proportion for all occupations of those who remained in the same work was 41.5 per cent compared with the 56.7 per cent of mill operatives, thus showing considerably more shifting from one industry to another for industrial workers as a whole than for mill workers.

The two conditions just studied, that cotton operatives enter the mills at an early age and that they usually remain during most of their working life, naturally result in a long service period, longer than is found in most other industries. If the service records obtained in this study of mill workers are compared with those of workers in all industries, it is apparent that the service period for the mill workers is considerably longer. The following brief summary of the service records of women workers in three States and of the mill workers shows that a third of the mill operatives have been in the cotton industry for 15 years or more, while for women in all industries less than a tenth in each case reported so long a time as 15 years in the same industry.

Survey	Per cent of women as much as 15 years in their trade
Missouri	8.2
New Jersey	7.2
Rhode Island [1]	6.3
Cotton mills	32.5

[1] Cotton operatives were not included in Rhode Island.

It must be remembered, however, that this length-of-service period for a textile worker refers to the time she began work in the mill to the time she last worked there, in other words her over-all period, and does not mean the actual time she was at work in the mill. This difference can be realized if a comparison is made of the actual time worked in the mill and the over-all period in which it occurred. (Table VI in the appendix.) For example, of the 524 women who actually worked 5 but under 10 years, only 314 showed an over-all period of this length, whereas the rest had an over-all extending over a much longer time, in a few instances as much as 30 years. Also, there were only about two-thirds as many women whose actual working time was 15 years or more as those who had worked off and on during such period.

A larger proportion of women in the northern mills, in spite, or perhaps because, of beginning at an older age, were found in the long-service periods than were recorded for the southern mills. Almost one-quarter of the operatives in the North had worked 15 years and longer, and more than a third had an over-all period of 15 years or over. In the southern mills only 16.6 per cent showed this long record of actual work, and 29.2 per cent such a long over-all period. It will be noticed that there is less difference between the North and the South in the proportion of women whose over-all was 15 years and over than in the proportion of women who actually worked these years. In the following brief summary, showing the per cent of women with over-all and actual time worked as specified, this is true of every group but that of under 10 years, when the difference between the actual time worked and the over-all period was the same for the women North and South.

NORTHERN MILLS

Time worked	Under 3 years	Under 5 years	Under 10 years	15 years and over
Over-all	21. 5	32. 7	51. 1	35. 3
Actual	25. 8	38. 9	62. 1	24. 5
SOUTHERN MILLS				
Over-all	26. 3	39. 8	60. 0	29. 2
Actual	33. 1	48. 7	71. 0	16. 6

It was found true, not only of the total working period of northern and southern female operatives but when the year 1922 was more intensively studied, that the women in the North worked more steadily and lost fewer days in the year, as well as fewer long periods of months or years, than did the workers in the South. Whether

this difference was due to the warmer climate of the South, the health and habits of the workers, the hours of work, or the character of management, it was difficult to say from the material obtained. It may be that each contributed its share, and when the reasons for absence as reported by the workers are studied, and conditions found in the mills and the homes considered, further light may be thrown on the extent to which different causes were responsible. The reasons for absences related by the women tell only half the story so far as causes are concerned, for although they give the fact that resulted in absence, the underlying source of the fact is seldom given. For example, when illness or "too tired to work" was given as the cause, no attempt was made to relate the influence of different conditions of work and living as contributory factors.

CONJUGAL AND LIVING CONDITION

The large number of married women in the textile industry probably increased the number of necessary absences, for when there is illness in a family it is the woman, not the man, who stays at home and does the nursing. The census of 1920 (54, pp. 693, 697, tab. 4, 9) shows the proportion of married women in manufacturing and mechanical industries as 24.5 per cent of all the women employed, and the corresponding proportion in the textile industry as 27.3 per cent. The increasing importance of married women in the textile industry may be seen by comparing their relative importance in 1910 and 1920. (54, p. 697, tab. 9.) Married women increased in the textile industry 60.5 per cent during this 10-year period, while the total number of women who worked in textiles increased but 20.9 per cent. The proportion of married women among all the women working in textile mills in 1910 was 18.9 per cent as compared with 27.3 per cent in 1920. From State studies made by the Women's Bureau it is found that 26.7 per cent of the employed women in Alabama, 19.9 per cent of those in Kentucky, and 20.2 per cent of those in Missouri were married. The mill operatives visited in the present study show a proportion of married women much larger than these, namely, 40 per cent. (Table VII in the appendix.) This per cent does not include the women who were widowed, divorced, or separated, whose home duties and responsibilities were certainly as heavy as were those of the married worker. These women with broken conjugal ties did not comprise a large proportion of the women workers (13.1 per cent), but when it is realized that more than 1 in every 10 women visited was responsible for a family, with no husband to help in the support or share in the responsibility, their problems should be emphasized out of all proportion to their numbers. If the children were little the mother would do practically all the housework, getting up at 4 or 5 o'clock

in the morning to cook the breakfast, prepare the dinner, and care for the children. Sometimes there would be the additional care of a cow or chickens. Even when the father was living at home and working in the mill with the mother it was the woman usually who did the housework and attended to the cow, pig, or chickens belonging to the family. Since women in the mills often are engaged on the same work as men and have the same hours, these additional home burdens borne by the women seem hardly fair, and force one to realize that in the transition from home making to industrial life women apparently have kept the burdens of the home and added those of the factory. One widow expressed the fear that she would not last until her two little boys were old enough to earn their living, and the marvel is that so many women do manage to carry the double burden for so many years. The most difficult time for the married worker is when the children are small, because then, when the family is large, the earnings of the father are not sufficient to support the family and the mother must go to work just at the time when the children most need her care. In a study made by the Women's Bureau of the census schedules from four selected cities it was found that in the city with the largest proportion of women breadwinners, two-thirds of the breadwinning women who were or had been married had children and three-fifths of these mothers had children under 5 years of age. (60, pp. 7, 10.) The part that one mother interviewed in the present study minded most was the anxiety of not knowing what was happening at home while she was in the mill. The oldest child at home was 11, and the mother said that all day, as she tended the looms, she wondered if the baby had got hold of the matches or fallen off the veranda, and she was almost afraid to go home at night for fear of what she might find. One worker whose husband had left her because of her bad temper said that she knew she was hard to get along with, but that if she had only one job instead of two she knew she wouldn't be so cross.

The exact number of women who were running two jobs was hard to determine, for, although the wives and mothers had many home responsibilities, the daughters and sisters frequently carried equally heavy burdens. In two studies of wage-earning women made in 1888 (56, p. 350) and 1893–94 (33, p. 26) it was found that not far from two-thirds of the women living at home helped with the work of the household. The great majority of the women interviewed in this study (96.3 per cent) were living at home, and it was unusual to find a woman—whether wife, mother, daughter, or sister—who did not help to some extent with the work of the home. (Table VIII in the appendix.) The size of the family and the number of workers in the mill determined to a great degree the amount of housework done by the employed women. If the wife and mother

or a grown daughter did not work in the mill and stayed at home the wage-earning women were not required to bear the brunt of the housework. As a rule among the women mill workers the wife and mother, or mother without the husband at home, did more of the housework than did either the daughter or the sister.

COMPOSITION OF THE FAMILY

In the following table, showing the average size of the family and the average number of wage earners, the woman worker interviewed is classified under her principal relationship, although, of course, a wife might also be a sister, and the mother of young children be herself the daughter of an older woman.

TABLE 3.—*Composition of the families of the women interviewea wno were not living alone, 2,225 reporting, by relationship of woman and by mills North and South*

ALL MILLS

Relationship of woman interviewed [1]	Number of women reporting	Persons in the family			Average size of family	Average number of wage earners	Average number of persons to each wage earner
		Total (including woman interviewed)	Number at work	Number not at work			
Total	2,225	11,504	6,282	5,222	5.17	2.82	1.83
Wife	283	882	695	187	3.12	2.46	1.27
Wife and mother	627	3,122	1,599	1,523	4.98	2.55	1.95
Mother	238	1,072	550	522	4.50	2.31	1.95
Daughter	886	5,587	2,934	2,653	6.31	3.31	1.90
Sister	148	646	399	247	4.36	2.70	1.62
Other relative	43	195	105	90	4.53	2.44	1.86
NORTHERN MILLS							
Total	1,183	6,076	3,446	2,630	5.14	2.91	1.76
Wife	158	480	380	100	3.04	2.41	1.26
Wife and mother	316	1,535	820	715	4.86	2.59	1.87
Mother	71	290	173	117	4.08	2.44	1.68
Daughter	525	3,318	1,784	1,534	6.32	3.40	1.86
Sister	87	341	223	118	3.92	2.56	1.53
Other relative	26	112	66	46	4.31	2.54	1.70
SOUTHERN MILLS							
Total	1,042	5,428	2,836	2,592	5.21	2.72	1.91
Wife	125	402	315	87	3.22	2.52	1.28
Wife and mother	311	1,587	779	808	5.10	2.50	2.04
Mother	167	782	377	405	4.68	2.26	2.07
Daughter	361	2,269	1,150	1,119	6.29	3.19	1.97
Sister	61	305	176	129	5.00	2.89	1.73
Other relative	17	83	39	44	4.88	2.29	2.13

[1] A married woman without children is called a wife; one with children but no husband is called a mother; and one with both husband and children is called a wife and mother. In the group "Other relative" are included nieces, cousins, granddaughters, and more distant relatives.

In a consideration of the difficulties of the woman worker in running her two jobs it is important to realize that 627 of the 2,225 women reporting on the subject (28.2 per cent) were both wives and

mothers who worked in the mill and also carried their home obligations. These women formed the next to the largest group reporting, and were exceeded in number only by the group of daughters. In this study, since the record of each woman was taken, in some cases a family was reported more than once, for in the same home there might be a wife and mother, a daughter, and a sister of the wife, which would make the composition of that family appear in three different individual records. The whole study is based on the individual woman's problems and responsibilities and not on the family unit.

The families with daughters working were largest, having an average of 6.31 members. The families in which the wife with no children was working averaged only 3.12 persons, but the mothers who worked, whether living with or away from their husbands, had considerably larger families and, therefore, more home responsibilities. The average size of all the families where workers were interviewed was 5.17, or about five persons. This is usually considered a normal family and is the number of members upon which most cost-of-living studies are based. This average is considerably smaller than that reported 15 years ago in the cotton-textile industry, when, the average number of persons in a family was found to be 6.6. (57, p. 414.) In the same report the difference in size of family between the North (6.5 persons) and the South (6.6 persons), was found to be slight in spite of the fact that the majority of workers in the North were foreign born and almost all in the South were native born. The present study also found the average number of persons per family almost the same in the two sections, that for the South being only a fraction higher. How extensively the industry is a family industry is shown by the fact that all but 86 of the 2,348 mill women who reported on the subject were living with their immediate families or with relatives.

Most of the women who worked had other members of their family in the mill. This would naturally be the case in mill villages, where in order to obtain a house a family must contribute its share of workers. Formerly there was a definite standard fixed by the mill management of one worker to each room rented, or at least two workers to three rooms, but now in most firms there are no such hard and fast rules, although a family with a number of workers is naturally considered the most desirable tenant. More than one-half of the women reporting lived in families of 5 or more persons, with an average of 3.09 wage earners. It is interesting to note that the average number of wage earners increases very steadily as the size of the family increases, and that families of 3 or 4 persons show on the whole a much lower average number of wage earners than do those where the group is 5 persons or more. The average number of wage

earners per family 15 years ago was 3.7 (57, p. 414), while in the present study, regardless of the size of the family, it has been found to be 2.82. Thus in the past 15 years there seems to have occurred a decrease both in the size of the family and in the number of wage earners per family among cotton-mill operatives.

The average number of persons to a wage earner was 1.83, but as both large and small families are included in this calculation it gives only a very general picture. In the families where the wife without children was working, naturally the average number of persons per worker was lower than the average for all families, since these families were smaller than the average, having, as a rule, either 2 or 3 members. In the families where the wife and mother, or the mother, was the wage earner, the greatest number of persons to each wage earner was found, a significant fact showing large economic pressure existing in these families. More detailed figures than are published in this report show that nearly one-third of the families where a woman was both wife and mother had more than 5 members in the family, and where the mother was the worker a little more than one-fourth of the families contained more than 5 persons. Thus among 2,225 women there were 865 cases where the mother was working and bringing up children, and over a fourth of these had good-sized families of more than 5 persons.

The findings, already noted, that the average-sized family consisted of 5 persons and that there was an average of 1.83 persons to a wage earner emphasize the fact that the cotton industry is a family industry, not one where the head of the family works and supports wife and children. In the South a worker supported a slightly greater number of persons than did a worker in the northern mills. One reason for this probably is that there were more children under 13 in the families of the southern than in those of the northern workers. (Table IX in the appendix.) In southern families of not more than 5 persons children composed 19.8 per cent, or nearly one-fifth, of the members, while in the North the proportion under 13 years of age was but 14.2 per cent. In the larger families, those of 6 and more members, the proportion of children was considerably higher, and they constituted 33 per cent of the members in the South and 30.2 per cent of those in the North. The responsibility of caring and providing for these families can be imagined when one realizes that slightly more than one in every three of these children was under 5 years of age.

The proportion of families with wives and mothers in the mill was somewhat larger in the South (45.9 per cent) than in the North (32.8 per cent), and the proportion of daughters in the mill was smaller in the South (34.6 per cent) than in the North (44.4 per cent).

PART III

LOST TIME

No manager of a manufacturing establishment questions the tremendous importance of a steady labor force which reports day after day ready for work. When workers from one department lose time and the usual amount of work is not produced, the whole establishment is affected, as an operation in manufacturing depends, in so many instances, on the proper functioning of the operations which precede and follow it. Many expedients are used to prevent the disorganization in production resulting from absence, but after all they are only expedients and not the ideal steady running of the factory, which is the end and aim of all managements.

The time lost and the labor turnover of workers in cotton mills, in regard both to extent and cause, are discussed in this study. The workers themselves reported what they considered the immediate causes, such as illness, home duties, rest, or recreation, but in addition to these, and in many cases bound up with them, were other causes due to general industrial or living conditions. How far these latter causes affected the amount of lost time, working through the immediate cause given by the worker, it is difficult to determine, but from the increased rate of absence shown where certain conditions of employment or living existed, it is apparent that they constituted factors which bear both directly and indirectly on lost time.

In an analysis of the data, absence will first be considered from the purely objective viewpoint of the actual amount recorded on the pay roll. This material taken from the mill books included the records of both men and women during the entire year of 1922. The amount of absence which occurred may thus be compared with that which has been reported from other plants and industries. A comparison is made within the group of mills surveyed as to the varying rate of absence recorded when differences of location, management, size of the plant, and time of the year are considered. There is shown the effect, if any, of working conditions in the different mills on the amount of time lost, and the composition of the work force as to age, marital condition, and home responsibilities is considered in relation to the days lost from work. The direct causes which occasioned the lost time as reported by the women workers themselves are then studied, as well as the relative importance of the different causes examined in the light of the operative's work and home responsibilities.

The method of computing lost time varies with different firms. In some plants a week's absence is allowed, in others two, three, or four weeks, before an employee is considered as having left the firm. Owing to the need for uniform treatment of the records it was deemed advisable for the present study to treat the single year as a unit, to consider as absence all time lost between periods of work, regardless of length or cause, and to designate as separations only those whose names were actually dropped from the pay roll during the year. However, as already stated, it is of interest to observe the difference in absence and turnover rates when this method is used and when the practices are followed of considering as a termination of employment, first an absence of more than 12 days and next an absence in excess of 24 days.

Appendix Table X shows that the average amount of lost time per employee is about twice as high when all absences during the entire year are taken into account (28.3 days) as when the system is used of considering all absences of more than 12 days as separation, in which cases the scattered absences throughout the year averaged 14.1 days per employee. Moreover, this table shows how many days, nearly one-half, were lost in long absences of over 12 days. When the limit for absence is 24 days the average lost time was 16.4 per employee, about two points higher than when the limit is 12 days. The weaving room and cloth room show more long absences than do the other departments.

LOST TIME ACCORDING TO SEX

Table 4 on lost time shows the number of men and women on the pay roll during the year, the number of possible working days,[1] and the actual days lost in each mill according to the first method just described. The time lost by the women was 21.9 per cent and by the men 16.2 per cent of their possible working days. It must be noted that the average length of service for the women was a little longer than that for the men, being 150.7 days for the women and 146.5 for the men. This, of course, does not affect the proportion of days lost to possible working days, but it does show that although the women lost a greater proportion of time, they lost it over a somewhat longer average work period.

[1] The number of possible working days, for the year studied, was secured by totaling for all names on the pay rolls the number of working days from the date an employee's name first appeared on the books to the date of its last appearance.

TABLE 4.—*Time worked and time lost during the year, and per cent days lost are of possible working days,*[1] *men and women employees, by individual mill North and South*

Mill	Men and women					Men					Women				
	Number of names on pay roll during year	Number of possible working days[1]	Number of days worked	Days lost		Number of names on pay roll during year	Number of possible working days[1]	Number of days worked	Days lost		Number of names on pay roll during year	Number of possible working days[1]	Number of days worked	Days lost	
				Number	Per cent of possible working days				Number	Per cent of possible working days				Number	Per cent of possible working days
All mills	10,541	1,563,137	1,272,063	291,074	18.6	6,203	909,273	761,545	147,728	16.2	4,338	653,864	510,518	143,346	21.9
Northern mills	4,204	729,161	632,598	96,563	13.2	2,374	404,085	360,888	43,197	10.7	1,830	325,076	271,710	53,366	16.4
No. 1	346	64,711	55,568	9,143	14.1	163	32,915	29,833	3,082	9.4	183	31,796	25,735	6,061	19.1
No. 2	569	73,818	58,983	14,835	20.1	269	31,225	26,820	4,405	14.1	300	42,593	32,163	10,430	24.5
No. 3	484	113,021	101,028	11,993	10.6	283	67,864	61,878	5,986	8.8	201	45,157	39,150	6,007	13.3
No. 4	287	44,637	39,984	4,653	10.4	104	15,439	14,229	1,210	7.8	183	29,198	25,755	3,443	11.8
No. 5	416	86,565	75,896	10,669	12.3	259	54,540	49,110	5,430	10.0	157	32,025	26,786	5,239	16.4
No. 6	772	110,227	97,643	12,584	11.4	460	59,646	54,070	5,576	9.3	312	50,581	43,573	7,008	13.9
No. 7	199	27,027	22,921	4,106	15.2	106	14,432	12,624	1,808	12.5	93	12,595	10,297	2,298	18.2
No. 8	510	74,813	63,717	11,096	14.8	362	47,961	40,865	7,096	14.8	148	26,852	22,852	4,000	14.9
No. 9	621	134,342	116,858	17,484	13.0	368	80,063	71,459	8,604	10.7	253	54,279	45,399	8,880	16.4
Southern mills	6,337	833,976	639,465	194,511	23.3	3,829	505,188	400,657	104,531	20.7	2,508	328,788	238,808	89,980	27.4
No. 10	480	116,711	96,963	19,748	16.9	323	82,139	69,717	12,422	15.1	157	34,572	27,246	7,326	21.2
No. 11	223	43,804	34,123	9,681	22.1	118	24,834	20,595	4,239	17.1	105	18,970	13,528	5,442	28.7
No. 12	525	77,762	60,997	16,765	21.6	318	46,993	38,202	8,791	18.7	207	30,769	22,795	7,974	25.9
No. 13	1,005	119,946	85,191	34,755	29.0	625	76,398	57,098	19,300	25.3	380	43,548	28,093	15,455	35.5
No. 14	757	80,731	61,454	19,277	23.9	449	40,718	31,502	9,216	22.6	308	40,013	29,952	10,061	25.1
No. 15	1,478	179,608	144,570	35,038	19.5	805	95,185	79,860	15,325	16.1	673	84,423	64,710	19,713	23.4
No. 16	1,078	93,649	66,098	27,551	29.4	676	56,940	40,617	16,323	28.7	402	36,709	25,481	11,228	30.6
No. 17	365	60,201	43,042	17,159	28.5	243	41,687	31,366	10,321	24.8	122	18,514	11,676	6,838	36.9
No. 18	426	61,564	47,027	14,537	23.6	272	40,294	31,700	8,594	21.3	154	21,270	15,327	5,943	27.9

[1] For the year studied, the number of working days from date an employee's name first appeared on the books to date of its last appearance, totaled for all names on the books.

The high per cent of time lost by both men and women is shown when we compare the 16.2 per cent lost by the men and the 21.9 per cent lost by the women with records from other industries. In a report published in 1917, which covered a 16-week period, the lost time of the men was 5.5 per cent and of the women 7.6 per cent of their possible time. (40, p. 47.) According to another report, on the shipyards during the war, the lost time of the men in steel-ship yards over a nine-month period was 17.8 per cent and in wooden ones 13.2 per cent (13, p. 387), but these were regarded as very high rates and were due largely to war conditions. In a plant making paper novelties and employing both men and women, the average amount of time lost was found to be 5.2 per cent for the women and 3.5 per cent for the men (34, p. 144); this plant, however, was most intelligently managed and had an efficient employment department, which probably reduced the amount of lost time. A study made in a munitions factory by Dr. H. M. Vernon, reported that the time lost by men was 5.5 per cent of their possible working time and that lost by women 7.7 per cent. (61, p. 60.) In the present study the absence rate for women is considerably higher that the rates reported in any of the foregoing studies, while that for men is exceeded only by the per cent of lost time reported for steel-shipyards during the war.

VARIATION IN LOST TIME IN INDIVIDUAL MILLS

When single mills are considered, the lowest rate of lost time which was recorded in any one mill was 11.8 per cent for women and 7.8 per cent for men. (Table 4.) These rates also are higher than those in any of the studies just referred to, except the shipyard figures. It must be remembered, however, that some of the figures quoted were from special plant records and that when absence or turnover rates are carefully kept in plants the management is obviously interested in these facts and presumably desirous of acting on the findings. In the present study figures were taken from mills which kept no such employment records, a condition true of the majority of cotton mills throughout the country, the few establishments where accurate employments records are kept being exceptions.

The variation in the amount of lost time that occurred in the different plants was considerable and ranged, for men and women combined, from 10.4 to 29.4 per cent, but in every case the proportion of time lost was less for the men than for the women. Men, therefore, showed themselves better "timekeepers" in the cotton mills than did women. This better timekeeping of the men is not confined to mills but coincides with the findings quoted from other factories and may be due to causes which will be discussed later.

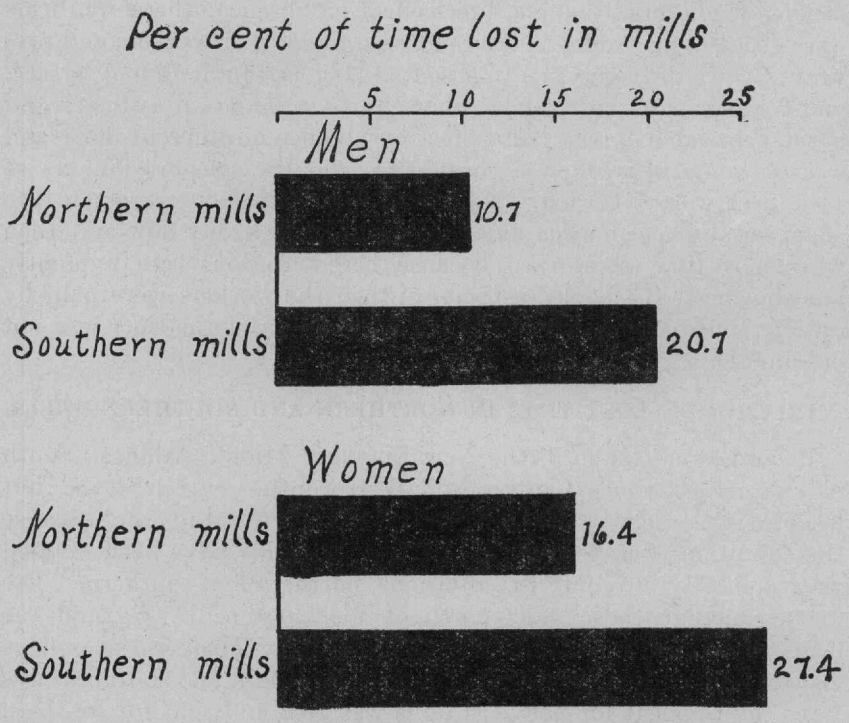
The variation in the per cent of lost time which has been noted in different plants is due to many factors, some of the most important

being locality, type of management, and hours of labor. Locality has been considered both in its broad sense, that is, the general part of the country in which an establishment is located, and in its narrower meaning, where emphasis is placed on the mill's immediate surroundings whether city, small town, or country. In regard to type of management, it was possible to classify by certain definite conditions which might have a direct effect on absence; therefore, firms were grouped according to their efforts to hold their workers and prevent absence through visits to absentees, bonuses for length of service, and conditions of work, or to other efforts to maintain a steady and permanent labor force. The effect on absence of different daily and weekly hours of work was considered, and the scheduled hours of each firm were recorded. No attempt was made to ascertain the effect on absence of occasional overtime or of a day now and then when short time was worked, because these variations were frequently not shown on the books, especially when the workers were paid by output, and in such cases accurate information of this sort was not obtainable.

VARIATION IN LOST TIME IN NORTHERN AND SOUTHERN MILLS

Records were taken in the New England, Middle Atlantic, South Atlantic, East South Central, and West South Central States, but because of the relatively few plants covered by the study and because the conditions found seemed to warrant it, mills have been divided geographically into only two divisions, northern and southern. The former include those mills north of Washington, D. C., and the latter those south and southwest of this city. The per cent of days lost for men and women in all mills, both northern and southern, was 18.6; the per cent for northern mills was 13.2 and that for southern 23.3, the proportion being much higher in the South than in the North. (Table 4.) The same condition holds true when men and women are considered separately as when they are tabulated as a unit. The women in all the northern mills combined lost 16.4 per cent of their time as compared with 27.4 per cent lost by the women in the southern mills. The men in the North lost 10.7 per cent and those in the South 20.7 per cent of their possible time. In two mills in the South the women lost over one-third of their possible working time, and in seven of the nine mills included in the southern group they lost more than a quarter of such time. The men in the southern mills had a better record, as in only two mills was more than a quarter of their possible working time lost and in four mills the time lost was about a sixth. In the North neither men nor women lost as much as a quarter of their possible working time, and in five mills the men lost less than a tenth.

The causes behind this larger proportion of lost time in the South than in the North may be due to a number of different conditions, each contributing to the final result. There are fewer holidays in the South than in the North, and the workday is longer as a rule, so that there is less time for rest, housework, or recreation. Moreover, the climate is more depressing. Causes of the time lost by the women



North and South will be discussed in considerable detail in the next section.

THE EFFECT OF THE SPARE-HAND SYSTEM ON LOST TIME

The habit of taking time off may be stronger in the South, although the custom is so complicated with the spare-hand system prevailing in the southern mills that it is difficult to tell how much of the lost time is due to the desire of the worker and how much to the system. The spare-hand system, as it is called, is practiced in most southern and in a few northern mills. The custom is to have more names on the books, and more workers reporting at the mill each morning, than are necessary. Each regular worker has her own set of frames or looms, but there are certain extra or spare workers kept on the books of the overseer in each department to fill in when the regular

worker is absent. If the number of extras or spares carried is more than is usually needed, they are given enough work barely to support them, and if the regulars are not absent enough days to supply the spares with the necessary amount of work, the regular workers are "asked out," in the phraseology of the mill. This practice means that when the regular workers report in the morning they are asked by the overseer or second hand to go home and let a spare hand run their machines for that day. This system dates back many years in the South. We find in a description of southern mills written nearly 20 years ago, the following passage: "Every cotton mill in South Carolina recognizes that to have a full complement of labor in the mill each morning, it is practically necessary to carry a surplusage of 20 to 25 per cent of spare help." (37, p. 61.) From the present survey it would appear that, although the system still continues, the number of spares is declining.

One mill manager explained the spare-hand system as due to the need of providing his own labor surplus; though in towns or cities there is a labor supply to draw upon, there is none in a mill village. This is true to a certain degree, but, on the other hand, in many northern mill villages another system is found, and in southern cities with the possibility of a surplus labor supply the spare-hand system is still in use. It would seem then that the practice of keeping spare hands on the books and of having them to a certain extent share the work with the regular hands either is a condition peculiar to the South or is a survival of the earlier days of the cotton industry, when the workers were in a period of transition from an agricultural to an industrial life. Although the cotton industry has existed for many years in the South, nevertheless its rapid growth during the last 30 years has necessitated a continually increasing number of workers, most of whom are drawn from agricultural pursuits.

The proportion of spares to regulars in a mill in the South depends to some extent on the number of workers applying and on the judgment of each overseer as to the number he may need in his department, conditions which vary in different mills. In this study it was practically impossible to determine in each establishment the exact number of spare hands or their proportion to regular workers; the number varied throughout the year and a spare worker one week might be a regular worker the next, as the majority of spares wished to become regulars and were waiting for an opportunity to get their own machines. The following figures on the number of spares were based on the estimates of superintendents and overseers and were corroborated by the workers themselves in the interviews on the causes of lost time. According to one superintendent's records an average of 15.6 per cent of spares were kept on the books during 1922. Another superintendent estimated that about 15 per cent of

the people on the pay roll were spares. From the overseers in another mill it was estimated that the spares averaged 11.2 per cent of the total force. Four superintendents said they did not know just how many spares they had, and two of the four remarked, in almost identical words, "More than we want, but folks come from the farms and beg to be taken on, and if they can find a place in the village to live we give them a chance." It was generally agreed by the southern managements that during the past few years the prevalence of the boll weevil and the failure of many cotton crops had resulted in an influx of workers to the mills. In only one northern mill did the spare-hand system prevail, and in this mill operatives were so scarce that a surplus of workers rarely occurred.

It is very necessary in an industry like that of cotton manufacturing, where each process depends on the preceding one, that all the machines be kept running, and two other methods besides the spare-hand system described were employed to accomplish this result. One system was to hire a few experienced workers as part of the permanent force, pay them on a time basis, and shift them from one operation to another as there was need. The average number of absentees was estimated for each department, and the extras needed were added to the total force. This method was reported by management and workers as satisfactory except occasionally when an epidemic or unusual weather conditions resulted in a general labor shortage. Another method was to call on certain workers living near the plant to help out when there was a shortage in some department. This was not so well liked by the workers as the system just described, for they were frequently busy with household duties, and it was not always convenient to drop them in a hurry and go to the mill. They usually went, however, especially if they lived in mill houses.

A grouping of the mills according to the three different systems of labor policies just described shows, as would be expected, that the proportion of lost time in the possible working time is highest (23.4 per cent) in the first group, where the spare-hand system is used, next highest (20.1 per cent) in the mills where spares are called upon only if needed, and lowest (14.1 per cent) where a few extra workers are employed permanently in the mills. (Table XI in the appendix.) The method last described would therefore appear to be the most desirable from the point of view both of the management and of the workers. Other causes may have been somewhat responsible for the higher absence rate in the mills with the spare-hand system, but the figures in all the mills where the system was used and the general testimony of the workers seem to point strongly to the conclusion that the spare-hand system was a marked factor in the result.

MILL METHODS OF STABILIZATION AND LOST TIME

An effort was made in some mills to encourage steady attendance. Three mills had a nurse or welfare worker who made home visits at the request of overseer or superintendent when a worker was absent through illness or the cause of absence was unknown. Two mills gave bonuses for attendance, two gave vacations with pay for steady attendance, and one mill deducted half a day's pay if a worker lost too much time. Whether due to these efforts or not, five mills where one or more of these systems were in force showed slightly better timekeeping than did the mills where no effort was made to steady attendance. The per cent of days lost was 17.2 for these five mills as compared with 19.3 in the group of 13 mills where no effort to keep attendance steady was made. (Table XII in the appendix.) The three mills where the workers themselves seemed most interested were two where a vacation with pay was given after six months' service if no time had been lost except through illness or with the permission of the management and one where a weekly bonus was given after six months' service if no time had been lost except through illness. According to the latter system an absence of two weeks a year was allowed besides the time in case of sickness, and the amount of the bonus was increased for each year of service. If a worker lost more than her allowed time, her bonus began again at the six-months' rate and her time was counted from the date of her return to work. In this plant the proportion of lost days was 13 per cent, and in the mills where vacation with pay was given it was 16.9 and 22.1 per cent, respectively. This difference of absence rates in the plants where a bonus was given and in those where vacations with pay were allowed was not due entirely to the different results of the two systems but was due partly at least to the spare-hand system which prevailed in the last two mills and not in the first; possibly also to the different habits of the workers, as the two mills giving vacations were in the South and the mill paying a bonus for attendance was in the North.

SIZE OF MILL AND LOST TIME

In the mills as a whole but little effort was made either to know or to remedy the conditions resulting in lost time and labor turnover, and as the mills included in the survey are fairly representative of the industry, it may be said that cotton mills are behind many other industries in the effort made to stabilize employment. Plants which show a large percentage of lost time among the operatives are inefficient, although their machinery and equipment may be of the best, for lost time and excessively high turnover are a measurement of the inefficient employment of human beings just as machinery halted by breakdowns or by insufficient power is the result of inefficiency.

In the present study, when the number of full-time workers was less than 200 the mills were included in the group called "small mills"; when 200 or more than 200 full-time workers were necessary to run the mill it was classed in the group called "large mills." (Table XIII in the appendix.) This basis was used in preference to the number of spindles, because the workers rather than the machinery and the production were under special consideration.[2] Nine mills are in the "small mills" division and nine in the "large mills" group. The larger mills as a rule seemed to suffer considerably less from lost time than did the smaller mills. In the smaller mills 20.6 per cent of the possible working days were lost, and in the nine larger mills 17.6 per cent were lost. This difference may be due to the more efficient management of "large mills," shown by the fact that there was usually more welfare work carried on by these mills. In the present instance two of the "large mills" made some effort to stabilize employment conditions, while in the smaller mills only one made any distinct effort; also the method of employing regular "extras" instead of spare hands was in vogue in five of the "large mills" but in only one of the "small mills." In this consideration of lost time the size of the town and the location of the mill in the North or South would not be influential factors, as about one-half of the "large mills" and one-half of the smaller ones were in large towns, and the mills in each group also were fairly evenly divided between the North and South. How far the fact mentioned by Mr. Florence (21, p. 110) that "large groups carry more thrills than small" may result in drawing a more efficient type of worker, it is impossible to say, but it may be a contributing cause to the above findings.

However, if the size of the mill be measured by the number of spindles, the larger mills do not show a proportionate rate of absence lower than that of the "small mills." (Table XIII in the appendix.) In fact, the smaller mills have a slight advantage, their proportion of lost time being 18.3 per cent and that of the larger mills, those of 20,000 spindles or more, 18.8 per cent. The difference between the large and small groups is not very great, however, as most of the mills selected were small, only two having more than 40,000 spindles.

LOST TIME IN ISOLATED AND NONISOLATED MILLS

Possibly even more important than the size of the mill is its location. By this is not meant the section of the country, North or South, but whether the mill is situated in the country or a small town, where the one mill is the only industrial establishment of any importance, or in a large center of manufacture. The per cent of time lost by workers in isolated mills was found to be 16.9, and that in nonisolated mills nearly a fifth more, namely, 19.9 per cent.

[2] The average number of full-time workers for each mill was obtained by adding the number of days each employee worked and dividing by the number of days that the mill was in operation in 1922.

(Table XIV in the appendix.) Although this difference in lost time may be partly due to other causes than location, yet it is probable that the size of the town was an important factor in the increase of lost time, since in each group—isolated and nonisolated—there was about the same number of large as of small mills and approximately as many mills with long as with short hours.

LOST TIME IN RELATION TO SCHEDULED HOURS

In textile mills there is found a fair degree of uniformity so far as the work of tending the machines is concerned, but the hours, the working conditions, and the morale in the mills vary considerably. It is also true that the character and habits of the people in different sections of the country are dissimilar. How important each of these elements is in determining lost time it is difficult to say, but it would seem that at least the length of the working hours was clearly reflected in the proportion of time lost. Tables 5 and 6 show the findings in this study of the proportion of time lost in possible working time of men and women in the various mills according to their scheduled weekly and daily hours.

TABLE 5.—*Time lost during the year in relation to scheduled weekly hours of work, men and women employees*

Scheduled weekly hours	Men and women				
	Number of mills	Number of names on pay roll during year	Number of possible working days [1]	Days lost	
				Number	Per cent of possible working days
Total	[2] 18	10,541	1,563,137	291,074	18.6
48	3	1,569	229,677	28,333	12.3
Over 48 and including 54	5	2,177	417,917	58,694	14.0
55	7	2,978	444,158	95,549	21.5
Over 55 and under 60	3	3,008	377,316	86,558	22.9
60 and over	2	809	94,069	21,940	23.3

Scheduled weekly hours	Men				
	Number of mills	Number of names on pay roll during year	Number of possible working days [1]	Days lost	
				Number	Per cent of possible working days
Total	[2] 18	6,203	909,273	147,728	16.2
48	3	926	123,046	13,882	11.3
Over 48 and including 54	4	1,083	212,067	22,077	10.4
55	7	1,965	306,026	57,796	18.9
Over 55 and under 60	3	1,748	218,576	43,416	19.9
60 and over	2	481	49,558	10,557	21.3

[1] For the year studied, the number of working days from date an employee's name first appeared on the books to date of its last appearance, totaled for all names on the books.
[2] Details aggregate more than total because certain mills appear in more than one hour group.

TABLE 5.—*Time lost during the year in relation to scheduled weekly hours of work, men and women employees*—Continued

Scheduled weekly hours	Women				
	Number of mills	Number of names on pay roll during year	Number of possible working days [1]	Days lost	
				Number	Per cent of possible working days
Total	[2] 18	4,338	653,864	143,346	21.9
48	3	643	106,631	14,451	13.6
Over 48 and including 54	5	1,094	205,850	36,617	17.8
55	6	1,013	138,132	37,753	27.3
Over 55 and under 60	3	1,260	158,740	43,142	27.2
60 and over	2	328	44,511	11,383	25.6

[1] For the year studied, the number of working days from date an employee's name first appeared on the books to date of his last appearance, totaled for all names on the books.
[2] Details aggregate more than total because certain mills appear in more than one hour group.

The proportion of time lost by the women was considerably greater in the mills where weekly hours were 55 and over than in those with hours of 54 and under. The time lost in the mills with hours of 55 and over was much greater for both men and women than in the mills with shorter hours.

For women, the proportion of time lost in the 55-hour mills was twice as high as that lost in the mills with a schedule of 48 hours a week, and although the difference was not quite so great between the mills with 55 hours and over and those having a week of over 48 and up to 54 hours inclusive, nevertheless the difference in per cent was significant, 17.8 per cent of the total work time being lost by women in the latter group as compared to 27 per cent lost by those in the former.

The women in the two mills whose weekly hours were 60 and over [3] lost slightly less time than did those in mills with hours of 55 and under 60, but this difference might have been due to the fact that in one mill no regular spares were kept and extra workers were sent for only if necessary, while in the other the weaving room was the only department whose hours were 60 a week, the other departments operating on a shorter schedule.

In one of the mills the large proportion of women who were heads of families might have made for steadier timekeeping, as employment for them was probably more necessary, and in this mill it was found that 26.4 per cent of the women visited were either widowed, separated, or divorced, which was a much larger figure than the 13.1 per cent reported for all women visited.

The women working in the three mills in the over-55-and-under-60-hour classification lost a little less time than did those in the six mills whose scheduled weekly hours were 55. This very small

[3] In the weaving room only, in one of these two mills.

difference, one-tenth of a point, may have been due to the fact that the three mills were all larger than the six in the 55-hour group, and, as already noted, the large mills showed a lower per cent of absence than did the smaller establishments.

The proportion of time lost by the men under the different weekly schedules of hours corresponds very closely with that lost by the women, except that the per cent of lost time increases steadily with the increase in the number of weekly hours in every case but that of the mills with schedules of over 48 and up to 54 hours, inclusive. In these mills the lost time was less than in the mills running 48 hours a week.

The unconscious effort of the worker to adjust conditions to her capacity can be seen here, just as when output figures are recorded. When hours are shortened, the worker holds the production pace at which she can last, working rapidly if hours are short and not so fast if her strength must last over a longer period. When the machine sets the pace, the worker can not slacken her speed in order to husband her strength but must take time off in order to keep her health and hold her job. This slackening or voluntary shortening of hours by the worker is shown in a report of the National Industrial Conference Board, in which are contrasted nominal or scheduled hours and the actual number of hours worked by the wage earner. (41, p. 72.) In establishments where the nominal or scheduled hours averaged 50 a week, the actual week of the wage earners averaged 48.2 hours, or 3.6 per cent less; when nominal weekly hours averaged 55.7, the actual week of the wage earners averaged 52 hours, a shortening of the week by 6.7 per cent. The shortening was even more significant when the hours of plant operation were considered. The plants whose nominal week was 55.7 hours had an average of 53.6 hours of plant operation and an actual week per wage earner of 52 hours, and the firms with a nominal week averaging 50 hours had an average plant operation of 49 hours and an average of 48.2 hours of actual work per wage earner. This shows a much greater difference in the relative timekeeping of the workers in the plants with long and short hours. The shorter-hour group, with a possible week of 49 hours, worked almost these hours, while the longer-hour plants, with possible working hours of 53.6, showed a wage earner's week of but 52 hours. Mr. Florence summarizes such a condition by saying: "In short, as hours are increased nominally, a limit is approached to the actual hours worked, until the hours lost almost equal the hours (nominally) added. It is like a frog who climbed 3 feet up the well every day only to slip down 2 every night." (21, p. 330.)

In studying the hours worked by women in England during war time, Mr. Florence states that "without exception the least unavoid-

able lost time is found in the 42-to-44-hour week, where it is in no case above 3.3 per cent, and the highest unavoidable lost time in the cases of a 10-hour and two-shift day, where it is 6.4 per cent and 6 per cent, respectively." (21, pp. 329–330.) In the present study the women visited in the mills with a week of 54 hours or less lost but 15.8 per cent of their time, an average of 36.6 days per worker, while those who worked in mills whose scheduled hours were 55 and more lost 24.3 per cent, an average of 55.7 days. The days lost by the women in the shorter-hour group through illness and resting averaged 9.1 days per worker, and those lost by women in the longer-hour group on account of these reasons averaged 15.6 days, or about 70 per cent more.

The physical need of the worker herself to shorten hours when they were too long was illustrated by the result in one mill where frequently overtime was worked. One woman in this mill said, "If I work late I have a headache the next day and have to stay home," while several declared it was necessary to take a day off each week if they had to go back after supper to work.

In comparing the effect of varying hours as shown by lost time, the result is very much the same in the daily as in the weekly hours, that is, the same steady increase of lost time with additional hours. The chief difference in results between the weekly and daily hours is the greater amount of time lost under the long daily hours than under the long weekly hours.

TABLE 6.—*Time lost during the year in relation to scheduled daily hours of work, men and women employees*

MEN AND WOMEN

Scheduled daily hours	Number of mills	Number of names on pay roll during year	Number of possible working days [1]	Days lost	
				Number	Per cent of possible working days
Total	[2] 18	10,541	1,563,137	291,074	18.6
Over 8 and under 9	3	1,569	229,677	28,333	12.3
9 and under 10	4	1,815	338,115	46,640	13.8
10	9	5,343	781,330	159,406	20.4
Over 10 and under 11	2	1,762	200,677	54,032	26.9
11	1	52	13,338	2,663	20.0

MEN

Total	[2] 18	6,203	909,273	147,728	16.2
Over 8 and under 9	3	926	123,046	13,882	11.3
9 and under 10	4	974	186,544	18,903	10.1
10	9	3,197	473,727	85,086	18.0
Over 10 and under 11	2	1,074	117,116	28,516	24.3
11	1	32	8,840	1,341	15.2

[1] For the year studied, the number of working days from date an employee's name first appeared on the books to date of its last appearance, totaled for all names on the books.
[2] Details aggregate more than total because certain mills appear in more than one hour group.

TABLE. 6.—*Time lost during the year in relation to scheduled daily hours of work, men and women employees*—Continued

WOMEN

Scheduled daily hours	Number of mills	Number of names on pay roll during year	Number of possible working days	Days lost	
				Number	Per cent of possible working days
Total	[1] 18	4,338	653,864	143,346	21.9
Over 8 and under 9	3	643	106,631	14,451	13.6
9 and under 10	4	841	151,571	27,737	18.3
10	9	2,146	307,603	74,320	24.2
Over 10 and under 11	2	688	83,561	25,516	30.5
11	1	20	4,498	1,322	29.4

[1] Details aggregate more than total because certain mills appear in more than one hour group.

The women whose daily hours were over 8 and under 9 and those whose weekly hours were 48 lost exactly the same proportion of time, 13.6 per cent, but those whose hours were over 10 and under 11 a day lost 30.5 per cent of their time, a larger proportion than was lost in any one of the long-hour weekly groupings.

Almost one-half of the women, 49.5 per cent, had a day of 10 hours, and the time lost by these women was nearly one-quarter of their working time and almost twice as high a per cent as was lost by the women who worked a day of over 8 and under 9 hours. The women in the three mills where scheduled hours were more than 10 lost nearly twice as much of their possible working time as did the women whose hours were less than 9. In the largest group of establishments, those with a 10-hour day, are found seven in the South and two in the North. If the rate of absence in the two northern mills with a 10-hour day be compared with the rate in the three mills, also in the North, where daily hours were over 8 and under 9, the 10-hour mills are found to have 16.7 per cent lost time and the mills with daily hours of over 8 and under 9 are found to have 13.6 per cent. This comparison eliminates the differences of climate and habits of the worker in the various sections of the country, and, so far as possible, restricts the difference between the mills to that of hours of work.

The records of the men in the different mills, running on various daily schedules, show the lowest per cent of time lost in the 9-and-under-10-hour group, and not, as with the women, in the shortest-hour group, that with daily hours of over 8 and under 9. Whether this difference between men and women was due to a longer week day, which affects women more, or to other conditions existing in these four mills, it is difficult to determine. However, an examination of the figures of men and women in these mills shows a larger per cent of women to each woman's position than per cent of men to

each man's position, and this may have resulted in more women than men being "asked out" so as to provide work for others. The surplus of women over the number necessary to run the four mills is 106.8 per cent, and the surplus of men is 76.8 per cent, which difference means either a higher rate of turnover for the women or more extra hands on the books. The latter as well as the former reason may point to a greater susceptibility of the women to long hours, since the necessity for carrying on the books a larger proportion of women workers might be due to the need of the women to take more time off.

Another marked difference between men and women was the proportion of time lost in the same mill in the same department with a schedule of 11 hours a day. The conditions surrounding the men and the women were, as far as could be ascertained, identical, and yet the women lost almost twice as much time as the men. Numbers are too few in this group to permit conclusions, but when the fact is considered together with the other facts revealed by the tables it is evident that women are more susceptible to long hours than are men and find it necessary, because of illness or home duties, to lose more days from their work in the mills.

The largest proportion of lost time for both men and women was shown in the mills running on a daily schedule of more than 10 and less than 11 hours. More than twice as large a proportion was lost in these mills by all operatives as in mills where daily hours were between 8 and 9 a day.

Certain general conclusions may be deduced from these tables of lost time and hours of work; first, that lost time as a rule was considerably higher in establishments where daily hours were 10 and over and weekly hours were over 54 than in those where shorter hours prevailed; and, second, that the most efficient hours, measured by lost time, occurred in plants with daily hours of less than 9 and weekly hours of 48. It may be noted also that lost time showed a greater increase with the long day than with the long week, and that the proportion of lost time, both with the long week and with the long day, was more marked in the case of women than of men.

LOST TIME IN RELATION TO MONTH OF THE YEAR

The relative importance of weather conditions and their effect on the worker as shown by lost time varies with different industries and with the location of the plant. In an industry such as the textile it is necessary to have a certain amount of heat and humidity in the workrooms so that the yarn may run properly and not break. This heat and humidity is affected to some extent by the weather, but probably it is the combination of heat inside and outside the mill which makes the warmer months difficult for the textile worker.

In other industries the going to and from work is a factor to be considered in connection with the weather, but the textile worker as a rule lives near her work and the difficulty of transportation is not an important cotton-mill problem.

Appendix Table XV, on time lost in the various months of the year, is indicative of the effect of weather on the workers, although other causes may have contributed to some extent to the result.

The highest per cent of absence for women occurred in August, when nearly twice as much time was lost as in the fairly stable months of February and November. July had the next highest proportion of lost time, and May and September, with the same per cent, ranked third. January and December showed the lowest absence rate, but the January and December figures probably showed slightly less absence than was really the case, as all the workers who came in during January were counted only from the day of their entrance, and those who were absent before the last week in December, and did not return, had to be classed as separations. This method was necessary because records were obtained only for 1922, and it was impossible to tell whether a worker who entered during January was a new worker or merely one who had been absent, while it was equally impossible to determine whether one whose name was dropped from the pay roll in December was merely absent and would return in January or had left the mill. It is probable, however, that this classification did not decrease the total absence to any great extent, as the proportion of time lost in January and in December was not much less than that in November and February.

When the lost time of women in northern and southern mills is compared it is surprising to find that the per cent of time lost in the summer months of July, August, and September is slightly higher in the North than in the South. About the same proportion of lost time occurs in the two sections in June and November, but the northern workers lost a greater per cent in April than did those in the South, and the southern operatives lost more in February and March. It must be remembered, however, that spring comes earlier in the South and that spring illness and restlessness would be shown in March and possibly in February, rather than in April as in the North. In the winter months of December and January a greater proportion of time was lost in the southern mills than in the northern. From these figures it would seem that the warm weather increased absences both in the North and in the South, but that the hotter southern summers did not result in the increase of lost time that might have been expected. Perhaps one cause may be that, since the long, hot summers are a well-known fact, more pains are taken in the South to keep the mills cool and properly ventilated. Mr Young, an English student of mills who visited this country in 1902,

found in a little cotton mill in North Carolina that "although it was intensely hot out of doors and in the mill office * * * in the weaving rooms the air was pleasantly cool, far cooler and fresher than in some of the Fall River mills. The ceilings were high, the windows were wide open, and the air was moistened but refreshed by humidifiers which threw out a very fine spray of cold water." (66, p. 61.) Since Mr. Young's visit, some mills in the North and South have installed a system of air conditioning which gives an even temperature and humidity throughout the year, and where this is done the workrooms are, of course, far cooler than out of doors. The system, although good for the work and liked by some of the operatives, was complained of by others because of the lack of movement of air which was formerly obtained when the windows could be kept open.

The men showed the highest per cent of lost time in July, although August ranked nearly as high and April was a close third. The men's records for the individual months followed closely those of the women and for each month there was a variation of less than one point between the two sexes. The difference in lost time between men working in northern mills and those in southern mills is much the same as for women, the northern mills showing a high proportion of lost time in July, August, and September, and the southern having a more even distribution over the year.

For both men and women, North and South, the month of June shows steadier attendance than does the month preceding or that following. The largest per cent of time lost occurs for both men and women in July in the northern mills and in August in the southern. No facts obtained in this study throw light on the cause of this difference, although a week's shutdown in one of the northern mills in July may have affected to some extent the northern figures for that month. From these figures it would appear that the summer, and to a less extent, the spring were the periods when the greatest amount of lost time occurred, and that the location of the various mills did not alter this general distribution.

LOST TIME IN VARIOUS DEPARTMENTS

The amount of time lost by departments will be more exhaustively considered later in the report when the causes of lost time and the composition of the work force are studied, but it is well to note here the amount of time lost in each department and briefly to sketch the conditions of work which might have a bearing on the result. (Table XVI in the appendix.) Workers classed in the general group are omitted from the discussion, since they clean and scrub in all parts of the mill and can not be considered as belonging to any one department.[4] Lost time is high for both men and women engaged in this

[4] Most of these workers were negro women who were not included in Table XVI.

sort of work, for they are usually the older workers, either physically or mentally unfitted for the better paid jobs. The term "miscellaneous" covers the group of workers who assisted in the productive work but were shifted from one job to another and were not identified with any one department. Therefore these two groups, "general" and "miscellaneous," will not be discussed in this section, as the conditions surrounding their work are too varied to make possible any conclusions regarding absence.

The spinning room had the largest number of women workers and also the largest proportion of lost time for women (23.9 per cent), or nearly one-quarter of their possible working days. Spoolers lost a little over one-fifth (21.2 per cent) and women weavers a little under one-fifth (19.4 per cent) of their working time. Women in the cloth room were the best timekeepers, losing only 14.7 per cent of their workdays, and women in the carding room the next best losing 18.6 per cent. How much influence the character of the work has on attendance is difficult to measure, but that timekeeping is affected by the fatiguing nature of the work, among other causes, is fairly certain. Doctor Vernon (61, p. 61) found that on "rather light" work operatives lost 4.2 per cent of their time, on "moderate" work 5.5 per cent, and on "rather heavier" 7.4 per cent, in a week of 54 hours. He also reported that in another plant women engaged on moderately heavy work lost 14.2 per cent of their time, those on light operations which necessitated standing 12.1 per cent, and those on light sedentary operations 8.7 per cent. These figures would indicate that the amount of time lost by women workers is affected not only by the heaviness of the work but by whether it is performed standing or sitting. Spinners stand at their work, as do also spoolers and weavers, but the work of spooling and weaving is much more arduous than spinning. In the present study the fact that the best timekeeping was in the cloth room, where most of the women were sitting, would confirm the conclusions drawn by the report just mentioned. The work of spinning is lighter and easier than spooling or weaving, and yet more time was lost in this department than in any other, by both men and women. The spinning room itself, however, is apt to be warm and to contain more lint than either the spooling or weaving department. It was found during the home visits that 65.2 per cent of all the women visited in the spinning room who reported on age were under 25 years, and that 37.9 per cent were under 20 years of age, a much greater proportion of young workers than in the other four departments—carding, spooling, weaving, and cloth—where only 40.3 per cent were under 25 and 22.6 per cent were under 20 years of age. An examination of the data shows that the youth of the workers could not have been responsible for this instability, as their absence rate was lower than that

for older age groups with the exception of the 60-year-and-over group. Possibly the greater number of spares in the spinning room than in the other departments contributed to its higher absence rate. If the per cent of days lost in all departments of the mills through being "asked out" to give work to spares be represented by 100, then the relative time lost from this cause in the spinning room would be 168, considerably above the average for all departments represented by the index figure 100. Spooling and weaving are paid on a piece basis, and earnings are generally higher than in spinning, which is usually paid at so much per side for an hour or for a day. It is therefore probable that women who remained in the spinning room would not stay there if they were capable of earning the higher wages in spooling and weaving. The large amount of lost time in the spinning room may therefore be due to the three causes; conditions of work, workers who were not so efficient as those in the other departments, and too large a proportion of spares to regulars.

In both the spooling and spinning departments there was considerable lost time that was not the fault of the workers but was due to the lack of balance between departments. The weaving department is the hub around which the other departments revolve, and if there is sufficient warp ready, the warp spinners and the spoolers will be laid off for a day or part of a day while the filling spinners catch up; if the fill spin gets ahead of the warp spin, then the filling spinners are laid off and the warp spinners and the spoolers are busy. The effect of this is plainly to be seen by an examination of the causes of lost time.

If the time lost by women in the northern and in the southern mills is compared by department, there is found in every department a larger proportion of time lost in the southern than in the northern mills. The difference in the per cent of lost time is least between the cloth room North and South, and most evident in the spinning room, where the northern workers lost 17.8 per cent and the southern operatives 29.9 per cent, or about two-thirds more. The difference in the proportion of time lost by spoolers North and South was 8 points, and by the women weavers 6.7 points.

The largest amount of time lost by the men in any one department was, as in the case of the women, in the spinning (18.2 per cent). Men in the carding room lost nearly as much time (16.9 per cent), and those in the weaving room only a little less (15.2 per cent). For both men and women, the weaving room ranked, as compared with the other departments, third in regard to the proportion of lost time shown. In the northern mills the proportion of lost time in each department was much the same, the men weavers losing a little more of their possible working time than did the men in the other departments,

but in the southern mills the proportion of lost time varied considerably by department. In the South the men in the spinning room lost about twice the proportion of time lost by the men in the cloth room, while the men in the carding department lost half as much again as did the men in the spooling department.

When all mills are taken together the spinning room shows the poorest timekeeping and the cloth room the best, for both men and women.

In relation to season of the year.

The summer months were found to have the greatest amount of lost time. In considering the effect of the seasons by department instead of by mill the results are the same so far as the peak is concerned, that is, in every department the per cent of time lost was greatest in summer and least in winter.[5] (Table 7.) However, it is interesting to observe that the spooling department was the only one where more time was lost in the autumn than in the spring and that in the weaving and cloth rooms the time lost in the spring approached rather closely the high per cent occurring in the summer months.

TABLE 7.—*Per cent of time lost in relation to season of the year, by department*

Department	Men and women				Men				Women			
	Spring	Summer	Autumn	Winter	Spring	Summer	Autumn	Winter	Spring	Summer	Autumn	Winter
All departments	28.6	31.6	24.9	14.9	28.9	31.4	24.7	15.0	28.3	31.8	25.1	14.8
Carding	28.1	29.8	26.0	16.1	28.0	29.1	26.8	16.1	28.4	31.1	24.5	16.1
Spinning	28.6	32.0	24.1	15.3	30.0	31.7	22.9	15.4	27.9	32.2	24.7	15.2
Spooling	26.5	32.6	26.8	14.1	26.3	37.9	24.0	11.8	26.5	31.8	27.3	14.5
Weaving	29.3	31.5	24.7	14.6	29.3	31.7	24.3	14.7	29.2	31.3	25.2	14.4
Cloth	28.7	32.6	24.1	14.5	28.1	34.2	21.2	16.5	29.1	31.6	26.0	13.3
Miscellaneous	28.4	33.9	24.6	13.1	27.3	35.3	25.6	11.8	29.5	32.6	23.5	14.3
General	30.7	27.5	24.2	17.6	30.0	27.9	24.8	17.3	47.1	14.5	2.7	29.6

In relation to conditions in departments.

How far the actual work in the different departments of a mill is responsible for lost time it would be impossible to determine without a careful study of the operations performed in each room, but it is possible to show by department various conditions, such as light, heat and humidity, dust, vibration, and noise, and compare them with the amount of lost time. The conditions under which work is performed, if not satisfactory, may result in unnecessary fatigue and even in the illness of the worker. The cotton-textile industry, to a

[5] This may be modified somewhat by the fact that absences which occurred at the beginning of the year could not be allowed for, as a worker's time was reported only from the first entrance of his or her name on the pay roll until its last appearance.

greater extent than most industries in which women are employed, has difficult problems in regard to its working conditions. The cotton fiber contains a good deal of electricity and is liable to break if there is not sufficient humidity in the atmosphere of the workroom. This moist atmosphere which is good for the running of the cotton thread is not so desirable for the worker, and when humidity is combined with the heat occasioned by the rapid motion of many machines, the problem of adjusting the atmosphere to the needs of the work and the worker becomes very difficult. When the cotton fiber is being twisted and wound it throws off a fine lint, which settles on floors, walls, machines, and workers and is hard to control; it is so light that if swept from one place, it flies through the air and settles elsewhere. The fact that the work in all rooms except the cloth is done by large and heavy machines which occupy most of the floor space makes noise and vibration considerable and in some mills excessive. When these machines are driven by a central power, and overhead shafts and belts are necessary, the problem of providing sufficient and well-diffused lighting over the large areas covered by the machines requires expert handling. The nature of much of the work in a mill demands fairly constant walking and standing; nevertheless there are opportunities in nearly all the operations for a worker to sit occasionally. Although this rest time is most valuable to the worker and her work, the need to provide proper seats has been given little thought in most mills. It will be seen from this brief discussion that unless considerable attention is given to the control and adjustment of the various conditions which surround workers in mills, there is danger, not only that unnecessary fatigue will be increased but that the health of the worker will suffer. It is not sufficiently realized that industrial fatigue which predisposes to disease, especially to tuberculosis, is considered by many authorities to be a fatigue of the nervous system, and this may be caused by conditions surrounding the work as well as by the actual work itself. (28, pp. 3–5.)

The spinning room shows a larger proportion of lost time than does any other room, and it is generally conceded that the work in this room is no more strenuous, and probably less so, than the work in most of the other rooms. Doctor Perry in his study of preventable death in cotton mills found that the death rate per 1,000 operatives was higher in the spinning room than elsewhere in the mill, and his figures also show that deaths from tuberculosis were above the non-operative rate to the extent of 104 per cent for men and 207 per cent for women. (45, pp. 87, 91.) The workers in the spinning room are younger than in the other rooms, a fact which would predispose them to tuberculosis, and without doubt the hot, moist atmosphere of the workroom and the plunge at noon and night into the cold outdoor

air would render them especially susceptible. Air temperature of 85° or over, especially if experienced for any length of time, has been found through experiment to reduce materially the worker's strength. (38, p. 21.)

Heat, however, is not the only problem of air conditions found in cotton mills. As already stated, in order to prevent the electricity in the cotton from making the thread brittle and causing constant breaking there must be a certain amount of moisture in the atmosphere. Wet-bulb readings give the point of evaporation and when studied with the dry bulb register the relative humidity. It is difficult to keep heat and moisture uniform, and when either one rises too high it may affect the comfort and efficiency of the worker. Doctor Haldane found that a study of the record of the wet bulb was of especial importance in a consideration of the comfort of the worker. Doctor Pembrey recommends that the wet bulb should never be permitted to exceed 70° in weaving sheds. Doctor Haldane states that if it be allowed to reach 78°, work becomes impracticable and at 88° impossible. (31, pp. 99–100.)

Wet and dry bulb readings taken in 25 spinning rooms showed that in 11 of the rooms, or nearly one-half, the wet bulb was over 70°, and in 9 rooms the dry bulb registered over 85°. (Table XL in the appendix.)

None of the dry-bulb readings were 75° or below, and in three rooms the readings were over 90°, while the wet-bulb records were from 59° to 78°, with the largest number of spinning rooms having readings of between 64° and 72°. According to standards given in the preceding paragraphs, the wet-bulb readings were too high for the comfort or welfare of the workers in 11 cases and the dry-bulb temperature was too high in 9. The relative humidity was 65 per cent and over in only four cases, while humidity ranging from 45 to 60 per cent was the most common and prevailed in 15 spinning rooms.

The lint was greater in the spinning room than in any other room except the carding. However, though the machines in the spinning room caused considerable noise and some vibration of the floor, these conditions were not so pronounced as in some of the other rooms. In a discussion of the influence of industrial noises by D. J. Glibert reference is made to 20 "spinstresses," 14 of whom were hard of hearing (24, pp. 265–266), but this was merely a condition found to exist and not a measurement of the amount of deafness which might be found in a more inclusive study.

The tending of spinning frames does not require a great deal of light, but even when the amount that expert lighting engineers specify as necessary for "rough work" is taken as a standard, it is found that many spinning rooms have less than this requirement. Some experts claim that for the performance of "rough work"

lighting should be 2½ foot candles to be satisfactory. (23, p. 11.) This is, however, greater intensity than is considered necessary by the State Industrial Commission of New York. (42, p. 10.) Their code defines a minimum for "work not requiring discrimination of detail" of 1 to 2 foot candles and for "rough work requiring closer discrimination of detail" a minimum of from 4 to 6 foot candles.

In 11 of the spinning rooms included in the study the intensity of the lighting fell below 2 foot candles. (Table XLI in appendix.) Some of these readings, as was the case with those in the other rooms as well as in the spinning, were taken by natural and some by artificial light, but in all cases it was the actual light upon the machines at the time of inspection that was measured. In some mills the lighting was excellent throughout the different spinning rooms, while in others there were wide variations in different rooms in the same mill and even in various parts of the same room. According to more detailed figures than those given in the table, there were six readings where the light was 1 foot candle or less. In these cases it is probable that there would be considerable eyestrain and more risk of accident than where better lighting was provided. The spinning room contained more women workers than did any other room, and two-thirds of the women in the spinning room who were interviewed were found to be under 25 years of age. Thus more women and younger ones were working in the spinning room under conditions just described than in any other workroom.

In regard to conditions of work, the weaving room is next in importance to the spinning department if judged by the numbers of women who are affected, and it is the most important department when the numbers of both men and women are considered. The proportion of time lost, however, is considerably less in the weaving than in the spinning room. The total lost by men and women combined was 16.8 per cent of their possible time, while for women alone it was 19.4 per cent. The health of workers in the weaving room as shown by the death rate given in Doctor Perry's study is better than that of the employees in the spinning or the carding room, but how far this difference is due to the composition of the work force and how far to better work conditions is difficult to determine. (45, p. 97.)

Probably the most striking condition in weaving is the noise of the many looms, accompanied usually by considerable vibration of the floor. In many up-to-date plants much has been done to offset this vibration, but most textile operatives do not work in new establishments and still are subject to a "simultaneous conduction of noise by air and by the bony skeleton," which, according to Doctor Glibert, "affects hearing finally and seriously." (24, p. 271.) He also states (24, pp. 265–266 that one authority in an examination of

14 weavers found not one who heard normally. The strain from industrial noise has been commented on by Dr. Leonard Hill, who regards the nervous energy expended in combating noise a very real cause of fatigue. (64, p. 35.)

The air conditions in the weaving room were less dusty and full of "fly," a fine cotton lint, than in the carding and spinning rooms, and the heat as shown by dry-bulb readings was lower, but the wet bulb showed a higher point of saturation, and the relative humidity also was higher in the weaving department. As already noted, the record of the wet bulb is considered the best measurement of the comfort and efficiency of the worker, the desirable maximum being 70°, and where the wet bulb registers above 77°, to work becomes difficult. Of the wet-bulb readings taken in 31 weaving rooms, 18 were over 70° and 4 over 77°. The per cent of relative humidity which is considered the most desirable varies so much with the dry-bulb and wet-bulb readings that it is difficult to set a standard, but if, according to Doctor Haldane's standards, it is based on the proportion of humidity desirable with certain dry-bulb readings, the records for 11 rooms showed a relative humidity above the limit fixed for efficiency.

The need for sufficient and well-diffused lighting is much greater in some departments than in others. Light is especially necessary in the weaving room, where there is greater possibility of eyestrain than in any other occupation except drawing-in, on which work very few women are employed. The intensity of light required for weaving naturally would vary according to the fineness of the cloth and whether it was light or dark in color. The amount of illumination recommended for cotton weaving is from 5 to 10 foot candles, depending on the character of the goods being woven. (58, pp. 4–5.) Fifty-two readings of the foot-candle meter were taken in weaving rooms and 19 registered an illumination of 5 foot candles or over. In one mill where especially fine work was being done the weaving shed had a uniform light of 30 foot candles, while in another mill where dark, rather coarse material was made the lighting varied in intensity from 1 to 4 foot candles, the artificial being better than the natural lighting in this mill. In two mills where weaving was done in the basement the lighting in parts of the room was less than 1 foot candle. This condition was probably due to carelessness rather than to poor equipment, as there were artificial lights that were not turned on and which would doubtless have much improved the lighting. The readings varied from −1 to 30 foot candles, but the mode, that is, the largest number of readings in any one classification, was found to be about 3 foot candles. A number of complaints of poor lighting were heard during the home visits, especially from weavers if they worked on colored cloth, or on looms in the center of the room.

Without doubt eyestrain causes headache and may ultimately impair the sight, both of which results might be avoided by a clearer realization on the part of the management of the importance of good lighting.

Next to spinning and weaving, more women were engaged in spooling than in any other mill occupation. These women seldom worked in a room by themselves, but usually their machines were located at one end of the spinning room or occasionally near the slashing department. The atmospheric conditions, therefore, appeared to depend much more on what was necessary for other work than for spooling itself, and apparently little attempt was made to keep any great amount of humidity in the atmosphere around the spoolers. Only four wet-bulb readings for this occupation were over 70°. Accordingly the lost time, which for women (no men are employed in spooling though they bring up the bobbins for the women spoolers) was almost as great as in the spinning department, probably would not be caused to any great extent by atmospheric conditions, as even the lint in this occupation is less than in carding or spinning. The noise surrounding spooling operators was probably the same as for those in spinning, as was also the vibration of the floor, although in both cases the noise and vibration would depend somewhat on the other machinery in the same room. The light under which spooling was done was, on the whole, better and showed less wide variations than in the spinning and weaving departments. Of the 26 readings in spooling rooms, only 1 showed illumination of less than 1 foot candle, whereas 13 had 5 foot candles or more. A review of the conditions surrounding the work of spooling shows that they are, as a whole, better than those in the spinning or weaving room, although the proportion of lost time is higher than in the weaving room and but little lower than in the spinning room.

The carding department had fewer women employees than had any of the three departments just discussed, as the work is heavy and requires men to a far greater extent than women. The women in this department lost 18.6 per cent of their time, a lower per cent than in spinning, spooling, or weaving. The "fly" is a more serious problem in this room than in any other, as the cotton is in a looser state and more liable to give off fine particles than when wound into thread. Doctor Perry in his study of causes of death among cotton-mill operatives found that the carding room was the only workroom in which, among the married, deaths from tuberculosis exceeded those from all other causes, and he attributed this abnormally large proportion from tuberculosis to the abundance of vegetable dust in the air and to the lack of light and ventilation. (45, p. 90.) The temperature of the carding rooms, as shown by the dry bulb was over 80° in 13 of the 27 rooms where readings were obtained.

The wet bulb registered above 70° in 7 instances, and the relative humidity was less than 65 per cent in all but 6 cases. Women in the carding room tend the drawing frames and speeders. None of this work necessitates intensive use of the eyes, and some of the work, such as that on drawings frames, requires no more light than for any rather coarse general work. Therefore, although the greatest number of records showed illumination of 1 to 2 foot candles, in view of the nature of the work the lighting was more satisfactory than in the weaving or even in the spinning room. The lowest reading for the carding department was less than 1 foot candle and the highest was 12.

The cloth department had the fewest women and lost the least time, only 14.7 per cent of the possible working time. It seems fairly certain that one reason for better timekeeping in this department was that the women, as a rule, could be seated at their work; moreover, the better air and temperature conditions and the absence of noise and vibration probably were largely responsible for the smaller amount of lost time. The lighting in this room was, as a rule, excellent, since the readings showed an illumination of 3 to 30 foot candles.

Difference in absence rates in the various workrooms may be due to many causes and can not be traced directly to the conditions surrounding the work in the various departments. Nevertheless, the conditions of excessive heat, dust, and noise were found, as has been shown, to exist in departments where considerable time was lost, especially by the women workers. It has been stated that women are more susceptible to ventilation than are men (29, p. 7), and it is probable that dust, noise, and vibration affect the nervous system of women to a greater degree than they do that of men. However, this can not be proved by any figures obtained in the present study, for although women lost more time than did men in the departments where these conditions existed, there were so many other possible and probable causes of this lost time besides adverse working conditions that no definite conclusions can be drawn as to the relative susceptibility of men and women to noise, bad lighting, and poor air.

PART IV

CAUSES OF LOST TIME

Many conditions both within the mill and outside the mill may result in lost time, and in this section all such causes, but only as reported by the women workers themselves, are studied. The lost time under discussion all occurred in 1922. In the many visits made to the homes of the women the direct causes of their absences, such as illness and home duties, were carefully discussed, and also such indirect causes as age, marital condition, and length of service.

All the reasons given for the time lost were obtained by interviews with the workers in their homes usually after working hours and on Saturdays and Sundays. The worker's record of attendance and absence during 1922 was shown to her and carefully studied with her, and the causes of the different periods of lost time, as given by the worker, were tabulated. Almost invariably the woman was interested and did her best to remember why she lost a week in May or three days in December of the preceding year. The whole family assisted in trying to help her remember. There would be a discussion, for example, as to whether the week in June when the worker had been out was on account of the baby's measles or because of the visit she had made to her aunt. Finally, the real cause would be settled to the satisfaction of all by some corroborating bit of evidence remembered by the woman herself or some member of her family, and further questions would be asked about the worker and her home. As the woman was usually interested in knowing the reason for collecting such information, it was explained that the Government gathered facts concerning the problems of working women and the various causes which occasioned their absence from work, one very important reason for such investigation being the need for women frequently to carry two jobs, one in the mill and one in the home, whereas men, as a rule, worked only in the mill. The women themselves felt very strongly this double pressure, exclaiming, "We sure do" or "That's the truth," when this statement was made. It was explained, too, that a certain amount of lost time is unavoidable and that 100 per cent attendance, even if possible, would hardly be desirable; that a man or woman has certain necessary duties which can not always be accomplished on Sundays or holidays; and that every human being is occasionally ill; and that by a careful analysis of the different causes of lost time during the period studied it is

possible to learn whether the majority of the absences probably were unavoidable or merely the result of conditions which it would be to the advantage of both management and workers to have remedied.

The causes which, in the opinion of the women, were directly responsible for lost time, may be divided under three general headings: Personal, mill, and general. Personal causes comprise illness of the woman herself, illness and death of others, accidents outside the mill, marriage, home duties, and many others. Mill causes include accidents in the mill, no work, shutdowns, cases where workers were let out or laid off, penalties, and others. General causes comprise strikes, disputes, weather conditions, and several other causes which could not be listed in either the personal or the mill group.

Penalties were included in the mill group because most of these cases occurred in one plant where the gates were shut when the mill began to operate, and an employee, if late, had to wait until the afternoon before she could begin to work. Of course most workers did not wait but went home, or, if they found they were going to be late, did not report at the mill on that day. It was felt, therefore, that the refusal to admit the worker was a punishment and was of the same nature as a lockout, both being a refusal to allow her to enter the plant and continue her work. Strikes and disputes were classed as general because they might be the fault of the worker or the management or both, and the weather, which sometimes interfered with transportation, was of course impossible for either employer or employee to foresee or prevent.

The causes of absence although classified as "personal," "mill," and "general" do not necessarily mean that the remedies for such absences rest solely with the worker, with the management, or with changed social conditions. For example, many different causes contribute to the need for rest: The worker may have inherited a poor physique, her hours of work may be too long or the task too difficult, or her living conditions may require too much of her strength and energy. The amount of excessive fatigue contributed by all these conditions is a subject for careful study and analysis.

TABLE 8.—*Cause of time lost during the year, 2,214 women reporting, by mills North and South*

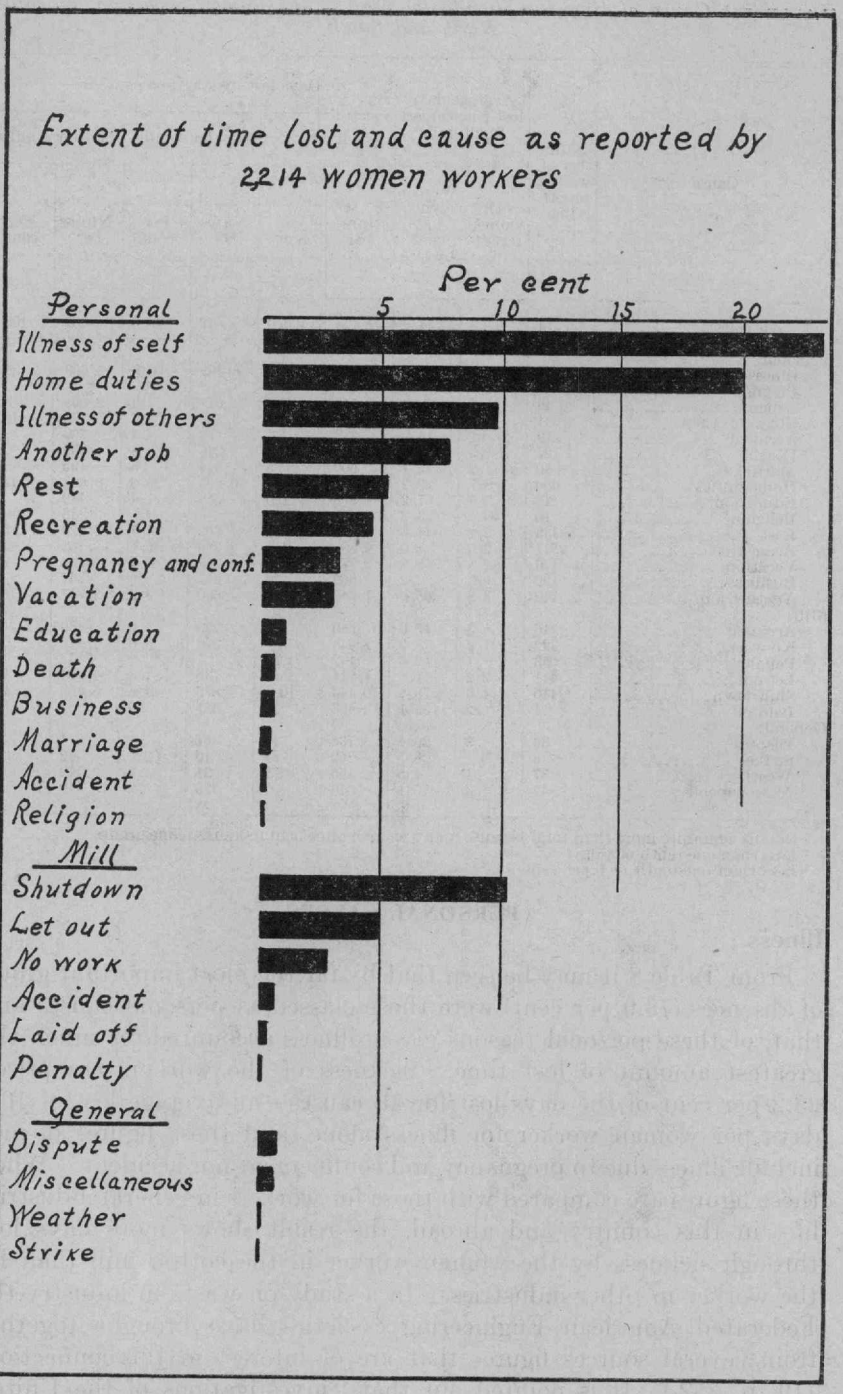
Cause	Number of women reporting	Average days lost per woman in all mills		Days lost by specified cause in—					
				All mills		Northern mills		Southern mills	
		All women reporting	Women who lost time by this cause	Number	Per cent	Number	Per cent	Number	Per cent
All causes	[1] 2,214	43.9	43.9	97,163	100.0	40,782	100.0	56,381	100.0
Personal:									
Illness of self	1,357	10.2	16.6	22,495	23.2	8,492	20.8	14,003	24.8
Pregnancy and confinement	46	1.4	68.3	3,140	3.2	1,042	2.6	2,098	3.7
Illness of others	634	4.2	14.7	9,292	9.6	3,502	8.6	5,790	10.3
Accident	19	.1	14.9	283	.3	74	.2	209	.4
Death	122	.3	4.8	585	.6	246	.6	339	.6
Marriage	40	.2	12.7	509	.5	314	.8	195	.3
Home duties	660	8.7	29.2	19,256	19.8	10,593	26.0	8,663	15.4
Education	17	.4	57.2	973	1.0	554	1.4	419	.7
Religion	16	[2]	3.2	51	.1	3	[3]	48	.1
Rest	436	2.2	11.3	4,931	5.1	1,802	4.4	3,129	5.5
Recreation	547	2.0	8.0	4,391	4.5	2,289	5.6	2,102	3.7
Vacation	176	1.3	15.8	2,776	2.9	2,353	5.8	423	.8
Business	192	.3	3.2	609	.6	247	.6	362	.6
Another job	112	3.3	65.6	7,347	7.6	1,600	3.9	5,747	10.2
Mill:									
Accident	46	.3	15.0	689	.7	229	.6	460	.8
No work	322	1.2	8.2	2,648	2.7	1,226	3.0	1,422	2.5
Penalty	53	.1	2.6	137	.1	-------	-------	137	.2
Let out	411	2.2	11.8	4,844	5.0	736	1.8	4,108	7.3
Shutdown	1,410	4.6	78.1	10,143	10.4	4,675	11.5	5,468	9.7
Laid off	14	.2	33.1	463	.5	381	.9	82	.1
General:									
Dispute	36	.3	20.4	735	.8	61	.1	674	1.2
Strike	6	[2]	8.7	52	.1	10	[2]	42	.1
Weather	37	.1	4.5	166	.2	24	.1	142	.3
Miscellaneous	42	.3	15.4	648	.7	329	.8	319	.6

[1] Details aggregate more than total because many women appear in more than one group.
[2] Less than one-tenth of a day.
[3] Less than one-tenth of 1 per cent.

PERSONAL CAUSES

Illness.

From Table 8 it may be seen that by far the most important group of absences (78.9 per cent) were those classed as personal causes and that, of these personal reasons given, illness accounted for much the greatest amount of lost time. Sickness of the workers comprised 23.2 per cent of the days lost for all causes—an average loss of 10.2 days per woman worker for illness alone, and these figures do not include illness due to pregnancy and confinement nor accident. When these figures are compared with those for workers in general industrial life, in this country and abroad, the result shows more days lost through sickness by the woman worker in the cotton mill than by the worker in other industries. In a study on waste in industry the Federated American Engineering Societies have brought together from several sources figures that are of interest in this connection. (19, p. 352.) It is pointed out that "investigations of the United States Commission on Industrial Relations in 1913–1915, which cover



a survey of the sickness prevalent among approximately a million workers of representative occupations, revealed an average loss to more than 30,000,000 American wage earners of about 9 days per year." The study on waste also points out that in California the Social Insurance Commission (1917) reported 6 days as the average, the Dallas Wage Commission (1919) estimated an average loss of 6.8 days, and certain records of the Metropolitan Life Insurance Co. for 1915–1917 disclosed an average of 6.8 days for males and 6.9 for females per year.

Mr. P. Sargant Florence (21, pp. 319–322) in his study on the economics of fatigue and unrest makes an interesting comparison of figures drawn from several sources. He states that in England and Wales the ministry of health reported the average time per year for which sick benefits were paid during the years 1913 to 1921 as 5.28 days for men and 6.72 days for women. This time includes no sickness of less than four days and none extending over more than 26 weeks. These figures, Mr. Florence feels, are minimum averages, but they approach very closely the German figures, which reveal a yearly average, over a four-year period, of 6.90 days for men and 8.17 days for women. In Austria the Insurance Fund reported very nearly this number of days for men (6.75 days), but for women it reported 8.30 days. For a seven-year period the Leipzig Insurance Fund reported average days lost through illness 5.28 per male member and 6.72 per female member, but these figures do not include illnesses of one day or those of more than 34 weeks. In the present study the average number of days lost through illness by women in textile mills (10.2) was greater than that quoted from any of the foregoing sources, but this difference may be due partly to the fact that all lost time through sickness of even one day's duration has been included, while in several reports quoted all disability of less than three days was omitted.

It must be realized that in the reports quoted the averages of the number of days lost are based on all insured persons or all workers, as the case may be, and include those who lost no time through illness as well as those who were sick. The proportion of a whole number who actually reported illness gives some idea of the extent to which good or poor health prevailed among a group. J. Y. Hart, in his study of London teachers, found that a relatively small proportion of persons (21 per cent) were responsible for 88 per cent of the days lost through illness (32, p. 358), but in the textile mills here studied the days lost through sickness were much more widely distributed. Over three-fifths of the women interviewed (61.3 per cent) lost some time through illness, and the amount lost by these workers averaged 16.6 workdays, or nearly three working weeks during the year. When it is remembered that illness due to pregnancy and confinement was not included in this lost time the seriousness of a condition where

about two-thirds of the workers were for nearly three weeks in a year too ill to work surely deserves study and consideration. The phrase "too ill to work" may be taken literally, for a worker, as a rule, usually will carefully consider before staying out and losing her pay, especially if, as happened to be the case just before 1922, work in the mills is not plentiful. It was found in a survey conducted by the Metropolitan Life Insurance Co. in middle and western Pennsylvania that when a comparison was made between men too ill to work and the disability rate in the Regular Army of the United States, the rate of the enlisted men was slightly higher. (21, p. 317.) It may be assumed that the industrial worker does not lose time from work unless through sickness which is real and disabling. A half-sick woman usually will work if the need for her earnings is imperative.

Fatigue has been called the health hazard of industry, and the important part it plays in illness as stated by a well-known physician has already been pointed out (p. 10). Without doubt many of the 436 women who stayed home "to rest" would have been forced to stay out later through illness if they had not taken time off from work to recuperate. The risk of excessive fatigue and even illness may be increased by long hours, high speed of work, continuous standing, temperature, lack of freshness of air, poor lighting, and dust. Many of these conditions were found in the cotton mills visited and without a doubt contributed to the more than average amount of illness found among the cotton-mill operatives.

In a study of disabling sickness as related to family income made in seven cotton-mill villages in South Carolina (47, p. 13) the rate of illness for the female cotton-mill operative was 45.2 per cent and that for the nonoperative 39.2 per cent. These rates were for the same age groups, in each case of women from 10 to 45 years of age, and confinement cases and those of chronic invalidism extending more than three months were excluded.

Another measurement of the health of a community or of the workers in an industry besides that of illness is the death rate. When, however, both morbidity and mortality figures lead to much the same conclusion it is safe to assume the truth of such findings. Doctor Perry, who made two studies of deaths among cotton-mill operatives in Fall River, came to the conclusion that mortality figures furnished a better measurement of health than did morbidity. He found that the death rate per thousand women between the ages of 15 and 44 years was 82 per cent higher for cotton-mill operatives than for nonoperatives (45, p. 50), and that in this age group the deaths occurring in the years 1908 to 1912, inclusive, from tuberculosis comprised 29 per cent of all deaths of nonoperatives and 43 per cent of all deaths of mill workers. (45, p. 41.) Deaths from this disease

among the female operatives exceeded those of nonoperatives in the same group by 142 per cent. (45, p. 84.)

Of interest at this point is a remark made by a well-known engineer at a recent conference. He said that the successful manufacturer of the future would be one who could effect the greatest efficiency in his mill and eliminate all waste. There is close competition in all branches of the cotton industry, and it would appear, therefore, that the time lost by illness, which is an enormous waste of human efficiency, should be carefully studied by the industrial engineer.

Pregnancy and confinement.

Pregnancy and confinement were not included in illness, and in spite of the length of such absences only 3.2 per cent of the total time lost, or an average per woman of 1.4 days, was due to this cause. (Table 8.) The number of women actually losing time from such cause was small, only 46, but the number of days lost averaged 68.3 for each of these women. The proportion of time lost through pregnancy and confinement was slightly greater in the South than in the North, as would naturally be the case because of the higher per cent of married women in the South.

Illness of other members of the family.

More time was lost through illness of members of the family by workers in the South than in the North, again due to the greater number of married women in the South, and the fact that this cause was a very important one for both North and South further illustrates the large number of women, especially in the South, who have the home burden as well as the industrial responsibility. The average number of actual days lost due to sickness of others was 4.2 as compared with the average of 10.2 days lost through the illness of the worker herself.

Home duties.

The necessity for spending considerable time in caring for the home beyond the meager time available in the evenings and week ends is shown by the fact that nearly one-fifth of the time lost, 19.8 per cent, was due to home duties. It has been estimated that the worker outside the home usually spends an average of 2.8 hours daily on work in the home in addition to her outside duties. (45, p. 173.) However, when the working day is anywhere from 9 to 11 hours, it is too much for most women to add the hours necessary to keep up a home, and they take days off to "catch up" with the home work. This result is modified by two other considerations, the need of the full wages of the worker and the availability of domestic help. The modifying effect of these factors is shown in the southern mills, where the workers, in spite of their longer hours, lose less time through home duties than do women in the North. This condition may

be due to the two foregoing considerations and to the custom of "asking out" regular workers to give spares work. This enforced absence gives the workers an opportunity to accomplish their household tasks without taking time off specifically for that purpose.

Recreation and vacation.

A considerably larger proportion of time for recreation and vacation is taken by the northern women than by the southern, although the number of days per worker thus taken, by either northern or southern worker, is certainly not excessive—an average of 4.1 days in the North and 2.4 days in the South. The southern worker, however, takes a little more time off "to rest" than does the worker in the North, and this extra time might almost be considered as part of her vacation period, for it is time taken from work to recuperate by means of rest rather than recreation.

Another job.

The time lost by workers trying jobs for short periods in other mills comprises nearly three times as great a per cent of absence in the South as it did in the North. Although some of the changes were due to the restlessness of the worker herself, that is, the desire for change, some were also due to that of the worker's father or husband. It is probable, too, that the habits of industrial life with steady work day after day are much stronger among northern workers than among southern operatives who have more recently come from agricultural pursuits. Frequently the worker would report that she had tried such and such a mill because her father had heard that wages were higher or because her husband had had a dispute with the "boss" in the mill which they had left and did not want to work for him any more. The time spent sampling work in other places comprised a little over 3.9 per cent of the lost time in northern mills and 10.2 per cent of that in southern mills.

MILL CAUSES

Shutdowns.

Absences due specifically to the mill comprised about a fifth of all absences. (Table 8.) The principal cause among the mill reasons was shutdowns,[1] usually of one or more departments for a few days at a time. These shutdowns were responsible for an average loss of 4.1 days a year for the northern worker and 5.1 for the southern. Under the heading "no work" about one day may be added to the average lost time of the worker—North 1.1 and South 1.3—making, respectively, 5.2 days and 6.4 days of absence per worker due to lack of work. These days frequently were lost through a bad balance of work in the mills. Either one department produced more than

[1] In no case was the entire mill closed for more than a two-week period during the year.

could be used in the next and therefore had to close for a day or two, or produced not enough, and the department where the next process took place had to shut down temporarily. There was considerably more of this maladjustment than is revealed by these figures, for frequently operations such as warp spinning or spooling would stop for half a day a week, and this would not show in the absence records as taken, since any day on which work was done was counted as a day worked. This same situation also caused overtime, for rather than close the weaving room because of no yarn, the spinners would be asked to work a couple of hours extra so that the weavers might have work the following day. In one mill where the practice of working one or more departments overtime occurred frequently, the proportion of absence due to shutdowns during the year (20.3 per cent) was almost twice as high as the proportion due to this cause when all mills are considered (10.4 per cent). This condition of shutdown one day and then overtime for several was cause of much discontent among the workers; as one woman said, "There don't seem no reason in it." It is a significant fact that in the mill where this maladjustment was most prevalent, the turnover rate was third from the highest and the absence rate next to the highest of the 18 mills surveyed. For the women in this mill the turnover was next to the highest, instead of third as was the case when men were included, and it may be that this greater turnover of the women was due to their preponderance in the spinning and spooling rooms, where most of the overtime and undertime occurred.

The custom of employing spares to a greater extent than was necessary and so preventing the regular operatives from working is responsible for 5 per cent of the lost time in all mills. This system is much more general in the South, and it is not surprising, therefore, to find an average of nearly four days (3.8) lost by the southern worker and only 0.6 of a day lost by the northern worker from this cause.

Accidents.

A very small proportion of time (0.7 per cent) was lost through accidents in the mills, and the variation in per cent between the North and the South also was slight. During the year there were reported only 50 cases of time lost through industrial accidents, and these occurred among 46 women, 4 of whom were injured more than once. These accidents were usually of two kinds, a sliver or cut in the hand while stripping thread off the bobbins, or a fall due to the slipperiness of the floor. Occasionally a worker would report that her hand had been caught while cleaning machinery which had been started without her knowledge, or that a shuttle had flown out and she had been cut, but, of whatever character, the accidents as a rule

were not serious. Twenty-four of the 50 accidents were to the finger or the hand.

GENERAL CAUSES

The amount of lost time due to causes where the responsibility was not attributed to either the management or the worker was small and constituted but 1.6 per cent of the total time lost. (Table 8.) One of the most important causes in this group was dispute between the worker and management, but even loss on this account was small and affected but 36 women. The cause of the dispute sometimes was told by the worker, but frequently she would summarize the situation by saying, "Me and the boss had words, and I went home and stayed until he sent for me to come back." Only six women lost any time through strikes, and these six lost an average of 8.7 days each. The very small number and per cent of women affected by this cause must not be considered as indicative of the industry, for in this study no mill was included which had stopped production, or worked only part of the force, for more than two weeks. This would, of course, exclude any mill which had experienced serious labor difficulties.

The loss due directly to weather conditions plays a much less important part than in many other industries, because, as a rule, the worker lives near her work and has not the long distances to travel which would make transportation difficult in very cold or stormy weather. However, the weather without doubt does affect the absence rate, not so much by interfering with the transportation of the worker as by creating conditions, such as heat and humidity, outside the mill, which render impossible recuperation from the same condition experienced within the mill. This effect of the weather was shown plainly by the fact that 85.5 per cent of absences due to this cause occurred in the South, as will be shown later, and nearly one-half of these days (43.7 per cent) were lost in the summer months. Heat, therefore, rather than cold or storms, appears to have been the determining factor in absence due to weather.

An analysis of the causes as given by the women for their various periods of lost time shows that illness comes first when the number of days lost is considered but not when the number of women losing time from this cause is taken into account. Time lost because of home duties occupies second place in regard to extent of time lost and third in regard to the number of women affected, while shutdowns, including "no work" or "laid off," affected more women than did any other one cause, though the actual time lost by these causes was not so great as that through illness or home duties. The whole group of personal causes was responsible for more than three-

quarters (78.9 per cent) of all the time lost, mill causes for nearly a fifth, and general or miscellaneous causes for less than 2 per cent.

CAUSES OF LOST TIME IN RELATION TO SEASON OF THE YEAR

The amount of lost time has been found to vary with the season of the year, and in the summer, as already noted, the greatest proportion of absence occurred. It is of interest to determine the chief causes which increased or decreased the amount of lost time in different seasons of the year, and to ascertain whether the higher rate for the summer months was due to a general increase of all or nearly all of the causes or to one or two special ones.

TABLE 9.—*Causes of time lost by women employees, in relation to season of the year*

Cause affected by season	Number of cases of absence	Days lost by specified cause in—							
		Entire year	Spring (March, April, May)		Summer (June, July, August)		Autumn (September, October, November)		Winter (December, January, February)	
			Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Total	5,705	83,908	22,872	27.3	27,517	32.8	21,344	25.4	12,175	14.5
Illness of self	1,357	22,495	6,160	27.4	6,163	27.4	6,146	27.3	4,026	17.9
Illness of others	634	9,292	2,636	28.4	2,352	25.3	2,708	29.1	1,596	17.2
Home duties	660	19,256	5,926	30.8	6,153	32.0	4,550	23.6	2,627	13.6
Rest; recreation; vacation	1,159	12,098	1,980	16.4	6,104	50.5	3,009	24.9	1,005	8.3
Another job	112	7,347	1,932	26.3	2,682	36.5	2,219	30.2	514	7.0
No work; shutdown; laid off	1,746	13,254	4,208	31.7	4,001	30.2	2,691	20.3	2,354	17.8
Weather	37	166	30	18.1	62	37.3	21	12.7	53	31.9

The causes here tabulated were given for not far from nine-tenths of all the time lost and therefore may be considered the chief causes reported by the women. Also, they are those which would be most likely to be affected by the season of the year. The per cents follow:

Cause	Per cent
Illness of self	23.2
Illness of others	9.6
Home duties	19.8
Rest; recreation; vacation	12.5
Another job	7.6
No work; shut down; laid off	13.6
Weather	.2

The number of days lost throughout the year by illness of self was fairly constant for spring, summer, and autumn, but dropped sharply during the winter months. This lower proportion of time lost through illness in winter was partly due to the lower December rate, which without doubt was affected by the fact that all illnesses

which began before the last week in December and were not followed by a return to work in December were counted as separations and not as days lost. (Table XVII in the appendix.) Even without this understating, the number of days lost in December probably would be low, as the days lost in January amounted to only about 200 days more than those in December. As already noted, the amount of time lost in January also may have been somewhat reduced by the method used in estimating lost time (see p. 53). February—a winter month not so affected—shows fewer days lost than does any one of the spring, summer, or autumn months. However, the fact that this month is slightly shorter than the others might be partly responsible for the situation.

The fact that the three winter months of December, January, and February showed the fewest days lost by illness of all the months is contrary to other records of seasonal distribution of illness. New York State trade-union figures disclose (63, pp. 11–12) illness to be most prevalent in December, January, and March, and least so in July, August, and September. The records of the Amalgamated Society of Carpenters and Joiners give January, February, March, and April as the months when most illness occurs, and July through November as the healthiest season. For men not engaged in industry, the months with the greatest amount of illness are practically the same as for the groups just reported; that is, for enlisted men, January, February, and March show the most days lost through illness, and July through November the least. Figures of the present study in the textile industry apparently reverse the seasons so far as illness is concerned and show the least sickness for the time when there is usually the most and no decrease of illness during the summer months, which usually have a lowered sickness rate.

In a study made by the Public Health Service in 1917 (65, p. 21) the amount of illness reported by the workers in a number of cotton-mill villages in South Carolina was recorded by months. All months were not included, November and December being omitted from the study. It was found that the per cent of days lost by female workers through illness was greatest in February, March, April, and May, and lowest in August and September. These findings, although for cotton mills, are very different from those reported in the present study, and the dissimilarity may be due to the fact that the later figures are for mills North as well as South and are not confined to mill villages even in the South. Furthermore, the method of ascertaining the facts varied in the two studies. The present study secured the days lost from a year's pay roll and the causes from interviews with the women workers themselves. The method used by the Public Health Service was to interview one or more members of a family regarding the absence and sickness occurring in that family.

During the period covered by the Public Health Service, 2 villages were canvassed five times, 3 villages four times, and 19 villages twice. (65, p. 1.)

When illness of others is considered, the highest per cent of time lost occurred in the autumn and spring and the least in winter. In examining the days lost from this cause by months, there is not just the same distribution as in the case of illness of self, for December, January, and November, instead of December, January, and February, are shown with the least time lost due to illness of others.

The amount of time lost through home duties was greatest in summer and next highest in spring, but the two months in which it was markedly greater than in any others were May and June.

Vacation might reasonably be taken as a general cause covering time lost not only for that specific reason but for rest and recreation. When, therefore, these other two causes are grouped with vacation as a cause, it is clear that the summer months showed by far the greatest amount of lost time from the three causes. About one-half of the time lost through vacations occurred in summer, and one quarter in the autumn, but how far this distribution was due to a combination of the heat outside the mill and the temperature in the mill, and how much merely to a general habit of all workers to take their vacations in the summer months, it is difficult to tell. Probably the special conditions of temperature existing in mills emphasized the general condition.

Summer and autumn showed the greatest number of days lost from trying other jobs, a distribution different from that usually disclosed in a study of labor turnover. The Bureau of Labor Statistics found that over a 10-year period in different establishments reporting, the greatest number of separations took place in the spring and the fewest in the autumn. (8, p. 50.) Without doubt the larger number of temporary separations due to "another job" in the summer and autumn months in mills may be attributed to the unrest occasioned by warm weather out of doors, combined with conditions of work in the mills.

Absences that were caused through lack of work were most frequent in the spring and summer, and in many cases in mills where these absences occurred the proportion of time lost through vacation was less than when little time was lost by enforced absence through shutdowns.

The loss of comparatively few days was ascribed directly to the weather, but over one-third of those that did occur were in the summer. Winter had the next largest number, so that the two extremes of summer and winter had nearly 70 per cent (69.3) of the time lost from this cause. It would seem, therefore, that although

absences from most causes were greater in the summer months than in the other months of the year, there was a more pronounced increase in lost time from those causes which showed the effect on women of the warm weather.

CAUSES OF LOST TIME IN RELATION TO DEPARTMENT

The importance of the different reasons for lost time varied with the department. In most departments illness caused the greatest amount of absence, but in the cloth and the spinning rooms it played a more important part than elsewhere, the proportion of days lost by this cause being about one-quarter of all the time lost in these two departments. (Table XVIII in the appendix.) Pregnancy and confinement also caused more lost time in these departments, but the per cent of absence due to illness of others was considerably less than in either the card or the weaving room, where the proportion of older women was higher. The proportion of time lost for attending to home duties by workers in the spinning room was exceptionally small, but one of the reasons may have been that spinning-room operatives were more frequently "asked out" than those in any other department. During these days of enforced absence many of the home duties were attended to which were done by women in the other departments in time taken off especially for the purpose. Also, the larger proportion of young, single women in the spinning room may have been partly responsible for the small per cent of time lost on account of home duties. A lower per cent of time was taken from their work for rest, recreation, and vacation by women in the spinning room than by those in any other room, while the proportion of absence from these causes was highest for the spooling room. In the spooling room also the workers showed the highest per cent of time lost through the combined causes of "shutdown" and "no work," these two occasioning 17.8 per cent of the total time lost in the spooling department. This is an astonishingly high per cent when compared with the 9 per cent in the weaving room due to these causes and shows a lack of balance between departments which results in unnecessary hardship for the spooler and without doubt contributes to dissatisfaction with the work.

When the departments are divided into two groups, those in mills South and those in mills North, a difference is observed in the relative importance of the various causes in the same departments North and South. Illness of the worker occasioned a larger proportion of absences in the southern mills than in the northern in every department except the spooling, and time lost due to illness of others also was higher in southern mills in each department except the weaving. A much greater proportion of time was lost because of home duties

in every department in the North than in the South, and in two departments in the northern mills, the weaving and the cloth, more than one-third of the total time lost was due to this cause, while in the South the weaving department showed a little less than one-fifth and the cloth only 6.6 per cent of the total lost time due to this reason. Time lost because of "shutdowns," "no work," and "laid off" was greater in some departments of northern mills than in the same departments in the southern mills, but absence due to being "asked out" was very much higher in the South than in the North in every department.

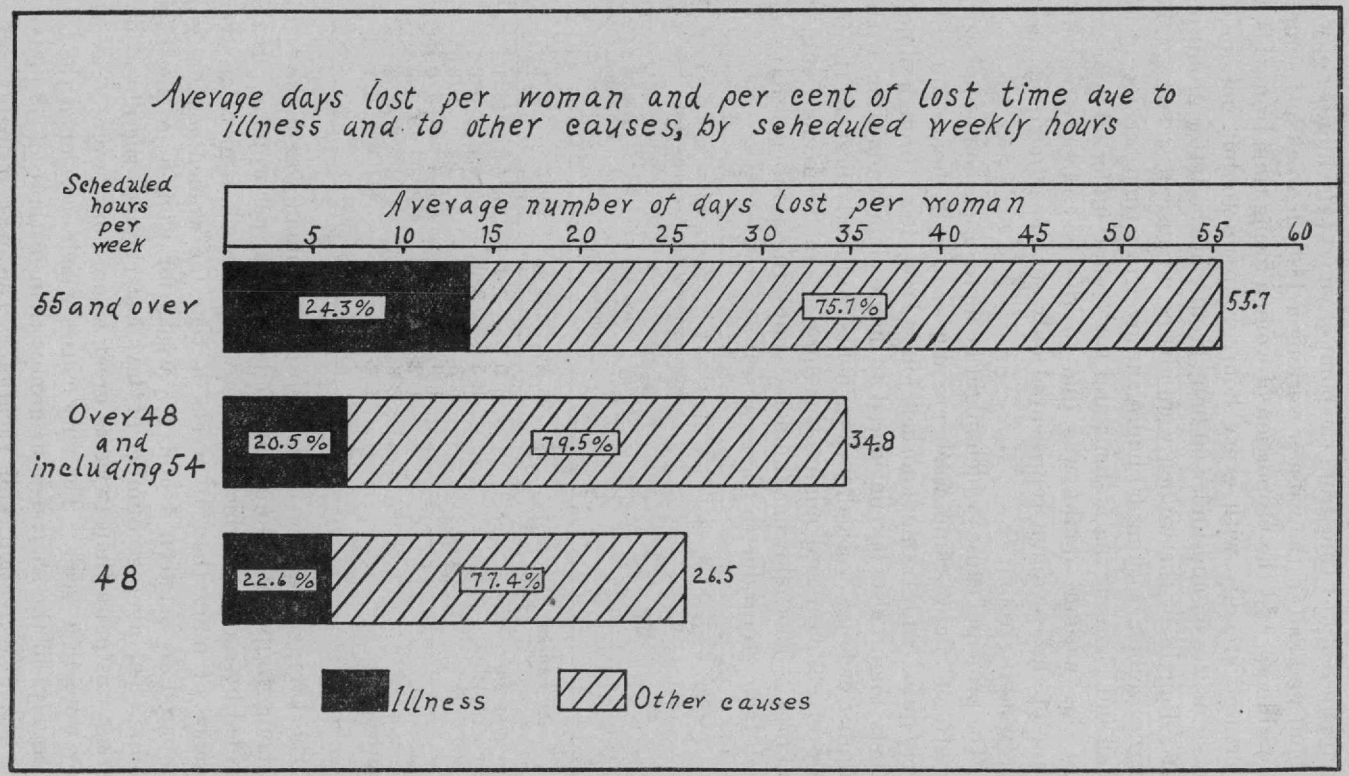
So many factors influence the relative importance of the different causes of absence in various departments, North and South, that only a few of the facts responsible for the results may be referred to. The considerable amount of time lost through illness of others and home duties was probably due to the high proportion of married and middle-aged women in the weaving room, while the cloth and the spinning rooms, with their majority of unmarried and younger workers, showed much less time lost from these causes. A smaller proportion of the spoolers' time than that of workers in any other department was lost through illness, but it is true also that the spoolers lost more time unavoidably through the combined causes of "no work," "asked out," and "shutdowns" than did other workers. As already noted, the spoolers also took the most time off for rest, recreation, and vacation, so that altogether between 35 and 40 per cent of their lost time was due to unavoidable mill causes or to avoidable personal ones, both of which factors probably contributed to the resulting lower illness rate.

CAUSES OF LOST TIME IN RELATION TO SCHEDULED HOURS

The proportion of lost time due to the various causes specified by the women workers has been considered, as has the variation in the proportion of lost time with scheduled hours of work, and now it is of interest to combine the two to determine what are the causes of absence predominating in the different hour groups.

TABLE 10.—*Causes of time lost during the year in relation to weekly hours, 2,214 women reporting*

Cause	Days lost during the year	Days lost by specified cause by women whose hours were—													
		48		Over 48 and including 54		55		Over 55 and under 60		60 and over		54 and under		55 and over	
		Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
All causes	97,163	10,237	10.5	24,733	25.5	28,198	29.0	26,836	27.6	7,159	7.4	34,970	36.0	62,193	64.0
Personal:															
Illness of self	22,495	2,314	10.3	5,061	22.5	6,094	27.1	7,430	33.0	1,596	7.1	7,375	32.8	15,120	67.2
Pregnancy and confinement	3,140	318	10.1	724	23.1	903	28.8	1,115	35.5	80	2.5	1,042	33.2	2,098	66.8
Illness of others	9,292	577	6.2	2,529	27.2	2,444	26.3	2,928	31.5	814	8.8	3,106	33.4	6,186	66.6
Accident	283	22	7.8	49	17.3	117	41.3	18	6.4	77	27.2	71	25.1	212	74.9
Death	585	80	13.7	121	20.7	178	30.4	189	32.3	17	2.9	201	34.4	384	65.6
Marriage	509	106	20.8	194	38.1	111	21.8	83	16.3	15	2.9	300	58.9	209	41.1
Home duties	19,256	2,040	10.6	7,042	36.6	5,064	26.3	3,324	17.3	1,786	9.3	9,082	47.2	10,174	52.8
Education	973	332	34.1	222	22.8	242	24.9	90	9.2	87	8.9	554	56.9	419	43.1
Religion	51	1	2.0	2	3.9	25	49.0	17	33.3	6	11.8	3	5.9	48	94.1
Rest	4,931	754	15.3	900	18.3	718	14.6	2,109	42.8	450	9.1	1,654	33.5	3,277	66.5
Recreation	4,391	460	10.5	1,665	37.9	1,016	23.1	1,003	22.8	247	5.6	2,125	48.4	2,266	51.6
Vacation	2,776	886	31.9	1,380	49.7	186	6.7	164	5.9	160	5.8	2,266	81.6	510	18.4
Business	609	43	7.1	107	17.6	150	24.6	273	44.8	36	5.9	150	24.6	459	75.4
Another job	7,347	525	7.1	731	9.9	1,828	24.9	3,206	43.6	1,057	14.4	1,256	17.1	6,091	82.9
Mill:															
Accident	689	71	10.3	141	20.5	133	19.3	254	36.9	90	13.1	212	30.8	477	69.2
No work	2,648	287	10.8	769	29.0	1,085	41.0	409	15.4	98	3.7	1,056	39.9	1,592	60.1
Penalty	137							137	100.0					137	100.0
Let out	4,844	607	12.5	91	1.9	3,384	69.9	489	10.1	273	5.6	698	14.4	4,146	85.6
Shutdown	10,143	565	5.6	2,574	25.4	4,194	41.3	2,640	26.0	170	1.7	3,139	30.9	7,004	69.1
Laid off	463	124	26.8	136	29.4	177	38.2	26	5.6			260	56.2	203	43.8
General:															
Dispute	735			61	8.3	48	6.5	541	73.6	85	11.6	61	8.3	674	91.7
Strike	52			10	19.2			42	80.8			10	19.2	42	80.8
Weather	166	19	11.4	4	2.4	29	17.5	99	59.6	15	9.0	23	13.9	143	86.1
Miscellaneous	648	106	16.4	220	34.0	72	11.1	250	38.6			326	50.3	322	49.7



In every hour group considered, illness of self was the most important cause of lost time from the point of view of the number of women. About one-half of the women working a 48-hour week lost some time from illness, and the proportion of women losing time from this cause increased steadily with every hour group up to but not including those in the 55-and-under-60-hour group; in the latter group nearly three-fourths of the women were absent because of sickness. Fewer of the women working 60 hours and over lost time because of illness than did those in the 55-hour and the 55-and-under-60-hour groups, but this without doubt was due to the fact already noted that some of these women represented only one department in the mill, the weaving room.

The principal causes which might be more or less connected with the length of the working week are illness of self, home duties, rest, recreation, and trying another job. Days lost through illness of others might also be considered to have some connection with the number of hours worked, as long hours frequently prevent the proper care of children and might, therefore, make them more subject to sickness. The following summary shows the number of days lost in each hour group due to these causes:

Cause	Average number of days lost where weekly hours were—				
	48	Over 48 and including 54	55	Over 55 and under 60	60
All causes	26. 5	34. 8	62. 5	50. 9	51. 5
Illness of self	6. 0	7. 1	13. 5	14. 1	11. 5
Illness of others	1. 5	3. 6	5. 4	5. 6	5. 9
Home duties	5. 3	9. 9	11. 2	6. 3	12. 8
Rest	1. 9	1. 3	1. 6	4. 0	3. 2
Recreation	1. 2	2. 3	2. 3	1. 9	1. 8
Vacation	2. 3	1. 9	. 4	. 3	1. 2
Another job	1. 4	1. 0	4. 1	6. 1	7. 6

The average number of days lost per woman was highest in the 55-hour group, with more than 60 days a year per woman. If this is divided by six days, which make a working week, it gives an average absence of more than 10 weeks a year for women in this group, compared to between 4 and 4½ weeks for women in the 48-hour group. The average number of days lost through the illness of the worker was more than twice as great where hours were 55 as where they were 48 a week. The only causes which occasioned the loss of more days in the shorter-hour groups than in those of 55 hours and over were recreation and vacation. This was probably affected to some extent by two things—the fewer days lost by "no work," "shutdown," and "laid off" in the mills with shorter hours, and the

fact that the shorter-hour mills were in the North, where vacations for recreational purposes were more the custom than in the South.

CAUSES OF TIME LOST IN RELATION TO PERSONAL HISTORY

There are certain conditions that affect absence which are found not in the actual work nor in plant conditions under which the work is done, but in a study of the workers themselves. By this is not meant the direct cause of absence reported by the worker, but rather various conditions of being and of living which lie behind such cause and often contribute thereto. When visits were made to the workers, they themselves gave the reasons why they lost time, but they also gave other information concerning such matters as age, marital condition, living condition, and length of time in the industry, which might affect the amount of lost time. Moreover, hot, moist air, dust, and noise inside the mill increase fatigue, which may develop into illness and cause absence.

The personal history of the worker may be of much significance when considered in connection with the amount of lost time. Women in certain age groups through illness or home responsibilities may lose more time than those in other age groups. Married women may have to stay at home more often than those who are single, or widows through greater need may be forced to work more steadily. Women who have worked for many years in cotton mills may require more time off to rest, or they may have formed steadier habits of work and be absent less than women with shorter periods of service. However, it must be remembered while considering absence in connection with these factors that young workers or married workers, or those with long periods of service, are not working in equal proportions in all departments, but that a much larger per cent of young workers may be subject to one set of conditions and the strains of one kind of work in the mill, and a larger proportion of older women to another set of conditions, so that all are not equally subject to excessive heat, dust, or noise. Doctor Perry found that the per cent of excess in death rates of female operatives over nonoperatives was highest for the ages of 30 to 34 years, inclusive (45, p. 50); he also found that married women of 15 to 44 years of age, inclusive, employed in cotton mills showed a 292 per cent greater liability to death from tuberculosis than did married women in the same age group not working in cotton mills. (45, p. 80.)

This would seem to show that, although the early thirties or the married state might or might not be factors in a higher death rate, these nevertheless rendered the worker more susceptible to conditions connected with mill work and more liable to illness and death. When the measurement is absence rather than death it can easily be seen that the marital condition might, through the additional responsi-

bilities of the married or widowed worker, increase lost time. The age of the worker might not affect absence so directly as the marital condition, and yet the predisposition to illness which is greater at some ages than others might also be registered in the amount of lost time. When absence is correlated with length of service, a relationship without doubt exists, although the factors of age and marital condition might modify largely the results.

Age.

With the exception of women 60 years of age and over, the workers under 20 years lost less time than did those in any other age group. (Table XIX in the appendix.) It is interesting to note that within the group of young workers those under 16 lost considerably more time than did those of 16 and under 20 years. The highest proportion of lost time occurred among women of 30 and under 40 years of age, and these women lost nearly one-third more than did women under 20 years. From 40 years on there is a gradual decline with each age period in the amount of time lost, and the few women, only 35, who were 60 years and over lost less than did those in any other group.

In the different departments the relation between age and absence is upset by other conditions. Younger women predominated in the spinning department, where nearly two-thirds (65.3 per cent) of the women interviewed who reported lost time were under 25, and yet, in spite of the low absence rate of young workers, the women in the spinning room had the highest per cent of lost time of any department. The younger women themselves lost more time when working in the spinning room than in the other departments, and it was found that while the absence rate of all women under 20 years was 17.3 per cent, that for women in this age group in the spinning room was 19.4 per cent. In the weaving room the largest group was the women of 30 and under 40 years of age, and this age group was found to have the highest absence rate; nevertheless the weaving room showed a lower proportion of lost time than did either the spinning or spooling department.

The cloth room apparently did show a coincidence between age and lost time. Its absence rate was low, and the proportion of young workers with their low absence rate was high.

Conjugal condition.

The proportion of time lost by married women workers was very much greater than that lost by either single employees or those who were widowed, separated, or divorced. Single women were the steadiest workers and lost only about a seventh (15 per cent) of their possible working time. The widowed, separated, and divorced showed the next best record and lost about a fifth (19.1 per cent) of their working time, while married women, with the greatest amount of lost time, had an absence rate of 27.9 per cent, well over a.

fourth of their possible workdays. The average length of service during the year—that is, the period in which the lost time occurred—was longest for the widowed, separated, and divorced women and shortest for the married workers. It is clear that the home demands would be greater on a married woman than on a single woman, and while the woman who was either widowed or separated from her husband might be claimed by as urgent home duties as the married worker, yet, without doubt, the greater need of her earnings would keep her more steadily at work than the single or married worker, even if this resulted in the neglect of some of the needs of the home. The average shows even more strongly than does the per cent the economic pressure of women with families and no husband to help in their support. Single women lost an average of 36.2 days during their work period, married women 50.2, and the widowed, separated, or divorced 13.6.

TABLE 11.—*Time lost during the year in relation to conjugal condition, 2,211 women reporting, by mills North and South*

Item	All mills			
	All women	Women who were—		
		Single	Married	Widowed, separated, or divorced
Number of women reporting	2,211	1,065	846	300
Possible working days [1]—				
Number	493,619	241,939	180,036	71,644
Per cent distribution	100.0	49.0	36.5	14.5
Average per woman	223.3	227.2	212.8	238.8
Days lost—				
Number	100,220	36,274	50,269	13,677
Per cent distribution	100.0	36.2	50.2	13.6
Average per woman	45.3	34.1	59.4	45.6
Per cent of possible working days	20.3	15.0	27.9	19.1

Item	Northern mills			
	All women	Women who were—		
		Single	Married	Widowed, separated, or divorced
Number of women reporting	1,141	625	418	98
Possible working days [1]—				
Number	264,014	147,735	91,563	24,716
Per cent distribution	100.0	56.0	34.7	9.4
Average per woman	231.4	236.4	219.1	252.2
Days lost—				
Number	41,881	17,107	21,129	3,645
Per cent distribution	100.0	40.8	50.5	8.7
Average per woman	36.7	27.4	50.5	37.2
Per cent of possible working days	15.9	11.6	23.1	14.7

[1] For the year studied, the number of working days from date an employee's name first appeared on the books to date of its last appearance, totaled for all names on the books.

TABLE 11.—*Time lost during the year in relation to conjugal condition, 2,211 women reporting, by mills North and South*—Continued

Item	Southern mills			
	All women	Women who were—		
		Single	Married	Widowed, separated, or divorced
Number of women reporting	1,070	440	428	202
Possible working days [1]—				
Number	229,605	94,204	88,473	46,928
Per cent distribution	100.0	41.0	38.5	20.4
Average per woman	214.6	214.1	206.7	232.3
Days lost—				
Number	58,339	19,167	29,140	10,032
Per cent distribution	100.0	32.9	49.9	17.2
Average per woman	54.5	43.5	68.1	49.7
Per cent of possible working days	25.4	20.3	32.9	21.4

[1] For the year studied, the number of working days from date an employee's name first appeared on the books to date of its last appearance, totaled for all names on the books.

Results of inquiries arranged by the British Association for the Advancement of Science indicate that the timekeeping of women in industry depends on the proportion of those married or having dependents, and the report adds, "as time goes on, the proportion of married women increases." (36, p. 27.) The first of these statements apparently agrees with the present figures, for it was found that married women and women who had been married lost considerably more time than did single women; but when other factors, such as age or working conditions, are considered with the marital status, they occasionally are found to alter results.

According to appendix Table XX, the weaving room has a larger proportion of married women than has any other department, and yet timekeeping in the weaving room is better than in either spinning or spooling, each of which has a large proportion of single women. The cloth room and the spinning room have by far the largest proportion of single women; yet one has the lowest and the other the highest per cent of lost time. It would appear, therefore, that although there is a tendency for single women to lose less time from the mill than do married women, conditions surrounding the single women at work frequently may counteract this tendency, so that they may surpass the married women in the amount of time lost.

Living condition.

It may be that the fact of living at home necessitates more duties at home, regardless of the marital condition of the worker. This situation would probably be shown in the relative lost time of women living at home or with other relatives and of those living independently. (Table XXI in the appendix.) The proportion of possible working time lost by all women living at home was 20.4 per cent,

which was less than that lost by married women, and almost the same as that lost by women who were widowed, divorced, or separated, 19.1 per cent. Women who were living independently, that is, not living with their families or with relatives, lost rather less time than did the women living at home but more than did the women who lived away from home but with relatives. This latter group lost the least time, but their number was also very small, only 47, and these women, as well as those living independently, probably were women without the near ties and many demands of those living with their immediate families.

Size of family.

Where, as in cotton mills, there are usually several workers in each family, the question has arisen whether there might not be considerable substituting of one member of the family for another in the mill, or a general understanding that, with a number in the family as mill operatives, no one person need work very regularly. The present records show the number of wage earners in the family of each woman who was interviewed, but as frequently there was more than one woman interviewed in the same family, and a record was taken for each woman, no figures can be shown as to the number of families included in the study, but only as to the family background of each individual worker.

The largest group of women lived in families where there was one other wage earner, and these lost 23.4 per cent of possible working time. (Table XXII in the appendix.) This was a larger proportion of lost time than occurred in any of the other groups. With the increase in the number of wage earners in the family there was no corresponding increase in the amount of time lost. The proportion of lost time among women where there were 3, 4, 5, or 7 wage earners was about the same, all having a lower per cent than where there were only 2 wage earners in the family. The group of women with 6 wage earners lost a greater per cent of their time than did any other group except that with 2, but this would hardly show any direct correlation between number of workers in a family and time lost, as the women who lived in other families with more wage earners than 2, and even more than 6, did not show this same increase in lost time. The least time, with the exception of that lost by five women who lived in families with 8 or more wage earners and who constitute too small a group to be significant, was lost by the women who were the only wage earners in their families, and probably in such case the responsibility of being the chief support of their families rendered necessary the strictest attendance possible. From these results, therefore, there would seem to be little correlation between numbers of wage earners and lost

time, except in the case of a single wage earner in a family. Where a woman is the sole breadwinner, her proportion of lost time is less than where there is more than 1 wage earner except where there are 8 or 9 wage earners.

Length of mill service.

The effect of long service in an industry may result in a gradual lessening of endurance, which will demand more rest and therefore absence; or it may result in an adjustment to the job and habits of work which will mean steady attendance. The textile industry is essentially a life industry. Workers occasionally leave and go to other work, but rarely do they remain permanently away from the mills. Likewise they marry and have children, and although the women may stay at home for a number of years to care for the children when small, they are very apt to return to the mills when the economic needs of a growing family become pressing, or if their husbands die or desert them. The fact that so many women employed in cotton mills return to work after they have been married makes the total time during which work was performed extend over very long periods.

Prolonged absences during over-all period.—Up to this point, the discussion of lost time has covered only absences which were recorded on the pay rolls of the mills for the one year. It is of interest to consider also the absences which occurred during the total number of years or months of cotton-mill employment, as reported by the women themselves during the home interviews.

The time of beginning work in the mill and the absences of three months or longer were reported by 2,303 women, three-fifths of whom had been absent from the mill during their work history for considerable periods of time, varying from three months to many years. (Table XXIII in the appendix.) Those who reported no absences of as much as three months had, as a rule, much shorter periods of service than had the others. Only about one-twentieth (5.3 per cent) of the former group of women had a service record of 15 years and over, while nearly one-half (47 per cent) of those with a more broken over-all period were in this long-service group.

In the group of women (1,401) who reported absences of three months or more during their over-all period, four-fifths had an over-all exceeding five years, while only about a fourth (26.4 per cent) of the 902 women who had worked more steadily and had not lost so much as three months' time had an over-all of more than five years. From these figures it would appear that during the first years of work the attendance was far steadier than with continued years of service, and that after five years many more absences

of three months and longer occurred among the women operatives than during the early years of their mill work. The average amount of time lost per worker increased with each longer over-all period up to 35 years, after which there was a slight decrease. According to Appendix Table XXIV, which gives correlation of over-all time in cotton-mill employment and causes of absence during such employment, very few women, only 95, had an over-all period of more than 35 years, and they probably were exceptional in other ways besides having a record for long experience in millwork. These women lost on the average about eight and one-fourth years during this very long work period, while women whose over-all was from 5 to 10 years lost an average of only about one and one-fourth years. Women in the groups having an over-all of 20 years and more lost an average of from seven years and one month to nine years and four months, according to group, so that, roughly stated, their actual work time was from a third to a fifth less than the period in which the work was performed. Although nearly one-third of the women (30.4 per cent) had an over-all period of over 15 years, nevertheless allowance must be made for the fact that most of them, all but 48 of 692, were not actually working for a considerable part of their over-all time.

Although absences of long duration during their length of service were reported by many women, one-fourth of the absences (24.6 per cent) were less than six months in length, and over one-half (54.9 per cent) were less than a year. (Table 12.)

Long absences—of three years and over—constituted but one-quarter of the total number of absences, and this is interesting when it is realized that 46.8 per cent of the women who lost three months or more had over-all periods of over 15 years. (Table XXIV.) There were, of course, some very long periods of absence from work, and there were 89 instances of workers being away from the mill for 15 years and longer; however, these cases comprised but a small per cent (3.5) of the total number of absences.

Causes of prolonged absences.—The table following gives the causes of prolonged absences.

TABLE 12.—*Number and duration of absences of three months or more in entire cotton-mill experience, 1,379 women reporting, by cause and by mills North and South*

ALL MILLS

Cause	Number of women losing time	Number of absences	Number of absences of—								
			3 and under 6 months	6 months and under 1 year	1 and under 2 years	2 and under 3 years	3 and under 4 years	4 and under 5 years	5 and under 10 years	10 and under 15 years	15 years and over
All causes	[1] 1,379	2,529	641	591	441	229	127	76	225	110	89
Accident in mill	11	11	5	5							1
Accident outside of mill	4	4	3	1							
Another job	261	333	72	80	71	34	23	12	25	12	4
Change of residence	24	26	6	4	3	6	4		2		1
Child labor law	14	14	7	3	2	2					
Death	3	3	1	1	1						
Dispute	2	2	1	1							
Education	52	77	23	40	10	3	1				
Home duties or to keep house	274	336	31	59	48	23	32	18	65	29	31
Illness of self	203	254	119	59	42	19	5	2	7	1	
Illness of others	82	99	34	32	17	8	5	1	2		
Laid off	11	16	9	3	4						
Left for farm or country	93	113	7	17	31	22	12	4	14	3	3
Low wages	4	5	1	1		2			1		
Married	233	237	6	12	39	33	17	16	50	33	31
Mill closed	2	3	1	1	1						
No work	14	26	12	13	1						
Pregnancy and confinement	413	692	170	[2] 210	138	58	20	16	45	22	13
Recreation	7	9	6	1	1	1					
Rest	39	41	12	13	5	5	1	2	1	1	1
Shutdown	64	74	51	7	7	1		1	4	3	
Slack work	2	2	1						1		
Strike	6	6	3	3							
To stay at home	45	62	19	10	10	7	4	3	2	4	3
Vacation	26	47	34	9	3	1					
Weather	2	2	2								
More than one reason	30	30	4	4	5	4	3	1	[3] 6	2	1
Miscellaneous	5	5	1	2	2						

All causes	[1] 711	1,233	297	274	199	117	65	38	123	64	56
Accident in mill	6	6	3	2							1
Accident outside of mill	3	3	2	1							
Another job	136	173	27	40	47	19	13	5	14	7	1
Change of residence	15	16	3	3	2	3	2		2		1
Child labor law	6	6	3	2	1						
Death	3	3	1	1	1						
Dispute											
Education	24	35	18	10	5	2					
Home duties or to keep house	178	219	14	36	29	12	17	13	47	25	26
Illness of self	100	120	43	27	25	14	4	2	5		
Illness of others	53	66	19	22	12	7	3	1	2		
Laid off	11	16	9	3	4						
Left for farm or country	14	15	3	3	1	2	1	1	3		1
Low wages	4	5	1	1		2			1		
Married	103	103	3	7	20	14	8	5	17	11	18
Mill closed	1	1		1							
No work	12	16	12	4							
Pregnancy and confinement	206	311	81	[2] 80	37	32	14	10	31	18	8
Recreation	5	7	5	1		1					
Rest	22	24	6	9	4	3	1	1			
Shutdown	23	24	15	6	3						
Slack work	2	2	1						1		
Strike	2	2	1	1							
To stay at home	17	22	9	4	2	4	2			1	
Vacation	17	22	13	7	2						
Weather	2	2	2								
More than one reason	10	10	2	2	2	2				2	
Miscellaneous	4	4	1	1	2						

[1] Details aggregate more than total because many women appear in more than one group.

[2] Includes a woman with 3 absences of 6 months each, others not reported.

TABLE 12.—*Number and duration of absences of three months or more in entire cotton-mill experience, 1,379 women reporting, by cause and by mills North and South*—Continued

SOUTHERN MILLS

Cause	Number of women losing time	Number of absences	Number of absences of—								
			3 and under 6 months	6 months and under 1 year	1 and under 2 years	2 and under 3 years	3 and under 4 years	4 and under 5 years	5 and under 10 years	10 and under 15 years	15 years and over
All causes	[1] 668	1,296	344	317	242	112	62	38	102	46	33
Accident in mill	5	5	2	3							
Accident outside of mill	1	1	1								
Another job	125	160	45	40	24	15	10	7	11	5	3
Change of residence	9	10	3	1	1	3	2				
Child labor law	8	8	4	1	1	2					
Death											
Dispute	2	2	1	1							
Education	28	42	5	30	5	1	1				
Home duties or to keep house	96	117	17	23	19	11	15	5	18	4	5
Illness of self	103	134	76	32	17	5	1		2	1	
Illness of others	29	33	15	10	5	1	2				
Laid off											
Left for farm or country	79	98	4	14	30	20	11	3	11	3	2
Low wages											
Married	130	134	3	5	19	19	9	11	33	22	13
Mill closed	1	2	1		1						
No work	2	10		9	1						
Pregnancy and confinement	207	381	89	130	101	26	6	6	14	4	5
Recreation	2	2	1		1						
Rest	17	17	6	4	1	2		1	1	1	1
Shutdown	41	50	36	1	4	1		1	4	3	
Slack work											
Strike	4	4	2	2							
To stay at home	28	40	10	6	8	3	2	3	2	3	3
Vacation	9	25	21	2	1	1					
Weather											
More than one reason	20	20	2	2	3	2	3	1	[3] 6		1
Miscellaneous	1	1		1							

[1] Details aggregate more than total because many women appear in more than one group.

[3] Includes a woman with 1 absence of 6 years, others not reported.

Judged by the number of cases, the most important cause of absence was "pregnancy and confinement," according to Table 12. More than one-quarter of the absences (27.4 per cent) were due to this cause, and nearly one-third of the women (29.9 per cent) reported lost time for this reason. These absences were not, as a rule, of very long duration, and the large majority (74.9 per cent) covered less than two years. Sometimes a woman would report that she had lost 5 or 10 years from work when her children were born. In other words, she had stayed out during her pregnancy and confinement, and in the brief periods between, and this whole period might be more properly entitled "pregnancy and care of children," but as it does not include care of children when not complicated by childbearing, it seemed wiser to have the heading refer to the main cause of absence, which was the birth of children. A large number of absences were occasioned by "home duties" and "marriage"; the latter, although given as a reason, could probably be included in the former, for in most cases if a married woman stayed at home she had some household duties. These reasons together—"home duties" and "marriage"—had a larger proportion of cases where the absence was of long duration than had any other cause, and 41.7 per cent of the absences which lasted five years and longer were due to home duties and marriage. The longest absences of five years and over were due in three-quarters of the cases to the three allied causes of "home duties," "marriage," and "pregnancy and confinement." A considerably higher per cent of time away from mill work was caused by these reasons in the North (82.7 per cent) than in the South (65.2 per cent), and this difference between the two sections was most marked for "pregnancy and confinement." More cases of absence due to this cause were reported in the South than in the North, but the proportion of such absences which extended over a period of five years and longer was 6 per cent in the South and 18.3 per cent in the North.

Moving to the farm or country was another rather important cause of long absences, but whether this should be classed with "another job" or "home duties" is difficult to determine, although without doubt work both on the farm and in the home was done by women who moved to the country. Moving to the farm or country occurred much more frequently in the South than in the North, and also there were more cases in the South of women who moved back and forth from the mill to the farm. In each section, however, the number of absences due to moving to the farm was comparatively small, only 98 of such absences occurring in the South and 15 in the North. These findings are contrary to the general impression that a great many workers leave the mill to work on the farm for a time and then return to the mill.

Although 1,379 women reported some absence of three months or more during their cotton-mill period and gave their reasons, only 261, or 18.9 per cent, had worked as long as three months or more during this period in any establishment other than a cotton mill. In fact, these 261 were the only ones of the total 2,303 women reporting their total cotton-mill or over-all period who had worked in other industries for three months or longer; and this in spite of the fact that two-fifths of the total 2,303 women had an over-all period in cotton-mill employment of 10 years and over. (Table VI in the appendix.) In most cases, work in other industries was not tried for any very long period, since two-thirds of the absences due to trying other jobs lasted for less than two years.

Illness of the worker was accountable for about a tenth of all the absences, and nearly one-half of the absences due to this cause were of short duration, lasting from three to six months. This is in marked contrast to the importance of illness as the cause of short absences, discussed in the study of days lost during the one-year period.

It is interesting to note that although certain causes occasioned absence only once in the working period of a woman, other causes occurred more than once. The combined causes of "no work," "closed," and "laid off" were all more likely than other causes to be experienced more than once by the same worker. Nevertheless, such personal reasons as vacation, pregnancy and confinement, and education were reported as recurring in the over-all period of the same woman with a frequency almost equal to that of lack of work.

As already observed, some reasons, such as "pregnancy and confinement" and "moving to farm or country," were a far more frequent cause of absence in the South than in the North. Absences due to illness of the worker were slightly more numerous in the South, but in the North the number of absences caused by illness of other members of the family was twice the number as in the South due to such cause. "Another job" than mill work occasioned more absences in the North than in the South, and this situation, without doubt, is due to the far greater variety of work available for women in the former section. The change from one job to another, as already noted, took place more frequently South than North, but such changes were usually to another mill and not to another industry. The fact that more cases of absences for the purpose of resting were reported in the North than in the South may have been due to a difference in definition on the part of the women, for in the South are found many more instances where women said they "stayed home," not to attend to household duties but just to stay at home, and without doubt such absence was spent largely in rest. Much the same situation arises when we consider "closed," "laid off," and "no work" in the North

and South. More cases were due to these causes in the North, but the greater number of instances of "shutdowns" reported in the South probably makes the amount of time lost from general lack of work during the over-all period much the same North and South.

On the whole, southern women reported a slightly greater proportion of absence than did northern women, but the difference was so slight that it is almost negligible. However, since the per cent of absences of long duration was higher in the North than in the South, the total amount of time lost by the women during their entire work period probably was greater North than South.

Actual time worked in over-all period.—A long service record is subject, as already noted, to periods of absence extending frequently over many months, so that if it is desired to obtain some idea of the effect of years of mill labor on the worker's steadiness from day to day in the mill, these long absences must be subtracted from the total, or over-all, work period and the measurement based on actual time spent in mill work. The consideration of time worked also prevents the age of the worker from entering into the question of attendance to too great an extent, for while an over-all period of 15 to 20 years would indicate a worker between 30 and 40, as most women begin under 20 years, an actual work period of from 15 to 20 years might include many older women. In the shorter over-all and actual work periods there would not be the possibility of such age differences.

Three points are of special significance in considering the effects of long service upon the attendance of the women during the year studied. One is the number of women in the various length-of-service groups, another is the average possible workdays for the group during the year, and the third is the per cent of time lost by the group and the average number of days lost per worker in each group. The number of women in the various length-of-service groups naturally would decrease with the longer years of service, but the amount of the decrease, especially when compared with other industries, is significant. It must be remembered, however, that the actual length of service in cotton mills is not continuous but is broken by many, and frequently long, absences, and that the fatigue element would probably not be so important as in unbroken records of service.

An analysis of the women according to their length of time in the trade shows 45 per cent who actually worked less than 5 years, a little over one-third (34.9 per cent) who worked 5 to 15 years, and about a fifth (20.1 per cent) who worked 15 years and over. (Table XXV.) The last-mentioned per cent is a very high proportion of women to have actually worked in the same trade for so many years.

In a comparison of the length of service of cotton-mill workers with that of women engaged in other industries it makes a great deal of difference whether the over-all periods of the cotton operatives or their actual years of service are considered. Probably the latter is a fairer comparison, and the over-all time more significant from another angle—the permanency of the mill worker in the industry. In other industries there is some shifting from one trade to another, and in many cases when a worker marries she leaves her job never to return, but the mill worker nearly always marries a mill worker, and it is an exceptional family where the wife and mother does not return to the mill sooner or later in order to increase the family income. The following figures give an idea of the years in the trade reported by women in "all industries" in certain States, and the actual and over-all time reported by women workers in cotton mills:

	Per cent of women in the same trade for 15 years and over	Per cent of women in the same trade under 1 year
Rhode Island [1]	6.3	30.5
New Jersey	7.2	17.6
Missouri	8.2	20.3
Georgia	17.2	10.4
South Carolina	27.2	8.1
Cotton mills	Over-all time 30.7 Actual time 20.8	Actual time 13.2

[1] Textile mills not included.

The very large proportion of mill workers in Georgia and South Carolina make figures from these States more nearly comparable than those from other States with the cotton-mill figures and emphasize the fact that mill workers do little changing to other fields of employment, but spend many years of their lives in the mills.

The women in the cotton mills show a larger proportion with a record of actual service of 15 years and over in the same trade than do the women in all industries in the States listed in the foregoing summary, with the exception of South Carolina, where more than three-quarters of the women included were employed in cotton mills. At the other end of the scale, the proportion of women who had been in the trade less than a year is smaller in cotton mills than in three of the State groups, South Carolina, however, showing the smallest proportion in this classification and Georgia, in which the majority of the women surveyed were cotton-mill operatives, the next to the smallest.

The women in the cotton-mill industry who showed the shortest period of service, under 1 year, had the least number of possible working days during the year and the lowest average per woman

(122.6 days); this would naturally be the case, since many of the workers would have begun their work in the middle or latter part of the year. (Table XXV in the appendix.) The group of women who had been in the industry 15 years and over showed the greatest number of possible working days within the year, with an average per woman of 255.5 days. The following summary shows for three general length-of-service groups—the first of less than 5 years, the second of 5 to 14 years, and the third of 15 years and over—the average number of days lost per woman during 1922 and the per cent which the lost time constitutes of possible working days:

Length of service	Average days lost	Per cent of possible working days
Under 5 years	38. 6	19. 1
5 and under 15 years	51. 0	21. 8
15 years and over	49. 3	19. 3

Women with less than 5 years of mill service lost the least, those with 15 years and over came next, and the 5-and-under-15-year group lost the most time during the year studied. There was a high proportion of lost time shown by workers whose length of service was under a year, 22 per cent. It is impossible to determine whether these variations in the proportion of time lost were due to conditions in the lives of the women, such as bearing children in the middle years of life and the demands of a family or to the character of their work, for it is a fact that certain departments showed longer service records than others and that also the absence rate was lower in these departments.

Days lost in relation to possible working days in a year does not, however, tell the whole story so far as the worker herself is concerned. Fifty women whose possible working days were added together might have no larger aggregate of days to their credit than 25 women with longer individual work periods, and yet the average of possible working days and the average number of days lost would vary considerably according to the number of women in the group. Thus the average work period, or possible working days, for 1922 was practically the same for the women who had worked 2 and under 3 years and for those who had worked 15 and under 20 years, 243.1 and 243.3 days, respectively, and yet the average lost time for women was 41.8 days in the short-service group and 51.1 days in the group that had worked from 15 to 20 years.

In considering the subject of lost time in connection with length of service, it is clear that merely to make the statement that there is an increase of lost time with increasingly long years of work in no way

explains or even attempts to name the various causes which contribute to this lost time besides long years of work. It may be wise to stop for a moment and review several causes which already have been found to affect absence, and by this means to determine to a little more exact degree the effect of long years of work as measured by days of absence during the period taken in this study. It is clear that when days lost are expressed in the average number per woman, it is more significant from the viewpoint of the worker than is the per cent of days lost, because, although an average is not an accurate picture of the individual, it nevertheless in this case does show better what happens to the women than does the per cent. The average allows for the number of women losing the time and does not consider days only, regardless of the number losing the days, as does the per cent of lost time. The average number of days lost per woman was least for the worker with less than 1 year of service and for each group, except one, steadily increased up to the 15-year group, where there was a slight drop. This slight decrease in both per cent and average for workers is, without doubt, due to the fact that 38.2 per cent of the women in this long-service period were in the weaving department, where less time was lost than in the other two large departments.

In a consideration of the proportion of lost time in the three departments that employ about three-fourths of all the women included in the study, the women in the spinning room lost the most, those in the spooling room next, and those in the weaving room the least. As already stated, the spinning room had by far the greatest number of young, single women, who, as a group, lost less time than did the older women, and the weaving room had the greatest number of middle-aged women and married women, who lost more time than did single women, and yet the workers in the spinning room with less than 5 years of service lost a larger proportion of their time than did the women in the weaving room in this same service group. At the other end of the scale in the long-service period of 15 years and over, the result as shown by lost time no more nearly coincides with what would be expected from the composition of the two groups than in the period of service under 5 years, and the spinning department in the long-service group again has a higher proportion of lost time than has the weaving department. Probably age and marital condition do modify the absence rate in the length-of-service group by department, but certainly not to a great extent, as is revealed by the fact that the proportion of lost time registered by various length-of-service groups in different departments does not follow the same variations in per cent of lost time shown by the groups which predominate in each department.

Total length of service in mills surveyed.

The length of service in a given establishment presents a rather different problem when taken in relation to absence than does the question of the total work period in the industry. The problem is analogous to the man who has $500 to live on for six months; it is of much more importance to learn how carefully and judiciously he spends that money than whether he spends it all in one store. It is an open question whether he may or may not get better value by purchasing at one establishment, but to the man who owns the store it is quite certain that if all the purchaser's money is spent in his establishment it is much to his advantage. For the individual employer, the importance of the length of service of his employees probably is greater than it is for the individual employee. Paul F. Brissenden and Emil Frankel, in their book on labor turnover in industry, have brought out the importance to the employer of a steady work force. They say: "From the standpoint of an individual establishment eager to maintain an esprit de corps in the plant, and for that reason bent upon minimizing its labor changes, the length of service of its employees becomes an all-important factor." (7, p. 115.)

In the present study length of service is considered principally as it affects the absence rate, although the per cent of women in each length-of-service group gives some indication of the stability of the work force in the different mills. The following summary compiled from Appendix Table XXVI presents very briefly the general distribution of women by length of service in the same mill, and the proportion of their possible working time which was lost:

Length of service	Per cent distribution of women	Per cent lost of possible working time
3 months and under	7. 0	34. 2
Under 1 year	23. 2	24. 3
1 and under 5 years	39. 1	19. 9
5 and under 15 years	28. 0	19. 5
15 years and over	9. 7	15. 0

The largest group of women show service in the same mill of 1 and under 5 years, and nearly a quarter of the women had worked less than a year in the same establishment. It is interesting to find how closely the length of service in these cotton mills follows that occurring in 34 plants in many different industries reported to the Bureau of Labor Statistics in 1913–14. (8, p. 51.) The present mill study shows 23.2 per cent of the women with length of service

under 1 year, and in this group in the study of various industries are 28.9 per cent of the workers, while in the longer-service groups of 5 years and over the cotton mills had 37.7 per cent of the women and the general industries had 32.9 per cent of the workers. These figures show that operatives in cotton mills have a larger proportion in the longer-service group, but a comparison can not be made too minutely, as only women were reported in the cotton-mill study, while the figures for the different industries included both men and women.

When length of service in the same mill and proportion of time lost are considered, the per cent of lost time steadily decreases until for workers of 5 years' service and longer it is six points lower than for those with less than a year's record in the same establishment, and at the two extremes of three months and under and 15 years and over, the latter per cent of absence is a little more than one-half that of the former. The increased efficiency, judged by the decrease in lost time, of employees who remain for some years in the same mill shows that the desire of the employers for a steady work force is well founded and that efforts made to hold their workers may bring results both in steadier attendance and, persumably because of the workers' willingness to remain, in a more contented work force.

The proportion of workers in short and long service periods varied considerably in the different mills. (Table XXVI.) The widest range occurred in two mills, both located in the South; one where 56.4 per cent of the women interviewed had been in the employ of the mill for less than 1 year, and the other where only 6.8 per cent of the women reported less than 1 year of service. At the other end of the scale were found two mills, both in the North, the one in which about two-fifths (39.9 per cent) of the workers had been in the mill for 15 years and over, and the other in which but one worker had this long-service record. Another mill showed no worker in the mill for so long as 15 years, but this plant had been closed for a time and then reorganized, a situation which would naturally account for this lack of long-time employees.

Length of service in departments.

Some idea of the stability of the women employees in each workroom may be gained by the following correlation of the length of service of the women in the various departments and their time lost:

TABLE 13.—*Per cent distribution by length of service of women in the various departments and per cent their lost time was of their possible working days during 1922*

Department	Under 1 year's service		1 and under 5 years' service		5 and under 15 years' service		15 years' service and over	
	Per cent of women	Per cent of time lost	Per cent of women	Per cent of time lost	Per cent of women	Per cent of time lost	Per cent of women	Per cent of time lost
Carding	17.1	23.7	39.0	14.8	35.3	19.0	8.6	14.2
Spinning	26.8	24.1	42.5	21.9	24.6	21.6	5.8	15.8
Spooling	23.9	19.4	39.1	19.9	28.0	20.2	9.0	12.8
Weaving	20.0	25.6	31.7	18.2	31.4	16.8	16.9	14.8
Cloth	28.0	17.5	46.7	13.7	18.7	10.5	6.7	14.7

The cloth and spinning rooms showed the most unstable groups and contained the highest per cents of women with service records of less than a year, while the card room had the fewest in this short-service period. More than one-quarter of the women in both the cloth and spinning rooms had been there less than a year, and those in the spinning room lost considerable time (24.1 per cent) during this short work period. In the cloth room, although the proportion of workers under 1 year was higher even than in the spinning room, the per cent of lost time was less for this service period than that in any other department. When this group of under 1 year is subdivided, as in unpublished data, into those who worked 3 months and less, over 3 and under 6 months, and 6 months and under 1 year, there is still a much higher per cent of time lost by women in the spinning room with only 3 months and less of service than by those in any other department. During their entire service period of less than 1 year, the women in the card room lost nearly as high a per cent of their time as did the women in the spinning room, but during the first 6 months their absence was considerably less.

After 1 year of service there was a decline during the next 5-year period in the proportion of lost time in every department except the spooling. During the next 10 years of service, the period of 5 and under 15 years, the per cent of lost time increased in the carding and spooling departments but showed in the other departments a slight decrease. Workers who remained in the same department in the same mill for 15 years and over lost a smaller proportion of their time in all departments except the cloth room than did the workers in the other groups, but it must be remembered that a very small number of workers remained for so long a period in the same department or even the same mill. In all departments but weaving less than 10 per cent of the women operatives reported 15 years and longer of service; in fact, the carding, spinning, and cloth departments had

well under 10 per cent. The weaving department had the highest proportion of women who had worked for 15 years and over, or 16.9 per cent. If the length of service in different departments is briefly summarized, it is seen that the cloth and spinning departments had the largest per cent of workers with less than 1 year of service and the weaving department had the largest per cent with 15 years and over. The highest per cent of lost time occurred in the spinning department in each of the service groupings, with the exception of workers having less than 1 year of service, where the weaving department had the highest rate of absence.

PART V

LABOR TURNOVER

In 1917 a conference of employment managers was held in Philadelphia, and the subject of labor turnover came under discussion. Each man gave his own experience in regard to the extent of labor turnover together with the causes and various remedies which had proved effective. It was stated as a well-known fact that the individual employer is interested in maintaining a stable work force and regards excessively numerous terminations as a serious obstacle to efficient and continuous operation. However, although each employer realizes the inefficiency involved in the constant quitting and rehiring of workers, very few take the time or trouble to discover causes and seek remedies. The few employers who do take the trouble are those whose figures usually are quoted, and these, without doubt, are running their plants in a more efficient way than does the average employer, and therefore their records show better conditions than obtain as a whole.

When figures of other investigations are compared with those secured in the present survey, not only must allowance be made for the fact that in other studies plants keeping employment records were chosen, while in this study the cotton mills were selected at random, but the difference in method of computing must be noted. The most striking way to show turnover, especially when a comparison of different plants is to be made, is by showing the average work force and the per cent of separations over a given period. The base in a single plant ordinarily is the average number of persons at work in a week, a month, or a year, and this number is divided into the number of separations during the given period. Each firm decides what it will call separation, whether, absence of one week, of two weeks, or of a month. In a study made by the Bureau of Labor Statistics (35, p. 63) an effort was made to ascertain the different methods of fixing the termination of employment.

"Several employment managers had no hard and fast rules, two said that cases were investigated on the first day of absence and the employee dropped immediately unless a good excuse was offered, four reported that absentees were dropped after two days, two allowed three days, one four days, one allowed a week, and another two weeks, one a half month, two a month, one six weeks, and one

carried the names on the rolls until the end of the quarter year because the bonus allowance was adjusted quarterly." Thus it is seen that there is no uniform method of deciding when an actual termination of employment takes place. Frequently more than one system is employed in the same establishment if the employing is done, as it is in cotton mills, by the overseer of each department. When many establishments are studied, therefore, it is necessary to have a more uniform method than that employed in the individual plants, and as the time covered by the present study was the year 1922, it was decided to call separations only the departures from the mill of persons who did not return to work within that year. This, without doubt, substantially decreased the number which in most establishments would be classed as turnover. The extent to which this lowers the turnover figures in comparison with plants where the workers are classed as separations after two or four weeks of absence is shown in Appendix Table XXVIII, where the same figures are used but computed according to the three methods of fixing termination of employment: First, by taking into account all separations occurring within the year; second, by considering as separations all absences of more than 24 days; and, third, by considering as separations all absences of more than 12 days.[1]

It will be seen that if a worker is allowed four weeks, 24 working days, before his or her position as employee is terminated, but is not allowed an absence of longer duration, the turnover for women in the mills visited is increased a little more than a quarter as compared with the rate shown by the first method, while if only a two-weeks' absence is allowed before termination of employment, the increase is more than two-thirds. When the three methods are used for the classification of the men's records, less difference is found in the result. The per cent is less than a fifth higher where all men who are absent more than four consecutive weeks are termed "separations," and slightly less than two-fifths higher when the absentees are included in turnover after two weeks. From these figures it is apparent that although the proportion of complete separations for the year was not much higher (0.8 points) for the women than for the men, yet because of the greater number of long absences reported by the women the per cent of separations was considerably higher for women than for men when an absence of either four weeks or two weeks terminated the worker's employment.

The shifting from one mill to another was more prevalent for both men and women in the South than in the North. Holland Thompson, in his study in 1906 of North Carolina mills (49, p. 168), mentions this readiness of the southern operative to move, and thinks it is a

[1] In this comparison of rates by the three methods one mill where complete data could not be secured has not been included.

symptom of social unrest arising from lack of adjustment to environment. An English student of cotton mills, who visited this country in 1903, mentioned meeting a man who had worked in 56 southern mills. (66, p. 75.) One southern woman interviewed in the present study, in answer to a question as to where she had worked, exclaimed, "Where have I worked? Well, if you name most any mill in South Carolina, I have worked in 'em." Much of this desire to move may be due to an effort on the part of the worker to find compensation for the monotony of her work and life by seeking new conditions and surroundings. As has already been shown when considering the background of the worker, the southern mill operative is much more isolated and has less variety in his or her life than has the worker in the North. In an interview with a southern operative who had worked for over 20 years in different mills, the question of vacation came up, and she was asked if she ever took one. "Oh yes," she said, "when we move." And on further questioning it developed that she did not stop to rest between jobs but considered her vacation merely the journey on the train from one mill village to the next. In these changes the operatives carry with them few household possessions—a trunk, some bedding, occasionally a little furniture, a few chickens or a pig, so that packing and repacking is not a great burden. A superintendent of a mill in a large southern mill center said that frequently a family would work one day in a mill, move in the evening after working hours, and begin work in another mill the following morning.

Labor turnover is not a 100 per cent evil, for certain adjustments are necessary, and a worker may do well and be satisfied in one mill and not in another, the change resulting in greater satisfaction to both the worker and the management. It is well, however, to have some idea of what per cent constitutes a normal and desirable turnover. M. W. Alexander, of the General Electric Co. (2, p. 16), in a discussion of unavoidable separations points out as one factor in the problem the impossibility of any employment department's being run on a 100 per cent efficiency basis, though 80 per cent constitutes, in his estimation, a readily attainable efficiency. In analyzing the unavoidable separations that occur annually he allows 1 per cent caused by death, 4 per cent caused by illness of so long duration as to make replacement necessary, 8 per cent due to discharge or leaving for unavoidable reasons, and 8 per cent to number needed for ordinary fluctuations. In no mill included in the present study was there an employment department, the hiring, and when necessary the discharging, being done by the overseers of the various departments, sometimes with the assistance of the superintendent but more frequently without his aid. The per cent which yearly separations

formed of the average number of full-time workers, in other words the percentage of turnover in these mills, was 142.3. (Table 14.) Owing to the length of time many of these workers were carried on the books after leaving, sometimes a month or even longer, these figures are hardly comparable with those from individual plants, but they are a valuable index of the number of separations where a definite leaving not followed by a return to work within the year terminates the employment. For a general idea as to the extent of labor turnover prevailing in other industries, a brief summary of facts obtained from the Bureau of Labor Statistics gives interesting information. (8, p. 41.) From records taken from 16 to 176 plants, over a 10-year period, it was found that in 6 of the 10 years the labor turnover in the plants reporting was more than equivalent to a complete turnover; in the most stable year it was 62.7 per cent, and in the most unstable 200.5 per cent. From these figures 100 per cent turnover would appear to be a fair allowance for the shifting of labor from one establishment to another during a year.

The extent of turnover is an indication of the unrest existing among the workers in an industry, for the majority of separations are occasioned by the worker. In 21 establishments where figures were obtained in 1918 by the Bureau of Labor Statistics the lowest per cent of voluntary separations was 76.7, and the average for the 21 plants was 83 per cent. (35, pp. 56–57.) These figures show roughly the large amount of change which is due to the dissatisfaction of the worker. This discontent is not confined, in the case of the cotton-mill operative, to a small per cent of the workers but, if the proportion of workers who changed during the year be taken as an indication, is fairly general. More than one-half of all operatives (56.1 per cent) left the employment of the mills during the year, and many more were absent for considerable periods of time, as is shown by the fact that only one-quarter (25.7 per cent) of all the men and women worked in the same mill during each month of the year. (Table XXIX in the appendix.) The proportion who changed their jobs was abnormally high when compared with figures from other plants. When turnover was high, owing to the World War, reports from 10 plants in a large city in the Middle West showed but one establishment where the per cent of unstable workers was as high as in the present study. (22, p. 50.) However, when comparing turnover rates found in the mills with those in other plants, it might be fairer to use the rate of separation obtained when all absences from work of more than two weeks were considered separations, as this is the practice in many establishments and as it is probable that very few plants carry employees on their books for more than two weeks. By this method the turnover rate in the mills was 203.8 per cent, which is higher than

that (with the exception of one year) of any of 16 and more establishments where rates were recorded for 1910 to 1919 by the Bureau of Labor Statistics. (21, p. 147.) All the establishments in the Bureau of Labor Statistics studies kept employment records, a system which presupposes an interest in the problems affecting turnover, while in the group of mills there was but little knowledge of, or apparent interest in, the causes or effects of turnover; and, therefore, except in a few plants, little effort was made to stabilize the working force.

VARIATION IN TURNOVER IN INDIVIDUAL MILLS

That a very considerable variation occurred in the proportion of turnover experienced in the different mills is shown by the following table:

TABLE 14.—*Labor turnover among men and women employees, by individual mill North and South*

Mill	Men and women				Men				Women			
	Number of names on pay roll during year	Average number of full-time workers [1]	Labor turnover: Final separations—those not followed by return to work in 1922		Number of names on pay roll during year	Average number of full-time workers [1]	Labor turnover: Final separations—those not followed by return to work in 1922		Number of names on pay roll during year	Average number of full-time workers [1]	Labor turnover: Final separations—those not followed by return to work in 1922	
			Number	Percentage of turnover [2]			Number	Percentage of turnover [2]			Number	Percentage of turnover [2]
All mills	10,541	4,157.3	5,914	142.3	6,203	2,487.4	3,534	142.1	4,338	1,669.9	2,380	142.5
Northern mills	4,204	2,075.8	1,969	94.9	2,374	1,184.3	1,133	95.7	1,830	891.5	836	93.8
No. 1	346	181.6	148	81.5	163	97.5	60	61.5	183	84.1	88	104.6
No. 2	569	193.4	351	181.5	269	87.9	178	202.5	300	105.5	173	164.0
No. 3	484	334.5	137	41.0	283	204.9	76	37.1	201	129.6	61	47.1
No. 4	287	130.7	139	106.4	104	46.5	54	116.1	183	84.2	85	101.0
No. 5	416	248.0	130	52.4	259	160.5	81	50.5	157	87.5	49	56.0
No. 6	772	322.2	429	133.1	460	178.4	274	153.6	312	143.8	155	107.8
No. 7	199	74.6	124	166.2	106	41.1	64	155.7	93	33.5	60	179.1
No. 8	510	208.9	289	138.3	362	134.0	224	167.2	148	74.9	65	86.8
No. 9	621	381.9	222	58.1	368	233.5	122	52.2	253	148.4	100	67.4
Southern mills	6,337	2,081.5	3,945	189.5	3,829	1,303.1	2,401	184.3	2,508	778.4	1,544	198.4
No. 10	480	312.8	153	48.9	323	224.9	87	38.7	157	87.9	66	75.1
No. 11	223	110.0	96	87.3	118	66.4	44	66.3	105	43.6	52	119.3
No. 12	525	198.0	300	151.5	318	124.0	187	150.8	207	74.0	113	152.7
No. 13	1,005	275.7	667	241.9	625	184.8	408	220.8	380	90.9	259	284.9
No. 14	757	198.2	525	264.9	449	101.6	333	327.8	308	96.6	192	198.8
No. 15	1,478	481.9	974	202.1	805	266.2	556	208.9	673	215.7	418	193.8
No. 16	1,078	213.9	807	377.3	676	131.4	523	398.0	402	82.5	284	344.2
No. 17	365	138.8	193	139.0	243	101.2	121	119.6	122	37.6	72	191.5
No. 18	426	152.2	230	151.1	272	102.6	142	138.4	154	49.6	88	177.4

[1] Total days worked during the year, all employees, divided by number of days mill was in operation.
[2] Number of separations divided by average number of full-time workers, the result—the "separation rate"—being converted into the more familiar "percentage of turnover" by moving the decimal point two places.

The lowest per cent of separations for the entire year was 41, and the highest was 377.3. The following summary compiled from Table 14 shows that the greatest number of mills (10) had a turnover of between 125 and 300 per cent:

Percentage of turnover	Number of mills	Average number of full-time workers
Total	18	4, 157. 3
Under 50	2	647. 3
50 and under 75	2	629. 9
75 and under 100	2	291. 6
100 and under 125	1	130. 7
125 and under 150	3	669. 9
150 and under 200	4	618. 2
200 and under 300	3	955. 8
300 and over	1	213. 9

In all mills a certain number of operatives are necessary to run the mill. This number varies with the size of the mill and the character of the output, and also may vary in the same mill with the skill of the operatives and the number of machines that each worker is able to tend. The number of days actually worked by all operatives divided by the number of days the mill operated gives probably the best approximation of the number of standard positions in the mill. The number of names on the books in excess of this standard number gives some idea of the stability of the operatives. An average for all the mills shows that 153.6 per cent more names were on the books than would have been needed had every employee worked throughout the year. (Table XXX in the appendix.) This approximates very closely the 142.3 per cent of the employees who actually constituted the proportion of separations, the difference between the two being due probably to spare hands. It may readily be conceded that 100 per cent stability is not desirable, but neither are conditions which, in the same industry, show in one mill approximately 560 more operatives on the pay roll during the year than the average of 198.2 full-time workers necessary to run the mill, and in another mill only about 150 extras above the 334.5 workers required for running the establishment.

TURNOVER ACCORDING TO SEX

In 11 of the 18 mills the women had an appreciably higher turnover rate than had the men, but in all the mills combined their rate was only a little higher. (Table 14.) This slightly higher rate for the women may to some extent be due to the fact that, if a man moves, his wife and daughters, and sometimes even his mother, move with him, while it is not so true that if a woman moves her grown sons

and father accompany her. In other words, the change in position of one man may result in change for several women, while the shifting of a woman to another job is less likely to cause several men to move with her. Whether in other industries the turnover of women is greater than that of men, it is difficult to determine. In 13 industry groups where the number of separations of both men and women was reported for one year, only 3 industry groups showed higher rates for women than for men, while the rate for the whole group was 1.80 (see footnote to summary on p. 115) per full-year work for men and 1.11 for women. (7, p. 68.) The opposite of these figures occurred in a leather plant in England during a 14-month period, the per cent turnover for the men being only 113.1, while for women it was 286.2. (27, pp. 60–61.) None of these figures, however, are for textile mills, and the findings in a study made in four textile mills near Philadelphia more closely resemble the present figures in the fact that three of the four establishments reported higher turnover rates for women than for men during the period covered, which was the six months from March to August. (5, p. 203.)

VARIATION IN TURNOVER IN NORTHERN AND SOUTHERN MILLS

The southern mills show, as a whole, a very much greater shifting of the labor force than do the northern mills. (Table 14.) In fact, the turnover rate is practically twice as high, being 189.5 per cent in the South, and 94.9 per cent in the North, and although these figures show much greater change and more unrest among southern workers than among northern, yet in certain individual southern mills there was more stability and less change than in the majority of the northern mills. Two mills in the South had a turnover rate of less than the average for the northern group of mills, one with a turnover of 48.9 per cent and the other with a rate of 87.3 per cent, while the average turnover for the northern mills was 94.9 per cent. Two northern mills had higher rates than had five in the southern group, but these were exceptions, since in most northern mills the rate was considerably lower than those in the southern.

A consideration of men and women separately for the two groups of mills North and South shows that the rate of turnover of women in the South was more than twice the rate of women in the North, but that the difference for men was not so marked. It is also interesting to note that in the North the men changed their jobs more frequently than did the women, whereas in the South the women shifted their employment to a greater extent than did the men, a condition probably due to the larger number in the South than in the North of married women working, who would be apt to accompany their husbands and so show the effect of their unrest.

TURNOVER IN VARIOUS DEPARTMENTS

When any single establishment studies its turnover, it usually finds that there is considerable variation in this respect in different departments with different occupations. (Table XXXI in the appendix.) Where this is found to be true, the next step is to discover what causes effect this difference. In a car-building establishment the turnover varied from 32 per cent in some occupations to 630.9 in others, a difference of nearly 600 per cent. (7, p. 77.) A motor vehicle plant showed yearly turnover in some departments of 250 per cent and in others no change of personnel throughout the year. (17, pp. 4–5.) Some of this difference in the stability of the workers engaged in different occupations is due to the character of the work, and some to special conditions surrounding the occupation in that particular establishment. When similar departments in many plants are combined, however, and there are wide variations between departments in the turnover rate of the workers, it is apparent that such differences are caused not so much by particular conditions in any one plant as by the character or conditions of the work itself.

The weaving department had the highest turnover rate of all the five departments in the cotton mills. However, there was very little difference between its rate and that of the spinning department. The cloth room had the lowest proportion of separations, a situation probably due to the fact that the work as a whole is lighter than the work in the other departments and that the conditions, such as temperature, vibration, and noise, are much better. Workers in the weaving department suffer most from noise and vibration, but the air is usually not so hot and humid as in the spinning room. In a study made of the turnover in a 10-hour plant it was found that in the departments where women were employed the average turnover rate was 12.4 per cent in the department with the greatest noise, 12.3 per cent in the department with bad light, and 10.6 per cent in the department with bad air, and that all these departments showed a larger number of separations than occurred in the departments where these special conditions did not prevail. (25, p. 165.) Thus conditions of work in various departments would seem to have considerable effect on turnover. The weaving room is the most important one in the mill, and the work is the most complex, which means more possible points of friction, but more effort is made to have the work run steadily and continuously.

Men and women show very different turnover rates in the same departments. In weaving the proportion of women who changed was nearly one-fifth less than the proportion of men, which fact is interesting because in this more than in any other department are the men and women engaged on the same work. The spinning room shows a much higher rate for the women, but here the men or

boys are more apt to be working as doffers, while the girls do the spinning proper. Much the same condition is true of the spooling department, where the girls and women tend the spoolers and the boys bring up the full bobbins and cart away the empty ones. How far the occupation affects turnover is difficult to determine, but from the figures reported for the car plant and also for the motor-vehicle plant it would appear that the work itself had much to do with the restlessness that finally resulted in change of position. (17, pp. 4–5.)

The effect of this restlessness, as shown in turnover, was much more marked in the southern than in the northern mills, both for men and for women. The greatest difference in the proportion of those leaving among the women North and South occurred in the card room, but the spinning room showed almost as great a difference. Less variation in the turnover of the women North and South was revealed in the cloth room than in any other department, and in both sections of the country the per cent was lower in the cloth room than in most of the other rooms, in the South the lowest of any department and in the North the next to the lowest. In both North and South the men showed the greatest difference in the proportion of separations in the spinning room and next to the greatest in the card room. When all the turnover rates for both men and women in the spinning room are compared, it is found that the spinning department of every mill in the South had a higher per cent of turnover than the highest for spinning departments in the North. Moreover in the spinning and in the spooling departments of all mills combined in the South the per cent of turnover was more than twice as high as the rate in those same departments North.

TURNOVER IN RELATION TO SEASON OF THE YEAR

When the yearly turnover in a plant or an industry is considered one thinks of a certain number of men and women leaving and other men and women taking their places and one is not apt to realize the spasmodic way in which this actually happens. During some months there will be but few changes in the working force, while at other periods of the year, with no apparent change within the plant, twice as many workers will leave and seek work elsewhere. The general experience in other industries, as shown by a study of the records of many plants [2] during a 10-year period (8, p. 50), was that the highest turnover occurred during the spring and early summer months and that the force was steadiest from October to March. The turnover was shown to be highest for May and lowest for December. When these figures are combined according to season of the year, the variations in turnover are even more apparent.

[2] The study included from 3 to 39 plants, the number varying in different years.

Season	Number of workers	Number of separations	Percentage of turnover
Spring—			
March, April, May	471, 738	165, 445	35. 1
Summer—			
June, July, August	464, 579	146, 828	31. 6
Autumn—			
September, October, November	479, 036	119, 245	24. 9
Winter—			
December, January, February	470, 076	120, 781	25. 7

Thus it appears from these records that in the spring the separations were more than a third higher than in the winter months, and in the summer over a quarter higher than in the autumn.

A similar summary drawn up for the figures from the 18 mills, as presented in Table XXXIII in the appendix, shows results very different from those in the foregoing summary.

Season	Average number of full-time workers	Number of separations	Percentage of turnover
Spring—			
March, April, May	3, 852. 4	1, 200	31. 1
Summer—			
June, July, August	3, 900. 1	1, 501	38. 5
Autumn—			
September, October, November	3, 912. 7	1, 552	39. 7
Winter—			
December, January, February	3, 899. 2	1, 105	28. 3

The highest turnover among the cotton-mill workers occurred in the autumn months, and the next highest in the summer months. The work force was most stable in the winter months, when there was a drop of more than a fourth from the turnover rate of the autumn. The seasonal variation in the turnover of labor in cotton mills, therefore, does not follow the general trend of industrial establishments, since the autumn rather than the spring months show the greatest unrest. The season with the least shifting of the cotton-mill operatives was winter and that of the least shifting of the workers in the general plants reported in the first summary was autumn. The three months with the highest rates for the cotton mills were July, August, and September. It is true, without doubt, that the heat of the summer months usually increases the temperature in the mills and allows little opportunity for recuperation outside the hours of work. This condition contributes very largely to the restlessness shown by much shifting of the cotton-mill workers during the summer and autumn months.

When men and women are considered separately the results vary slightly from their combined figures as is shown in the following summary taken from Table XXXIII in the appendix:

Season	Percentage of turnover of —		
	Men and women	Men	Women
Spring	31. 1	32. 3	29. 7
Summer	38. 5	39. 2	37. 5
Autumn	39. 7	38. 0	41. 8
Winter	28. 3	24. 7	33. 3

Autumn is still the season of the greatest shifting for the women, but for the men the summer shows the highest turnover and autumn takes second place. The least change occurs in the spring season for the women and in the winter months for the men. However, the general condition is much the same for both sexes, autumn and summer being the seasons when most changes take place and winter and spring being those when fewest terminations of employment occur. The month of September has the highest turnover for both men and women, and January has the lowest.

Probably the seasonal changes in weather are to a large extent responsible for the turnover variations by time of the year, but there are other conditions than climate which might be partly responsible for the differing rates. Some managements reported a tendency during the summer months for workers to leave the mills and go to work on farms. By the workers visited this reason for change was given in very few cases, so few as to make the moving to farms of any large number of the workers seem very improbable. However, it is worth noting that in the northern mills the largest number of separations occurred in the summer months and not in the autumn, as was reported by the southern mills. The more detailed figures show that among the women visited the reason given for their termination of employment in the summer was much less frequently "to take another job" than when they left the mill in the spring or even in February. The rate of turnover in the different seasons and months in the southern mills followed very closely that recorded for all mills, the autumn showing the greatest number of changes and the winter months the least number.

LOST TIME AND TURNOVER

It has been said that absence is incipient labor turnover. How far this is true it is difficult to determine without more material on which to base a judgment. Without doubt, some conditions which

increase lost time also contribute to turnover, while others may affect largely the one and have but little influence on the other. Thus illness of self and illness of others both were given as reasons for turnover and absence, but in the latter they were very much more important than in the former, while dissatisfaction with the work and conditions surrounding it were accountable for nearly a fifth of the separations and for none of the absences directly. (Table XXXIX in the appendix.) Weather conditions at different seasons of the year apparently do affect the turnover and absence rates in a very similar way, as is shown by the following summary (compiled from Tables XV and XXXIII in the appendix), which gives the absence and turnover rates in the four seasons:

Season	Percentage of turnover, men and women	Per cent of time lost, men and women
Spring	31. 1	28. 6
Summer	38. 5	31. 6
Autumn	39. 7	24. 9
Winter	28. 3	14. 9

The largest proportion of separations occurred in the autumn months and the most time was lost during the summer, but the summer also had a high turnover rate, although not quite so high as in the fall. The lowest rate for both absence and turnover was in the winter. By individual months the resemblance between the two rates is not quite so close; but the summer and early fall months reveal the most absences as well as the most shifting from one job to another, and the winter months the fewest shifts and steadiest work.

The findings confirm the previous assumption that hot weather is especially trying to the mill operative on account of the conditions of her work. However, in a study of four textile mills near Philadelphia the coincidence of high turnover and high absence rates was not so generally observed. Three of the four mills showed high turnover for April and May and low absence for these months. (5, p. 204.) This difference between the findings of the mills in the Philadelphia study and those of the present survey may be due to the different periods used, the Philadelphia study using months instead of seasons, the fluctuations in the different months showing the general trend less than when comparison of absence and turnover rates is made by seasons. The fact that the Philadelphia mills were all in one locality and therefore affected by many local conditions occurring at that time also may have contributed to the difference in the findings between that study and this.

SIZE OF MILL AND TURNOVER

It has already been observed in the discussion of absence that the amount of lost time varies with the size of the mill. The small mills—size being based on the number of employees—showed, as a whole, more absence than did the larger ones, and when the amount of turnover was considered, there was the same relative showing as was found in absence rates. (Table XXXIV in the appendix.) The group of large mills have a turnover rate over 5 points lower than the average percentage of turnover for all mills, and the group of small mills reveal a rate more than 10 points higher than the average. More detailed figures than are published show that in two of the mills belonging to the large-mill group an effort was made to stabilize employment conditions, while among the small mills only one reported any such effort. Whether this fact contributed to the difference between the two groups or whether this difference is due to a general tendency observed in other industries that workers employed in large establishments shift rather less than those in small it is impossible to say, but the fact that large establishments have, as a rule, less turnover than have small ones has been noted by Paul Brissenden and Emil Frankel in their study of labor turnover in industry. (7, pp. 54–55.) They found that the percentage of turnover showed a decrease in each group as the size of the plants increased. The following statement gives the variation in turnover with the number of employees in each factory group in the study just mentioned:

Number of employees	Number of establishments	Turnover rate per full-year worker [1]
Under 1,000	109	2. 55
1,000 and under 5,000	54	2. 10
5,000 and over	13	1. 71

[1] Number of final separations divided by average number of full-time workers, the result—the "separation rate"—being converted into the more familiar "percentage of turnover" by moving the decimal point two places.

No facts are connected with these figures to show the causes resulting in lower turnover for the larger establishments, but the suggestion is given that among the influences affecting the stability of plants may be the fact that the larger ones offer steadier work, pay higher wages, and have better employment conditions. Of these three causes which may affect the stability of the work force the second one, wages, must be omitted in a consideration of the cotton mills studied, as no records of earnings were secured in the present study. However, according to unpublished data, it is true that of the women who reported insufficient earnings as the cause of leaving, a slightly greater proportion were in the smaller mills than in the larger. From

the few facts given by the women themselves it would seem that no steadier work was offered in the large than in the small mills. The conditions of work in the two groups also showed but little difference, some small mills as well as some large ones having excellent conditions, and mills of both types revealing unsatisfactory conditions. It is true that more of the large than of the small mills had short hours, and this fact may have affected the turnover. The location of the mill, however, rather than the size, was responsible for this difference in the length of the working hours.

TURNOVER IN RELATION TO MILL-OWNED AND NONMILL-OWNED HOUSES

It is probably true of cotton mills, more than of any other large woman-employing industry, that workers when they change their jobs change also their homes. In most industries when a worker leaves one factory and moves to another, the new position is in the same city and does not necessitate a change in dwelling place. In cotton mills, with the exception of those in certain large northern cities, the worker's house is in many cases the property of the mill and when the operative leaves the mill he must also leave his house. Being forced to change his home with a change of job would make, it would seem, for less shifting from one mill to another among workers living in mill villages. This does not appear to be the case, however, for workers in mill villages moved more frequently than did those who lived in nonmill-owned houses. When the question was asked as to where they moved, the reply of the superintendent was "to other mill villages." (48, p. 43.) They moved, therefore, not with the expectation of radically altering their working or living conditions but merely with the hope that the next mill with its village might in some respects be an improvement over the one they were leaving. The difference in turnover is not very great between the two groups—those living in mill villages and those living in nonmill-owned houses. The workers in mill villages had a proportion of separations slightly higher than the average for all mills, whereas those not living in mill villages showed a per cent slightly below the average. (Table XXXV in the appendix.)

On closer examination of the turnover rates of men and women separately an interesting fact is brought out, which is that men who live in mill villages do not change their jobs quite so frequently as do those not living in mill villages, while the women in the former situation change much oftener than do those in the latter. This is, of course, because the man living in a mill village when he goes to another plant usually must give up his house and take his family with him, but in a city like New Bedford or Fall River a daughter or even a wife does not necessarily leave a mill because her father or

husband has done so. Mr. Lee in his book entitled "Human Machine and Industrial Efficiency" thinks it probable "that the majority of industrial workers, like other human beings, prefer to find their niche in the world and remain in it." (38, p. 52.) There are no facts to show that cotton-mill workers are different from other human beings in their needs and desires, and it may be that the high turnover in cotton mills, where so many live in mill villages, is an unconscious protest against the lack of "a place in the world" which life in a mill village fails to supply. The theory frequently held that living in company-owned houses stabilizes employment because it makes the changing of jobs more difficult does not seem true to fact, at least in the case of the cotton-mill operatives.

TURNOVER IN RELATION TO ISOLATED AND NONISOLATED MILLS

In considering the shifting of workers from one mill to another, a factor far more important than whether workers do or do not live in a mill village, is the possibility and accessibility of other work. Where mills were isolated and it was impossible to try a job except by moving to another town, the proportion of the workers who made a change was over one-third less than the average for all mills. (Table XXXVI in the appendix.) In centers where it was possible to obtain work without traveling or making a change of home the increase over the average percentage of turnover was more than one-fourth. The difference made by the location of the mill and the opportunity offered to workers in towns and cities to obtain other jobs resulted in almost double the amount of change among operatives in nonisolated as in isolated mills. The location affected the turnover among men more markedly than among women, in fact to almost twice the extent.

TURNOVER IN RELATION TO SCHEDULED HOURS

The effect of different hours of work on the number of separations would probably be considerable, other conditions being equal, in neighboring plants, one with long and one with short hours. In this present study of cotton mills neighboring mills usually had the same hours, so that if a worker left one mill because of long hours, there was no chance that the next mill would have a working period appreciably shorter. However, if leaving a mill is frequently just an expression of restlessness resulting partly from fatigue, the probabilities are that long hours would increase the number of separations, regardless of the hours in neighboring mills. The table following shows variations in the per cents of turnover in the groups of mills with different scheduled weekly hours.

TABLE 15.—*Labor turnover in relation to scheduled weekly hours of work, men and women employees*

MEN AND WOMEN

Weekly hours	Number of names on pay roll during year	Average number of full-time workers [1]	Number of final separations [2]	Percentage of turnover [3]
Total	10,541	4,157.3	5,914	142.3
48	1,569	661.8	857	129.5
Over 48 and including 54	2,177	1,178.9	907	76.9
55	2,978	1,128.4	1,674	148.4
Over 55 and under 60	3,008	955.6	1,941	203.1
60 and over	809	232.6	535	230.0

MEN

Total	6,203	2,487.4	3,534	142.1
48	926	358.9	552	153.8
Over 48 and including 54	1,083	623.8	436	69.9
55	1,965	803.9	1,057	131.5
Over 55 and under 60	1,748	575.0	1,151	200.2
60 and over	481	125.8	338	268.7

WOMEN

Total	4,338	1,669.9	2,380	142.5
48	643	302.9	305	100.7
Over 48 and including 54	1,094	555.1	471	84.8
55	1,013	324.5	617	190.1
Over 55 and under 60	1,260	380.6	790	207.6
60 and over	328	106.8	197	184.5

[1] Total days worked during the year, all employees, divided by number of days mill was in operation.
[2] Employees who left and did not return during 1922. An absence during the last week of the year has not been considered a separation.
[3] Number of separations divided by average number of full-time workers, the result—the "separation rate"—being converted into the more familiar "percentage of turnover" by moving the decimal point two places.

The turnover for men and women combined was lowest in the mills with hours of over 48 and including 54, and highest in the longest-hour group of 60 and over, while for men alone there was found a lower per cent in mills where weekly hours were 55 than where they were 48. This was not the case in the turnover of women workers. Here, although the lowest per cent still was for the over-48-and-including-54-hour group, the 48-hour mills also had a low turnover, and the mills with 55 hours and more had nearly twice as high a turnover rate as had the 48-hour mills. The variation in turnover according to the length of the daily hours follows very closely that of the weekly hour divisions, except in a few cases, as the universal half-holiday on Saturday makes the weekly hours rise and fall proportionately with those for each day. Thus a 10-hour day will almost invariably mean a 55-hour week. In only one instance among the mills visited did the employees work on Saturday afternoon, and then for only part of the afternoon.

TABLE 16.—*Labor turnover in relation to scheduled daily hours of work, men and women employees*

MEN AND WOMEN

Scheduled daily hours	Number of names on pay roll during year	Average number of full-time workers [1]	Number of final separations [2]	Percentage of turnover [3]
Total	10,541	4,157.3	5,914	142.3
8 and under 9	1,569	661.8	857	129.5
9 and under 10	1,815	957.5	766	80.0
10	5,343	2,029.7	3,089	152.2
Over 10 and under 11	1,762	473.9	1,192	251.5
11	52	34.4	10	29.1
MEN				
Total	6,203	2,487.4	3,534	142.1
8 and under 9	926	358.9	552	153.8
9 and under 10	974	550.8	395	71.7
10	3,197	1,267.1	1,841	145.3
Over 10 and under 11	1,074	286.4	741	258.7
11	32	24.2	5	20.7
WOMEN				
Total	4,338	1,669.9	2,380	142.5
8 and under 9	643	302.9	305	100.7
9 and under 10	841	406.7	371	91.2
10	2,146	762.6	1,248	163.7
Over 10 and under 11	688	187.5	451	240.5
11	20	10.2	5	49.0

[1] Total days worked during the year, all employees, divided by number of days mill was in operation.
[2] Employees who left and did not return during 1922. An absence during the last week of the year has not been considered a separation.
[3] Number of separations divided by average number of full-time workers, the result—the "separation rate"—being converted into the more familiar "percentage of turnover" by moving the decimal point two places.

LENGTH OF SERVICE AND TURNOVER

In most reports on turnover an effort is made to determine the proportion of separations which occurred in various length-of-service periods. The fact that the present study of pay-roll records covered only a one-year period makes a study of turnover and length of service impossible. However, if the year is taken as a unit of measurement for steadiness of service, it is found that nearly one-half of the workers (49.6 per cent) left after three months' service or less in 1922, and that only a little over one-fifth (22 per cent) worked continuously during the year. (Table XXXVII in the appendix.)

The per cent of separations occurring during the year 1922 after service periods of specified length and the per cent of employees who worked all year are given in the following summary of Appendix Table XXXVII:

Sex	3 months and under	More than 3 and under 6 months	6 and under 9 months	9 months and under 1 year	1 year
Men	47.8	11.5	6.7	8.5	25.4
Women	52.1	12.1	7.7	11.1	17.1
Men and women	49.6	11.7	7.1	9.5	22.0

It was found from figures collected by the Bureau of Labor Statistics (8, p. 51) that in 53 establishments 60.8 per cent of the work force left after service of three months or less, but this occurred in 1917–18 when war conditions increased the amount of change in practically every establishment. In 1913–14 the workers in 34 plants who separated after being employed for three months or less were 52 per cent of the work force, a per cent of turnover very nearly the same as that found for the cotton-mill operatives in the present study whose separations occurred during three months or less of service. The comparison is slightly in favor of the cotton mills, as some of those leaving who showed this short period of employment in 1922 may have worked during a longer preceding period, while in the plants studied by the Bureau of Labor Statistics the length of service was the entire time of continuous service in a given establishment. In the present study there was a very much smaller proportion of men and women who worked continuously throughout the year (22 per cent) than the corresponding proportions for a number of plants in different industries whose records were reported for 1913–14 or 1917–18 by the Bureau of Labor Statistics. Establishments that reported for the pre-war year 1913–14 had in their employ throughout the year 71.1 per cent of the number of names on the pay roll at the end of the year, and those plants whose records covered the war period, 1917–18, had 60 per cent. (8, pp. 51, 54.) It would appear, therefore, that although the cotton mills in the present study had relatively fewer changes than had other industries during short length-of-service periods, the proportion of the workers who were stable and whose employment periods covered a full year was less in cotton mills than in other industries.

The length-of-service record of the women showed greater instability than that of the men. Over one-half of the women (52.1 per cent) as contrasted with less than one-half of the men (47.8 per cent) worked continuously for three months or less in 1922, and only 17.1 per cent of the women as against one-fourth of the men (25.4 per cent) worked the entire year. These findings are contrary to those in other industries according to the figures presented by P. Sargant Florence in his study; he estimates that only 14.9 per cent of the men compared to 24.7 per cent of the women had continuous employment records of over one year. (21, p. 175.) Apparently, the working and living conditions of the female workers in cotton mills render steady employment more difficult than for women workers in other industries.

EFFORTS TO REDUCE TURNOVER

It has been said that "labor turnover breeds inefficiency" (20, p. 33), and it would seem equally true to say that inefficiency breeds labor turnover. The extent to which excessive labor turnover is

recognized and a remedy attempted is more or less indicative of the efficiency of a plant or industry. Among the 18 cotton mills included in this study only 3 made any distinct effort to hold their employees and prevent change. (Table XXXVIII in the appendix.) One mill gave an attendance bonus which increased with each year of service. If a worker lost more than two weeks in the six-month period, he or she was considered a "quit" and on returning to work began as a new employee so far as the bonus was concerned. This rule did not apply when a worker was forced through illness to remain out for more than two weeks. The second mill gave a week's vacation with pay if a worker had been in the firm's employment for six months previously to June 1 and had been steady in attendance. Some years a bonus also was given to all employees on the books at the beginning and the end of the year. This bonus depended on the profits of the company, and for the year of this study amounted to 8 per cent of the earnings of each employee who was eligible. The third mill gave one week with pay if during the previous six-month period no time had been lost except through illness or by permission. A fourth mill reported a bonus of 2 per cent a week based on earnings for steady attendance, and an additional 2 per cent was paid at the end of six months if the employee had not been absent more than 12 days and was present on the day the bonus was paid. This mill has not been included among the mills making a distinct effort to hold their employees because of the fact that the employees who were visited showed no interest in, and many no knowledge of, the six months' bonus, although the weekly bonus was frequently mentioned. It seemed, therefore, that the system had not been put into effect with sufficient intelligence on the part of the management and the necessary education of employees to warrant this mill's inclusion among firms which were really trying to hold their employees. How far these various schemes worked may be shown to some extent by the fact that the first mill mentioned, which gave an increasing bonus for length of service, had a yearly turnover of 58.1 per cent; the second mill, which gave vacation with pay after six months and sometimes an extra yearly bonus, showed a turnover rate of 87.3 per cent; and the third mill, which gave vacation with pay after six months, had a turnover of 48.9 per cent.

These three mills all had a turnover much below the average for the whole group of mills, which was 142.3 per cent. It is interesting to note also that while the average proportion of workers in all the mills who showed continuous-service periods of six months or more was 38.6 per cent, the proportions who worked six months or more in these three mills were 66.3 per cent, 55.9 per cent, and 77.6 per cent, respectively. It could not be said, of course, that all the steadier employment shown in these three mills was due to their various

stabilizing systems. Henry S. Dennison once made a statement in regard to different systems for stabilizing turnover which is especially applicable here. He said: "Any system * * * has its distinct limitations. It is only a system, only a tool to be used by a human being, and the spirit in that human being is so much more important than the system that we have found in dozens of cases a first-rate profit-sharing plan scheme entirely unsuccessful, and a hopelessly unscientific profit-sharing scheme working splendidly." (12, p. 79.) That in the three mills just considered the spirit was behind the schemes was apparent from the attitude evinced by the workers in the home interviews. One woman, who had been in mill work over 20 years and had worked in many different establishments, said: "I do get awful tired sometimes and the days seem mighty long, but I sure am glad I have a regular job in such a nice mill." Quite frequently the expression would be used that certain mill managers were "mighty nice folk to work for," and on a round of visits among the workers in one of these mills a good deal of anxiety was expressed by the operatives that the agents' questions might mean a checking up on absences and perhaps a discontinuance of the popular system of vacation with pay, until the superintendent reassured them that the interviews were for no such purpose. It may be that "good will * * * is a matter of opinion and mutual good feeling as much as a matter of science" (9, p. 19), but it is also true that a scientific expression of good will frequently helps. In the 18 mills this feeling of understanding between the workers and the management varied widely, but that it was an asset of far greater value than was usually realized was strongly felt by the investigators. At bottom it did not seem to rest on any welfare work done or any special set of good conditions but rather on the opinion frequently expressed that "they treated you fair." The longer the period over which this fair treatment had extended, the stronger was the feeling of trust and good will. One worker expressed it when she said, "I worked for this boss 10 years and for his father before him, and they always treated me fair, and I don't want to work for no other people." It is growing to be more and more generally realized that, as Prof. John R. Commons points out, "industrial good will is a valuable asset like commercial good will" (9, p. 26), and also like commercial good will it is built up through the practice of square dealing and the spirit of service. Industrial good will is a feeling of fellowship and understanding between an employer and his employees, and although it is a mutual relationship, nevertheless the establishment and growth of industrial good will depends very largely upon the employer. Just as his machinery sets the pace for output so his spirit and ideals create the background of trust and set the pace for good feeling. Neither he nor his machines can accomplish results without the cooperation of the workers, however, and it is this cooperation which is essential to the efficient running of any business.

PART VI

CAUSES OF LABOR TURNOVER

The causes of the separations which occurred in 1922 were given by the women workers during home visits made by the agents of the Women's Bureau. In other reports where causes for leaving positions are given the reasons are obtained usually through the firm whose service the worker leaves. It is probable that there may be a slight variation in results due to the different way of obtaining the information. The one method, used in this report, gives with more accuracy the personal reasons and certain mill causes, and the other method reports more carefully separations due to the unsatisfactoriness of the worker and terminations instigated by the management.

Some general idea of the usual proportion of separations that are due to the management, to the worker, and to outside causes in a number of different industries may be ascertained through figures obtained by the United States Department of Labor. In the year 1917–18, 108 establishments reported the causes of their turnover to the department under four headings—discharged, laid off, entered military service, and left voluntarily. The proportion of the workers who left voluntarily was nearly three-quarters (72.4 per cent) of all who left, and only about a fifth (21.4 per cent) were discharged or laid off. (7, p. 87.) In a report to the same department, in which the causes of separation were recorded over a longer period, very nearly the same proportions were shown as for the one-year period. From the years 1910 to 1915 and 1917–18 the United States Bureau of Labor Statistics received figures from 7 to 108 establishments, and the proportion of voluntary separations during the whole period was found to be 73 per cent, all others being classed as discharges or lay-offs. (8, p. 48.) These figures all were obtained from the firms' records and probably give a fairly accurate picture of the average proportion of voluntary separations in industrial establishments which keep employment records. The proportion of voluntary separations probably would be higher in plants where no such records are kept, because, as before mentioned, establishments with records are interested in their turnover and are anxious to remedy all possible causes of dissatisfaction which would result in voluntary leaving.

In none of the mills visited in the present study were employment records found, unless there be excepted the four plants where

attendance records were made up from the pay roll in order to administer the bonus and vacation schemes. It was impossible, therefore, to determine the cause of leaving except through interviews with the workers themselves, and by this method the reasons for 1,066 separations which occurred in 1922 were ascertained. A very much larger number of these separations were reported as voluntary than in the general figures quoted above. This may be due to the method of obtaining the information directly from the workers and also to the fact that the causes of leaving were taken only for women, which would probably emphasize the number of quittings for personal reasons, especially those due to illness of others and home duties.

Of the 1,066 reasons for separations given by the workers, 944 related to cotton mills and 122 to other places of employment. (Table XXXIX in the appendix.) An analysis of the reasons for quitting mill positions shows that voluntary leaving accounted for 91 per cent of all separations, and reasons, such as "discharge," "laid off," "shutdown," or "no work," for but 5.3 per cent. Separations due to personal reasons constituted the largest group, over two-thirds of all changes (70.7 per cent) being attributed to these causes. Among personal reasons given, home duties were the principal cause of leaving, and illness ranked second instead of first as in causes of absence. Under personal reasons were recorded all cases where the worker had left to try another job, because usually behind this reason was one, such as "left because I could get work at a place where I used to work," "my sister worked there and I wanted to be with her," or "my husband left the mill, and I went with him." Occasionally, a worker would have no reason for leaving beyond a general boredom and desire for change from the monotony of her work and surroundings. As one woman expressed it, "I jes' move to move."

Reasons for leaving which were due to mill causes comprised over one-quarter (25.6 per cent) of the total 944, and the reason most frequently given in this group was insufficient earnings. Causes of leaving sometimes mentioned were that the work was "slack" or "ran badly," both of which reasons might be classed under the "insufficient earnings" group, as the actual cause of change was, in all three cases, too low earnings. If these three groups are combined they comprise 13 per cent of the women who left their jobs, and when to this group are added those who quit because of dissatisfaction with conditions of work in the mill, it is found that 16.7 per cent of the women changed their jobs because of dissatisfaction with some feature of the work. These were voluntary separations and did not include such reasons as "shutdown," "no work," "laid off," "discharged," and "mill closed." A number of these reasons for leaving due to working conditions could have been easily remedied, such as "drinking water kept in a bucket, no ice," "unbearably hot

in summer, no transoms or windows allowed open," and other cases where the work ran badly or was "too much to attend to" might have been adjusted, but without knowledge of the cause of the workers leaving there was little chance of improvement, for the need of such changes was not brought home to the management.

CAUSES OF TURNOVER IN NORTHERN AND SOUTHERN MILLS

Between the mills in the North and in the South there was observed a rather different distribution of the principal causes of separation. (Table XXXIX in the appendix.) Among the southern operatives were larger groups quitting work because of illness of self or illness of others. It must be noted, however, that while the proportion leaving on account of their own illness was 14.6 per cent in the South as against 10 per cent in the North, the proportion of women leaving because of illness of others showed less than one point difference in the two sections. These figures would seem to show a greater proportion of sickness among operatives in the South compared to those in the North, than among nonoperatives South and nonoperatives North. A marked difference also was reported in the number of separations on account of "home duties" in the North and South, and it was found that more than twice as large a proportion left work for this cause in the northern mills as in the southern. This may have been due to a larger family income in the North, permitting the woman to stay home when needed; to the opportunity to hire cheap domestic labor in the South to take care of the home work; or possibly to more time for home work among southern operatives, because of the spare-hand system, which resulted in the regular workers being asked out. The change occasioned by trying other jobs and "just moving" constituted a much more important reason among the workers South than North, and this fact emphasizes what has already been noted, namely, the greater restlessness of the southern than of the northern operative. There were more separations caused by dissatisfaction along certain lines, such as "work too hard," "hours too long," and "general conditions" in the South than North, but a larger proportion of northern workers than of southern left because of "insufficient earnings and slack work." The proportion of separations caused by "shutdown," "laid off," and "no work" also was considerably higher in the North and comprised 6.4 per cent of all separations. The conditions due to insufficient work therefore caused more discontent and shifting from one establishment to another in the North than in the South, while southern operatives showed greater dissatisfaction with the conditions of their work than did those in the North.

MILL WORKERS' REASONS FOR LEAVING OTHER INDUSTRIES

The small group of women (122) who reported reasons for leaving places of work other than cotton mills showed a very different proportion quitting for personal and work reasons than did the workers who left their jobs in the mills. (Table XXXIX in the appendix.) Far fewer of the women leaving nonmill work left because of personal reasons, and many more left for reasons connected with the work. More than one-half of these women gave conditions of work as the cause of leaving, and over one-fifth gave the single reason, "insufficient earnings." This is in marked contrast with the number leaving the mills for work causes, since only about one-quarter of the total 944 stated that they had left because of the working conditions, and less than a tenth (8.9 per cent) reported that they had left on account of insufficient earnings.

The large number of industries which these 122 women gave reasons for leaving makes any comparison of their working conditions with those of cotton mills impossible, but it is probably true that there is greater dissatisfaction with conditions of work where change is made from one industry to another than from one establishment to another in the same industry. It would, therefore, be a more natural thing for workers leaving because of personal reasons to return to the same kind of work than when their leaving is caused by discontent with working conditions. The workers who were most dissatisfied with the cotton-mill work, therefore, would probably not be found in cotton mills, just as the 122 women who left chiefly because of work reasons were not found working in other plants of the industries from which they reported separations.

CAUSES OF TURNOVER IN RELATION TO MONTH AND SEASON OF THE YEAR

In the earlier consideration of the months of the year when separations occurred, it was found that, for women, the months having the highest proportions were December and August.[1]

A slightly different distribution occurs in the group of 1,066 women who reported why they had left their former positions. (Table XXXIX in the appendix.) December shows the highest rate of turnover; August comes next, followed by November. Although, as has been explained, allowance must be made in December for a larger number of separations than actually took place, the same conditions did not apply to November. It is significant, however, that the proportion of separations due to illness is above the average

[1] December showed a higher rate of absence than did August, but this was probably due to the fact that all absences occurring before the last week in December, if not followed by a return to work in that month, were counted as separations, and without doubt some of these were absences with a return to work in January.

in both November and December, and although the cold months might reasonably show more cases of sickness than do the summer months, there would hardly be more than three times the difference in the number of illnesses serious enough to make separation necessary between the two winter months of December and January. It is significant also that absences due to illness are lower in December than in any other month, and although higher in November are still less than those reported in seven of the other months. It would appear, therefore, that many of the separations which were recorded in November, and more especially in December, were really absences, and that the high turnover rate for these months is not so significant as it appears.

The following summary shows the correlation of season of the year and the most important causes of the turnover:

Season	Illness of self		Illness of others		Home duties		Change of residence		Dissatisfaction with conditions and work	
	Number of cases	Per cent	Number of cases	Per cent	Number of cases	Per cent	Number of cases	Per cent	Number of cases	Per cent
Spring	13	10. 7	5	12. 2	28	16. 2	10	20. 0	18	20. 0
Summer	18	14. 8	3	7. 3	43	24. 9	15	30. 0	34	37. 8
Autumn	34	27. 9	18	43. 9	67	38. 7	20	40. 0	29	32. 2
Winter	57	46. 7	15	36. 6	35	20. 2	5	10. 0	9	10. 0

The winter months show the greatest number of separations on account of illness. This fact, however, must be taken with qualifications, as all but 5 of the 57 cases reported for the winter season occurred in December, when it was impossible to determine whether or not the women returned to work. Autumn showed the next largest number of illnesses and the spring the fewest. Separations occasioned by illness of other members of the family occurred most frequently in the autumn, and it is interesting to observe that the fewest number of separations due to such cause were reported for the summer months, while in regard to the illness of the worker herself this was not the case. The proportion of cases due to home duties was much the greatest in the autumn, a situation brought about by many different home conditions, few of them relating directly to the season of the year. One exception was the worker who was forced to leave the mill and attend to home duties because of the return to school of the older children who had cared for their younger brothers and sisters during the summer months. Few of the women, however, reported this condition. According to Table XXXIII in the appendix, autumn and summer, and not spring as is frequently the case, showed the greatest number of separations for women. As

already noted, many of the changes of the cotton-mill operatives from one mill to another were the result of restlessness and possibly of underlying fatigue, as in the case of a woman who considered moving as a vacation from work. Therefore it is not surprising that the most changes of residence occurred after and even during the hot weather when the tiring effects of work and heat were most felt. The same weather effects were probably reflected in the increased dissatisfaction with working conditions during the summer and autumn months, resulting in nearly two and a half times as many quits as in the winter and spring. By studying the causes of termination of employment in the different seasons of the year, it will be observed that the causes which occasioned most of the separations throughout the year showed, as a rule, a decided increase in the fall and summer months, especially through reasons, such as change of residence and dissatisfaction with working conditions, which might reflect the fatigue of the worker.

CAUSES OF TURNOVER IN RELATION TO WORKING CONDITIONS

A number of women left one mill and went to another because of working conditions, which varied from one mill to another. According to the reasons given by 944 women workers, about one-sixth (16.4 per cent) of their separations were for the following causes: "Work ran badly," "work too hard," "dissatisfied with conditions," "too long hours," "earnings insufficient." By making a change to another mill they hoped to find conditions better than in the one they were leaving. Without doubt, there is an effort made by mills within certain areas to have fairly uniform hours and rates of pay so as to prevent separations due to these causes, but such equalization between mills in regard to short time and bad running of work, which result in lowered earnings, and in regard to overtime, has not yet been accomplished. A woman rarely was found who changed her mill because she disliked spinning and wanted to try spooling, but frequently she left because she disliked the way the work ran in the spinning room, or because no ventilators were allowed open, or the drinking water was kept in open pails and became warm. The relative number of separations for which these were mentioned as causes of leaving were small in comparison with some other reasons given, but when "another job" was sought, or when the worker "desired a change," conditions in the former mill often were found, upon further questioning, to be responsible. It may even be that good conditions affect the feeling of good will in a plant to a far greater extent than has been realized, and although this result is difficult to measure, care taken to insure proper working conditions certainly is an expression of good will as well as good business on the side of the management.

In view of the fact that unsatisfactory working conditions are responsible for a certain proportion of labor turnover, it is of interest at this point to consider certain conditions reported for the mills surveyed. The effect of bad conditions of ventilation, lighting, and service and sanitary provisions probably contributes to a feeling of irritation and dissatisfaction if it does not directly cause separation from the mill. Certain significant facts were brought out in a study of an 8-hour plant and a 10-hour plant made a few years ago in regard to the turnover in various departments. (25, pp. 160, 166.) It was found that in one establishment the 13 departments where air conditions were bad had a monthly turnover nearly a fourth higher than that for all departments, and in 5 departments where the noise was excessive the turnover was more than a tenth higher than that for all departments. Where there was bad lighting, the number of headaches reported was exceptionally high. In the other plant included in the study in question, for the women employees the 4 departments with excessive noise had the highest turnover rate, the 3 with bad lighting followed, and the 3 with bad air came next, and each had a higher turnover rate than the average for all departments. Thus it may be seen that these conditions, bad air, poor light, and excessive noise, have their effect on industrial life and production, as do all conditions which affect human welfare and comfort. The working conditions in cotton mills have not been given so much attention as conditions in many other industries where women are employed in large numbers. This may be due to the fact that it is an old industry and that habit and custom are strong chains to break. The organization of mills is practically the same as 100 years ago, and although some mills are modern and up-to-date in their comfort and sanitary equipment, this condition is not true of the majority. The lack of conveniences is especially striking because the needs of the workers in cotton mills are so obvious.

The heat and moisture in the workrooms make the worker's clothes damp, and she herself perspires freely; she is on her feet all day and usually wears special work shoes or slippers which she must change on entering and leaving the mill. There should be a proper place provided for the worker to change her clothes and to leave her outdoor wraps; yet of the 18 mills visited there was not one that had a suitable place provided to supply these needs. The risk of the worker's becoming chilled on going from the hot air in the mill to the cool outdoor air, while wearing damp clothing, is sufficiently obvious to make provision of cloakrooms or dressing rooms very important. A report issued in 1919 makes this statement: "In textile mills the locker system does not yet prevail, simple cloakrooms, or cupboards, or racks along the walls, being more commonly found. The custom of each employee hanging his or her coat on a nail near the place

of work obtains perhaps more generally in this than in any other large and important industry." (59, p. 48.) Though the writer of the report mentions the fact that thousands of operatives in the South "go to and from work during several months of the year wearing little or no extra clothing," the absence of cloakrooms is probably due to custom—things being as they are because they have always been so.

Some mills in the present study tried to keep the temperature at a certain point, and to prevent the moisture in the air from increasing beyond a desirable and uniform amount, while in other plants no special person was in charge and the temperature was left to chance or was varied according to the opinions of different operatives in the room. Where different types of cotton cloth are manufactured, there may be need to have different conditions of atmosphere, but the very wide variations which were shown by the dry and wet bulb readings taken in this study (see p. 59) would indicate in this respect lack of standards in the industry as well as in most mills.

The value of good lighting was even less generally realized than the need for good atmospheric conditions. When the air has too little moisture, threads will break; but when lighting is inadequate, the effect on output is not so quickly and easily measured. Nevertheless, there was in certain weaving rooms considerable complaint of the lack of light, not always due to the equipment but often to the poor supervision and use of equipment. The readings were taken in the various workrooms at about the same time of day, between 2 and 4 p. m., and in several parts of each room. The character of the work determines the intensity of the light which is necessary, and whether this light is supplied by the sun or by artificial systems, it should not fall below certain standards. The readings were taken on the machines when the girls were working, and the following brief discussion indicates the general trend of the readings which are more extensively considered in the lost-time section of this report, where 1 to 2 foot-candle illumination is given as the minimum considered necessary for work not requiring discrimination of detail and is not the minimum for such jobs as spinning or spooling. Therefore, when lighting in these departments fell below this standard, it was obviously not very satisfactory. This was the case in 32 readings, or in a little over one-fifth of the total number of cases recorded. (Table XLI in the appendix.)

It is quite apparent that such conditions as humidity and light will affect output, but what is not so obvious is that other conditions in a factory not directly connected with production may yet contribute to the efficient or inefficient running of a plant. Slippery floors may cause accidents, occasioning loss of time; a lack of seats may cause unnecessary fatigue resulting in illness; insanitary or

badly kept toilets may cause discontent and may be responsible for workers quitting the mill; in fact, a poorly kept or equipped plant, other things being equal, will probably be at a disadvantage as compared with those where there is better housekeeping and more up-to-date equipment. It is doubtful if any one bad condition would result in marked increase in quittings or in loss of time, but from some conditions found in the brief inspections made in this study it would seem that much more care might be taken to prevent poor working conditions as a possible source of discontent.

The problem of cleaning in a mill is always a difficult one because of the continual flying of lint and the constant dropping of oil on the floor from the machinery. Nevertheless, seven mills had very clean, well-kept workrooms, and the use of a substance in the water or immediately afterwards, to make the floor less slippery, minimized the risk of slipping, which is always present when floors are washed during working hours. In seven mills some of the workrooms were clean and some were not, while in four all the rooms were unsatisfactory in this respect. The very common method of sweeping in the spinning room by fanning the lint from under the machines and from the aisles is quite unsatisfactory, as this merely succeeds in scattering the "fly," so that it fills the air and falls upon the workers.

Because most of the occupations in a cotton mill require considerable walking and standing, there is, in most mills, very scant provision for sitting when the work allows the operative to be seated. Waste boxes which could be used to sit upon were found in most of the spinning rooms, but even this rather unsatisfactory arrangement was absent in five mills visited, and in the other workrooms there was a mixture of boxes, benches, stools, and occasional chairs, with five mills having no seats at all. The saving of energy and the opportunity to recuperate from the fairly continuous walking and standing which would be offered by a sufficient number of comfortable chairs would certainly prove a valuable asset to any well-equipped mill.

The sanitary provisions in most mills were of the simplest. Washing facilities consisted of running water with an iron sink or enameled trough and no soap or towels unless the workers supplied their own. As many workers lived near the mill and went home at noon, this arrangement was given as a reason for the poor equipment. Many of the operatives, however, bring a little lunch to eat during the morning, and there is certainly required a more thorough cleansing from the oil and dust of the machines than can be obtained by washing with cold water and with neither soap nor towels. The toilet arrangements were found in most cases to have a sufficient number of seats, but the rooms opened in all but a few instances directly from the workrooms, and frequently there were no doors between the toilet rooms and the workrooms, or even in front of the seats.

Drinking water was furnished by bubblers in all but three mills, and in these three the workers drank from a tin cup filled either at the faucet or, in one mill, at a pail. There was considerable dissatisfaction expressed by the workers over the water from the pail, which became warm during the day and often had a "funny" taste. In a number of mills the bubblers were in a most unsatisfactory condition, as both men and women used them for cuspidors as well as for drinking. In all but two mills where bubblers were found they were of insanitary construction, that is, the water fell back on the base, constituting a menace to health. In regard to their service and sanitary condition the mills visited probably were fairly representative of many hundreds of mills throughout the country, their equipment showing real need of study and of more attention to the physical welfare of the mill operatives.

PART VII

NEGRO WORKERS IN COTTON MILLS

The importance of the negro in cotton-mill work is slight in spite of the many mills operating in the South where many negroes would be available. Different reasons have been advanced for their not being employed more extensively in mill work. One mill employer said that they were too irregular in attendance and that after years of field and house service it was difficult for them to tolerate the monotony of factory work. These reasons, however, would be equally applicable to all manufacture, and yet the census reports 781,827 negro men and 104,983 negro women in manufacturing and mechanical employment. (54 p. 342, tab. 5.) It was the general opinion that negro workers would not be so satisfactory as white workers in most mill operations, and this feeling, combined with the fact that it would be difficult to have mixed groups of negro and white workers on the same job in the South,[1] prevents the attempt to employ negroes, especially women, on producing operations in mill work. The census figures report 17,477 negro men and 7,257 negro women in textile mills throughout the country (54, p. 342, tab. 5), and these are probably working almost exclusively in the opening, picking, and shipping departments, and on general work, such as trucking, yard work, sweeping, and scrubbing in the mills. In this study the only exception to the above statement occurred in one mill where negro men and women were employed in the carding department on machines, and negro women in the weaving room to fill the batteries.

The following summary shows the number of negro men and women in the mills included in the present study:

Department	Total	Men	Women
Total	563	86	477
Carding (including picker room)	95	28	67
Spinning	51	1	50
Weaving	54		54
General [a]	363	57	206

[a] Scrubbers, cleaners, etc.

[1] One State even has a law prohibiting any person, firm, or corporation engaged in the business of cotton manufacturing from employing operatives of different races to labor and work together within the same room.

From these figures it is plain that not only do the negro workers constitute a small group numerically in the mills but they are not a vital element in production, as by far the greatest number are employed in plant housekeeping and not in the processes of manufacture. For this reason the negroes are not comparable to white workers in the mills but rather to laborers in any industry.

LOST TIME

The proportion of lost time in the possible working time was 17.4 per cent for men and women combined, a little lower proportion than that lost by white workers, 18.6 per cent. (Table XLII in the appendix.)

This would appear to show rather steadier attendance on the part of the negro worker, but this timekeeping must be considered in relation to the period in which the time was lost; the average possible working days per employee during the year 1922 for negro men and women was 86.1 days in contrast with the average of 148.3 days for white workers. Negro women lost more time than did negro men, especially in the carding department, where women were engaged on other work besides sweeping and cleaning. The lost time of negro men and women was not excessive, although the short employment periods probably made long absences impossible.

LABOR TURNOVER

A consideration of turnover among the negro workers shows a high rate, especially for women. (Table XLIII in the appendix.) The per cent of separations in relation to the total number of full-time workers is 366.9 for 477 women and 180.2 for 86 men. The per cent for negro women is more than twice as high as that for white women. This difference may be due to the unskilled character of their work, to low compensation, or to the restlessness resulting from long and continuous hours of work.

The per cent of turnover varied considerably with different months of the year, the two highest records occurring in November and July and the two lowest in September and June. (Table XLIV in the appendix.) The season of the year with the highest per cent of turnover was the autumn, and the one with the lowest was the summer, the difference between these seasons was slight, only 8.1 points. The per cent of turnover for women only was highest in the spring and lowest in the summer. From these few figures it would appear that other factors besides weather might be responsible for the increase and decrease in the rate during different seasons of the year. However, as no additional information was gathered from the workers themselves on these subjects, it is impossible to determine, as was done with the white workers, what were the many causes contributing to both turnover and absence.

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APPENDIXES

Appendix A.—GENERAL TABLES
Appendix B.—SCHEDULE FORMS

APPENDIX A—GENERAL TABLES

TABLE I.—*Number and sex of employees, by mill department*

Department	Number of names on pay roll during year	Men		Women	
		Number	Per cent	Number	Per cent
All departments	10,541	6,203	58.8	4,338	41.2
Carding	1,915	1,381	72.1	534	27.9
Spinning	2,613	1,175	45.0	1,438	55.0
Spooling	942	175	18.6	767	81.4
Weaving	3,355	2,228	66.4	1,127	33.6
Cloth	443	204	46.0	239	54.0
Miscellaneous [1]	473	253	53.5	220	46.5
General [2]	800	787	98.4	13	1.6

[1] Workers in more than one department. [2] Scrubbers, cleaners, etc.

TABLE II.—*Number of women employed and number interviewed, by individual mill North and South*

Mill	Number of women's names on pay roll	Women interviewed	
		Number	Per cent
All mills	4,338	2,354	54.3
Northern mills	1,830	1,252	68.4
No. 1	183	101	55.2
No. 2	300	157	52.3
No. 3	201	145	72.1
No. 4	183	129	70.5
No. 5	157	105	66.9
No. 6	312	272	87.2
No. 7	93	45	48.4
No. 8	148	95	64.2
No. 9	253	203	80.2
Southern mills	2,508	1,102	43.9
No. 10	157	143	91.1
No. 11	105	74	70.5
No. 12	207	88	42.5
No. 13	380	144	37.9
No. 14	308	122	39.6
No. 15	673	301	44.7
No. 16	402	119	29.6
No. 17	122	63	51.6
No. 18	154	48	31.2

TABLE III.—*Nativity of the women interviewed, 2,342 reporting, by mills North and South*

Nativity	Number and per cent of women of each specified nativity in—					
	All mills		Northern mills		Southern mills	
	Number	Per cent	Number	Per cent	Number	Per cent
Number reporting	2,342	100.0	1,251	100.0	1,091	100.0
Native born	1,906	81.4	830	66.3	1,076	98.6
Foreign born	436	18.6	421	33.7	15	1.4
Foreign born reporting country	432	100.0	417	100.0	15	100.0
Canada	235	54.4	235	56.4		
Great Britain	63	14.6	62	14.9	1	6.7
Ireland	11	2.5	11	2.6		
Central Europe—						
Germany	5	1.2	4	1.0	1	6.7
Poland	43	10.0	43	10.3		
Other	24	5.6	23	5.5	1	6.7
Italy	17	3.9	11	2.6	6	40.0
Portugal	22	5.1	22	5.3		
Other	12	2.8	6	1.4	6	40.0

TABLE IV.—*Age of the women interviewed, 2,349 reporting, by mill department and by mills North and South*

ALL MILLS

Department	Number of women reporting	Women whose age was—																	
		Under 16 years		16 and under 18 years		18 and under 20 years		20 and under 25 years		25 and under 30 years		30 and under 40 years		40 and under 50 years		50 and under 60 years		60 years and over	
		Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
All departments	2,349	99	4.2	265	11.3	281	12.0	482	20.5	334	14.2	435	18.5	313	13.3	104	4.4	36	1.5
Carding	277	8	2.9	28	10.1	27	9.7	44	15.9	42	15.2	65	23.5	42	15.2	14	5.1	7	2.5
Spinning	709	42	5.9	109	15.4	118	16.6	193	27.2	108	15.2	87	12.3	44	6.2	8	1.1		
Spooling	392	15	3.8	35	8.9	39	9.9	83	21.2	52	13.3	87	22.2	57	14.5	17	4.3	7	1.8
Weaving	691	22	3.2	55	8.0	51	7.4	114	16.5	86	12.4	153	22.1	138	20.0	55	8.0	17	2.5
Cloth	159	7	4.4	24	15.1	33	20.8	27	17.0	23	14.5	17	10.7	17	10.7	9	5.7	2	1.3
Miscellaneous [1]	121	5	4.1	14	11.6	13	10.7	21	17.4	23	19.0	26	21.5	15	12.4	1	.8	3	2.5
NORTHERN MILLS																			
All departments	1,249	46	3.7	143	11.4	137	11.0	251	20.1	178	14.3	221	17.7	176	14.1	73	5.8	24	1.9
Carding	185	5	2.7	24	13.0	16	8.6	32	17.3	27	14.6	39	21.1	26	14.1	11	5.9	5	2.7
Spinning	364	20	5.5	62	17.0	56	15.4	91	25.0	50	13.7	47	12.9	33	9.1	5	1.4		
Spooling	197	10	5.1	25	12.7	23	11.7	47	23.9	27	13.7	32	16.2	22	11.2	8	4.1	3	1.5
Weaving	402	5	1.2	22	5.5	21	5.2	64	15.9	51	12.7	91	22.6	89	22.1	44	10.9	15	3.7
Cloth	86	4	4.7	9	10.5	17	19.8	15	17.4	19	22.1	10	11.6	6	7.0	5	5.8	1	1.2
Miscellaneous [1]	15	2	13.3	1	6.7	4	26.7	2	13.3	4	26.7	2	13.3						
SOUTHERN MILLS																			
All departments	1,100	53	4.8	122	11.1	144	13.1	231	21.0	156	14.2	214	19.5	137	12.5	31	2.8	12	1.1
Carding	92	3	3.3	4	4.3	11	12.0	12	13.0	15	16.3	26	28.3	16	17.4	3	3.3	2	2.2
Spinning	345	22	6.4	47	13.6	62	18.0	102	29.6	58	16.8	40	11.6	11	3.2	3	.9		
Spooling	195	5	2.6	10	5.1	16	8.2	36	18.5	25	12.8	55	28.2	35	17.9	9	4.6	4	2.1
Weaving	289	17	5.9	33	11.4	30	10.4	50	17.3	35	12.1	62	21.5	49	17.0	11	3.8	2	.7
Cloth	73	3	4.1	15	20.5	16	21.9	12	16.4	4	5.5	7	9.6	11	15.1	4	5.5	1	1.4
Miscellaneous [1]	106	3	2.8	13	12.3	9	8.5	19	17.9	19	17.9	24	22.6	15	14.2	1	.9	3	2.8

[1] Workers in more than one department.

TABLE V.—*Age at time of survey of the women interviewed, in relation to age*

ALL MILLS

Age at time of survey	Number of women reporting			Number of women who began mill work or other work for wages at the age of—				
				Under 12 years		12 and under 14 years		
	Mill work	Other work	Kind not reported	Mill work	Other work	Mill work	Other work	Kind not reported
Total	2,003	333	6	190	15	252	20	3
Per cent distribution of mill and other work	100.0	100.0		9.5	4.5	12.6	6.0	
Under 16 years	91	8					1	
16 and under 18 years	226	39				9		
18 and under 20 years	231	48	1	1		17	3	
20 and under 25 years	407	72	2	26		51	2	
25 and under 30 years	292	41		35	1	37	4	
30 and under 40 years	377	54	2	61	4	67	2	2
40 and under 50 years	261	49	1	45	7	56	5	1
50 and under 60 years	86	18		16	2	12	2	
60 years and over	32	4		6	1	3	1	

NORTHERN MILLS

Total	1,053	194	2	61	7	94	11	1
Per cent distribution of mill and other work	100.0	100.0		5.8	3.6	8.9	5.7	
Under 16 years	42	4					1	
16 and under 18 years	118	25				1		
18 and under 20 years	109	28				2	1	
20 and under 25 years	199	51	1	1		7		
25 and under 30 years	157	21		2		13	2	
30 and under 40 years	197	23	1	12	1	28	1	1
40 and under 50 years	148	28		29	4	32	4	
50 and under 60 years	61	12		12	2	9	1	
60 years and over	22	2		5		2	1	

SOUTHERN MILLS

Total	950	139	4	129	8	158	9	2
Per cent distribution of mill and other work	100.0	100.0		13.6	5.8	16.6	6.5	
Under 16 years	49	4						
16 and under 18 years	108	14				8		
18 and under 20 years	122	20	1	1		15	2	
20 and under 25 years	208	21	1	25		44	2	
25 and under 30 years	135	20		33	1	24	2	
30 and under 40 years	180	31	1	49	3	39	1	1
40 and under 50 years	113	21	1	16	3	24	1	1
50 and under 60 years	25	6		4		3	1	
60 years and over	10	2		1	1	1		

at beginning work for wages, 2,342 women reporting, by mills North and South

ALL MILLS.

Number of women who began mill work or other work for wages at the age of—Continued														
14 and under 16 years			16 and under 18 years			18 and under 20 years		20 and under 25 years			25 and under 30 years		30 years and over	
Mill work	Other work	Kind not reported	Mill work	Other work	Kind not reported	Mill work	Other work	Mill work	Other work	Kind not reported	Mill work	Other work	Mill work	Other work
848	125	1	409	97	1	114	21	82	22	1	35	12	73	21
42.3	37.5	.....	20.4	29.1	.....	5.7	6.3	4.1	6.6	.....	1.7	3.6	3.6	6.3
91	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
126	30	.....	91	9	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
131	20	1	63	21	.....	19	4	.....	.....	.....	.....	.....	.....	.....
173	27	.....	106	34	1	31	7	20	2	1	.....	.....	.....	.....
111	15	.....	55	10	.....	22	5	24	5	.....	8	1	.....	.....
121	13	.....	56	13	.....	21	1	14	7	.....	15	7	22	7
70	9	.....	23	7	.....	15	3	14	5	.....	9	2	29	11
19	4	.....	11	3	.....	2	1	8	3	.....	3	2	15	1
6	.....	.....	4	.....	.....	4	.....	2	.....	.....	.....	.....	7	2

NORTHERN MILLS

514	81	.....	276	62	1	50	13	29	10	.....	13	4	16	6
48.8	41.8	.....	26.2	32.0	.....	4.7	6.7	2.8	5.2	.....	1.2	2.1	1.5	3.1
42	3	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
62	18	.....	55	7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
68	13	.....	35	12	.....	4	2	.....	.....	.....	.....	.....	.....	.....
104	21	.....	75	22	1	8	6	4	2	.....	.....	.....	.....	.....
81	11	.....	39	4	.....	11	3	8	1	.....	3	.....	.....	.....
88	7	.....	41	9	.....	14	.....	6	2	.....	4	2	4	1
47	5	.....	16	5	.....	7	1	6	4	.....	4	2	7	3
17	3	.....	11	3	.....	2	1	3	1	.....	2	.....	5	1
5	.....	.....	4	.....	.....	4	.....	2	.....	.....	.....	.....	.....	1

SOUTHERN MILLS

334	44	1	133	35	.....	64	8	53	12	1	22	8	57	15
35.2	31.7	.....	14.0	25.2	.....	6.7	5.8	5.6	8.6	.....	2.3	5.8	6.0	10.8
49	4	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
64	12	.....	36	2	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
63	7	1	28	9	.....	15	2	.....	.....	.....	.....	.....	.....	.....
69	6	.....	31	12	.....	23	1	16	.....	1	.....	.....	.....	.....
30	4	.....	16	6	.....	11	2	16	4	.....	5	1	.....	.....
33	6	.....	15	4	.....	7	1	8	5	.....	11	5	18	6
23	4	.....	7	2	.....	8	2	8	1	.....	5	.....	22	8
2	1	.....	.....	.....	.....	.....	.....	5	2	.....	1	2	10	.....
1	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	7	1

TABLE VI.—*Over-all time in cotton-mill employment in relation to time actually worked in mills, 2,303 women reporting, by mills North and South*

ALL MILLS

Actual time worked in mills	Number of women reporting	Number of women reporting over-all [1] in cotton-mill employment as—									
		Under 3 years	3 and under 5 years	5 and under 10 years	10 and under 15 years	15 and under 20 years	20 and under 25 years	25 and under 30 years	30 and under 35 years	35 and under 40 years	40 years and over
Total	2,303	546	282	444	283	196	187	141	111	56	57
Under 1 year	303	295	5	2	1						
1 and under 2 years	157	122	19	11	3	2					
2 and under 3 years	211	129	54	16	8	2	2				
3 and under 4 years	179		133	38	5		1	2			
4 and under 5 years	150		71	63	5	4	4	2		1	
5 and under 10 years	524			314	115	42	30	17	4	1	1
10 and under 15 years	299				146	73	45	20	13	1	1
15 and under 20 years	195					73	63	33	19	5	2
20 and under 25 years	118						42	39	26	8	3
25 and under 30 years	75							28	31	10	6
30 and under 35 years	46								18	21	7
35 and under 40 years	20									9	11
40 years and over	26										26

NORTHERN MILLS

Total	1,242	267	139	229	169	100	95	81	72	45	45
Under 1 year	142	138	3		1						
1 and under 2 years	83	68	9	3	2	1					
2 and under 3 years	95	61	20	7	4	1	2				
3 and under 4 years	79		63	12	2		1	1			
4 and under 5 years	84		44	33	3	3	1				
5 and under 10 years	288			174	62	23	15	9	3	1	1
10 and under 15 years	167				95	30	23	10	8	1	
15 and under 20 years	113					42	29	21	15	5	1
20 and under 25 years	68						24	22	14	5	3
25 and under 30 years	46							18	16	8	4
30 and under 35 years	39								16	19	4
35 and under 40 years	15									6	9
40 years and over	23										23

SOUTHERN MILLS

Total	1,061	279	143	215	114	96	92	60	39	11	12
Under 1 year	161	157	2	2							
1 and under 2 years	74	54	10	8	1	1					
2 and under 3 years	116	68	34	9	4	1					
3 and under 4 years	100		70	26	3			1			
4 and under 5 years	66		27	30	2	1	3	2		1	
5 and under 10 years	236			140	53	19	15	8	1		
10 and under 15 years	132				51	43	22	10	5		1
15 and under 20 years	82					31	34	12	4		1
20 and under 25 years	50						18	17	12	3	
25 and under 30 years	29							10	15	2	2
30 and under 35 years	7								2	2	3
35 and under 40 years	5									3	2
40 years and over	3										3

[1] Entire time from first cotton-mill work to date of survey, regardless of absences.

TABLE VII.—*Conjugal condition of the women interviewed, 2,350 reporting, by mill department and by mills North and South*

ALL MILLS

Department	Number of women reporting	Women who were—					
		Single		Married		Widowed, separated, or divorced	
		Number	Per cent	Number	Per cent	Number	Per cent
All departments	2,350	1,102	46.9	939	40.0	309	13.1
Carding	277	120	43.3	112	40.4	45	16.2
Spinning	708	384	54.2	242	34.2	82	11.6
Spooling	592	189	48.2	150	38.3	53	13.5
Weaving	692	274	39.6	318	46.0	100	14.5
Cloth	160	91	56.9	59	36.9	10	6.3
Miscellaneous [1]	121	44	36.4	58	47.9	19	15.7

NORTHERN MILLS

All departments	1,250	658	52.6	487	39.0	105	9.4
Carding	185	88	47.6	80	43.2	17	9.2
Spinning	364	216	59.3	122	33.5	26	7.1
Spooling	197	129	65.5	56	28.4	12	6.1
Weaving	403	156	38.7	203	50.4	44	10.9
Cloth	86	59	68.6	23	26.7	4	4.7
Miscellaneous [1]	15	10	66.7	3	20.0	2	13.3

SOUTHERN MILLS

All departments	1,100	444	40.4	452	41.1	204	18.5
Carding	92	32	34.8	32	34.8	28	30.4
Spinning	344	168	48.8	120	34.9	56	16.3
Spooling	195	60	30.8	94	48.2	41	21.0
Weaving	289	118	40.8	115	39.8	56	19.4
Cloth	74	32	43.2	36	48.6	6	8.1
Miscellaneous [1]	106	34	32.1	55	51.9	17	16.0

[1] Workers in more than one department.

TABLE VIII.—*Living condition of the women interviewed, 2,348 reporting, by mills North and South*

Mills	Number of women reporting	Women who were living—							
		At home or with relatives						Adrift	
		Total		At home		With relatives			
		Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
All mills	2,348	2,262	96.3	2,213	94.3	49	2.1	86	3.7
Northern mills	1,250	1,205	96.4	1,175	94.0	30	2.4	45	3.6
Southern mills	1,098	1,057	96.3	1,038	94.5	19	1.7	41	3.7

TABLE IX.—*Size of family of the workers interviewed and age distribution of members, 2,233 women reporting, by mills North and South*

Size of family and age group	All mills		Northern mills		Southern mills	
	Number of persons	Average per family	Number of persons	Average per family	Number of persons	Average per family
All families [1]—						
Persons of under 5 years	1,131	0.51	515	0.43	616	0.59
Persons of 5 and under 13 years	1,805	.81	906	.76	899	.86
Persons of 13 years and over	8,601	3.85	4,665	3.93	3,936	3.76
Families of 2 persons—						
Persons of under 5 years	4	.01	1	.01	3	.02
Persons of 5 and under 13 years	9	.03	4	.02	5	.04
Persons of 13 years and over	609	1.96	351	1.97	258	1.94
Families of 3 persons—						
Persons of under 5 years	95	.27	37	.20	58	.34
Persons of 5 and under 13 years	64	.18	30	.16	34	.20
Persons of 13 years and over	909	2.53	488	2.64	421	2.46
Families of 4 persons—						
Persons of under 5 years	155	.39	72	.33	83	.45
Persons of 5 and under 13 years	153	.38	80	.37	73	.40
Persons of 13 years and over	1,288	3.23	712	3.30	576	3.15
Families of 5 persons [1]—						
Persons of under 5 years	136	.46	61	.36	75	.59
Persons of 5 and under 13 years	183	.62	88	.52	95	.74
Persons of 13 years and over	1,164	3.92	694	4.11	470	3.67
Families of 6 persons [1]—						
Persons of under 5 years	165	.58	56	.43	109	.70
Persons of 5 and under 13 years	301	1.05	128	.98	173	1.11
Persons of 13 years and over	1,249	4.37	596	4.58	653	4.19
Families of 7 persons—						
Persons of under 5 years	93	.52	39	.42	54	.62
Persons of 5 and under 13 years	231	1.29	96	1.04	135	1.55
Persons of 13 years and over	929	5.19	509	5.53	420	4.83
Families of 8 persons—						
Persons of under 5 years	102	.69	58	.78	44	.60
Persons of 5 and under 13 years	233	1.59	115	1.55	118	1.62
Persons of 13 years and over	841	5.72	419	5.66	422	5.78
Families of 9 persons—						
Persons of under 5 years	115	1.02	53	.88	62	1.17
Persons of 5 and under 13 years	247	2.19	138	2.30	109	2.06
Persons of 13 years and over	655	5.80	349	5.82	306	5.77
Families of 10 persons [1]—						
Persons of under 5 years	93	1.48	53	1.47	40	1.48
Persons of 5 and under 13 years	144	2.29	85	2.36	59	2.19
Persons of 13 years and over	391	6.21	222	6.17	169	6.26
Families of 11 persons—						
Persons of under 5 years	59	1.64	28	1.40	31	1.94
Persons of 5 and under 13 years	104	2.89	52	2.60	52	3.25
Persons of 13 years and over	233	6.47	140	7.00	93	5.81
Families of 12 persons—						
Persons of under 5 years	65	2.41	32	2.13	33	2.75
Persons of 5 and under 13 years	78	2.89	51	3.40	27	2.25
Persons of 13 years and over	181	6.70	97	6.47	84	7.00
Families of 13 persons—						
Persons of under 5 years	28	3.11	11	2.75	17	3.40
Persons of 5 and under 13 years	21	2.33	11	2.75	10	2.00
Persons of 13 years and over	68	7.56	30	7.50	38	7.60
Families of 14 persons—						
Persons of under 5 years	19	2.38	12	2.40	7	2.33
Persons of 5 and under 13 years	29	3.63	20	4.00	9	3.00
Persons of 13 years and over	64	8.00	38	7.60	26	8.67
Families of 15 persons—						
Persons of under 5 years	2	1.00	2	1.00	----	----
Persons of 5 and under 13 years	8	4.00	8	4.00	----	----
Persons of 13 years and over	20	10.00	20	10.00	----	----

[1] Age not reported in all cases.

TABLE X.—*Time lost by men and women employees, three methods of arriving at number of days lost, by mill department and by mills North and South*

ALL MILLS

Department	Number of names on pay roll	Days lost during year, from date name first appeared on pay roll to date of its final disappearance		Days lost when absences in excess of 24 days are classed as separations and not included in days lost		Days lost when absences in excess of 12 days are classed as separations and not included in days lost	
		Total	Average per employee	Total	Average per employee	Total	Average per employee
All departments	9,736	275,749	28.3	159,902	16.4	136,854	14.1
Carding	1,597	44,581	27.9	29,124	18.2	25,788	16.1
Spinning	2,375	74,950	31.6	44,548	18.8	39,449	16.6
Spooling	942	27,547	29.2	17,643	18.7	14,785	15.7
Weaving	3,236	76,683	23.7	42,925	13.3	35,727	11.0
Cloth	443	9,763	22.0	6,047	13.7	4,840	10.9
Miscellaneous [1]	473	30,940	65.4	12,931	27.3	10,662	22.5
General [2]	670	11,285	16.8	6,684	10.0	5,603	8.4

NORTHERN MILLS

All departments	4,204	96,563	23.0	55,056	13.1	45,553	10.8
Carding	744	15,734	21.1	8,983	12.1	7,569	10.2
Spinning	969	25,317	26.1	14,169	14.6	12,215	12.6
Spooling	398	11,057	27.8	6,633	16.7	5,355	13.5
Weaving	1,465	30,322	20.7	18,142	12.4	14,709	10.0
Cloth	193	4,523	23.4	2,215	11.5	1,649	8.5
Miscellaneous [1]	127	5,162	40.6	1,946	15.3	1,642	12.9
General [2]	308	4,448	14.4	2,968	9.6	2,414	7.8

SOUTHERN MILLS

All departments	5,532	179,186	32.4	104,846	19.0	91,301	16.5
Carding	853	28,847	33.8	20,141	23.6	18,219	21.4
Spinning	1,406	49,633	35.3	30,379	21.6	27,234	19.4
Spooling	544	16,490	30.3	11,010	20.2	9,430	17.3
Weaving	1,771	46,361	26.2	24,783	14.0	21,018	11.9
Cloth	250	5,240	21.0	3,832	15.3	3,191	12.8
Miscellaneous [1]	346	25,778	74.5	10,985	31.7	9,020	26.1
General [2]	362	6,837	18.9	3,716	10.3	3,189	8.8

[1] Workers in more than one department. [2] Scrubbers, cleaners, etc.

TABLE XI.—*Time lost in relation to the spare-hand system, men and women employees, by individual mill*

Mill	Men and women				Men				Women			
	Number of names on pay roll during year	Number of possible working days [1]	Days lost		Number of names on pay roll during year	Number of possible working days [1]	Days lost		Number of names on pay roll during year	Number of possible working days [1]	Days lost	
			Number	Per cent of possible working days			Number	Per cent of possible working days			Number	Per cent of possible working days
All mills	10,541	1,563,137	291,074	18.6	6,203	909,273	147,728	16.2	4,338	653,864	143,346	21.9
Mills where a few extras are given steady employment by the week:												
Total	4,117	688,474	96,911	14.1	2,338	390,213	44,003	11.3	1,779	298,261	52,908	17.7
No. 1	346	64,711	9,143	14.1	163	32,915	3,082	9.4	183	31,796	6,061	19.1
No. 3	484	113,021	11,993	10.6	283	67,864	5,986	8.8	201	45,157	6,007	13.3
No. 5	416	86,565	10,669	12.3	259	54,540	5,430	10.0	157	32,025	5,239	16.4
No. 6	772	110,227	12,584	11.4	460	59,646	5,576	9.3	312	50,581	7,008	13.9
No. 9	621	134,342	17,484	13.0	368	80,063	8,604	10.7	253	54,279	8,880	16.4
No. 15	1,478	179,608	35,038	19.5	805	95,185	15,325	16.1	673	84,423	19,713	23.4
Mills where spare hands are sent for if necessary:												
Total	2,461	317,953	63,851	20.1	1,458	174,630	31,119	17.8	1,003	143,323	32,732	22.8
No. 2	569	73,818	14,835	20.1	269	31,225	4,405	14.1	300	42,593	10,430	24.5
No. 7	199	27,027	4,106	15.2	106	14,432	1,808	12.5	93	12,595	2,298	18.2
No. 8	510	74,813	11,096	14.8	362	47,961	7,096	14.8	148	26,852	4,000	14.9
No. 14	757	80,731	19,277	23.9	449	40,718	9,216	22.6	308	40,013	10,061	25.1
No. 18	426	61,564	14,537	23.6	272	40,294	8,594	21.3	154	21,270	5,943	27.9
Mills where spare hands report daily and are given work if regulars are absent:												
Total	3,963	556,710	130,312	23.4	2,407	344,430	72,606	21.1	1,556	212,280	57,706	27.2
No. 4	287	44,637	4,653	10.4	104	15,439	1,210	7.8	183	29,198	3,443	11.8
No. 10	480	116,711	19,748	16.9	323	82,139	12,422	15.1	157	34,572	7,326	21.2
No. 11	223	43,804	9,681	22.1	118	24,834	4,239	17.1	105	18,970	5,442	28.7
No. 12	525	77,762	16,765	21.6	318	46,993	8,791	18.7	207	30,769	7,974	25.9
No. 13	1,005	119,946	34,755	29.0	625	76,398	19,300	25.3	380	43,548	15,455	35.5
No. 16	1,078	93,649	27,551	29.4	676	56,940	16,323	28.7	402	36,709	11,228	30.6
No. 17	365	60,201	17,159	28.5	243	41,687	10,321	24.8	122	18,514	6,838	36.9

[1] For the year studied, the number of working days from date an employee's name first appeared on the books to date of its last appearance, totaled for all names on the books.

TABLE XII.—*Time lost in relation to effort of mill at stabilizing attendance, men and women employees, by individual mill*

Mill	Men and women				Men				Women			
	Number of names on pay roll during year	Number of possible working days [1]	Days lost		Number of names on pay roll during year	Number of possible working days [1]	Days lost		Number of names on pay roll during year	Number of possible working days [1]	Days lost	
			Number	Per cent of possible working days			Number	Per cent of possible working days			Number	Per cent of possible working days
All mills	10,541	1,563,137	291,074	18.6	6,203	909,273	147,728	16.2	4,338	653,864	143,346	21.9
EFFORT MADE												
Total	3,001	501,492	86,057	17.2	1,720	296,653	42,398	14.3	1,281	204,839	43,659	21.3
No. 7	199	27,027	4,106	15.2	106	14,432	1,808	12.5	93	12,595	2,298	18.2
No. 9	621	134,342	17,484	13.0	368	80,063	8,604	10.7	253	54,279	8,880	16.4
No. 10	480	116,711	19,748	16.9	323	82,139	12,422	15.1	157	34,572	7,326	21.2
No. 11	223	43,804	9,681	22.1	118	24,834	4,239	17.1	105	18,970	5,442	28.7
No. 15	1,478	179,608	35,038	19.5	805	95,185	15,325	16.1	673	84,423	19,713	23.4
NO EFFORT MADE												
Total	7,540	1,061,645	205,017	19.3	4,483	612,620	105,330	17.2	3,057	449,025	99,687	22.2
No. 1	346	64,711	9,143	14.1	163	32,915	3,082	9.4	183	31,796	6,061	19.1
No. 2	569	73,818	14,835	20.1	269	31,225	4,405	14.1	300	42,593	10,430	24.5
No. 3	484	113,021	11,993	10.6	283	67,864	5,986	8.8	201	45,157	6,007	13.3
No. 4	287	44,637	4,653	10.4	104	15,439	1,210	7.8	183	29,198	3,443	11.8
No. 5	416	86,565	10,669	12.3	259	54,540	5,430	10.0	157	32,025	5,239	16.4
No. 6	772	110,227	12,584	11.4	460	59,646	5,576	9.3	312	50,581	7,008	13.9
No. 8	510	74,813	11,096	14.8	362	47,961	7,096	14.8	148	26,852	4,000	14.9
No. 12	525	77,762	16,765	21.6	318	46,993	8,791	18.7	207	30,769	7,974	25.9
No. 13	1,005	119,946	34,755	29.0	625	76,398	19,300	25.3	380	43,548	15,455	35.5
No. 14	757	80,731	19,277	23.9	449	40,718	9,216	22.6	308	40,013	10,061	25.1
No. 16	1,078	93,649	27,551	29.4	676	56,940	16,323	28.7	402	36,709	11,228	30.6
No. 17	365	60,201	17,159	28.5	243	41,687	10,321	24.8	122	18,514	6,838	36.9
No. 18	426	61,564	14,537	23.6	272	40,294	8,594	21.3	154	21,270	5,943	27.9

[1] For the year studied, the number of working days from date an employee's name first appeared on the books to date of its last appearance, totaled for all names on the books.

TABLE XIII.—*Time lost in relation to size of mill, men and women employees, by individual mill*

A. BY NUMBER OF EMPLOYEES

Mill	Men and women			Men			Women		
	Number of possible working days [1]	Days lost		Number of possible working days [1]	Days lost		Number of possible working days [1]	Days lost	
		Number	Per cent of possible working days		Number	Per cent of possible working days		Number	Per cent of possible working days
All mills	1,563,137	291,074	18.6	909,273	147,728	16.2	653,864	143,346	21.9
Large mills [2]	1,028,882	180,918	17.6	620,736	96,062	15.5	408,146	84,856	20.8
No. 3	113,021	11,993	10.6	67,864	5,986	8.8	45,157	6,007	13.3
No. 5	86,565	10,669	12.3	54,540	5,430	10.0	32,025	5,239	16.4
No. 6	110,227	12,584	11.4	59,646	5,576	9.3	50,581	7,008	13.9
No. 8	74,813	11,096	14.8	47,961	7,096	14.8	26,852	4,000	14.9
No. 9	134,342	17,484	13.0	80,063	8,604	10.7	54,279	8,880	16.4
No. 10	116,711	19,748	16.9	82,139	12,422	15.1	34,572	7,326	21.2
No. 13	119,946	34,755	29.0	76,398	19,300	25.3	43,548	15,455	35.5
No. 15	179,608	35,038	19.5	95,185	15,325	16.1	84,423	19,713	23.4
No. 16	93,649	27,551	29.4	56,940	16,323	28.7	36,709	11,228	30.6
Small mills [3]	534,255	110,156	20.6	288,537	51,666	17.9	245,718	58,490	23.8
No. 1	64,711	9,143	14.1	32,915	3,082	9.4	31,796	6,061	19.1
No. 2	73,818	14,835	20.1	31,225	4,405	14.1	42,593	10,430	24.5
No. 4	44,637	4,653	10.4	15,439	1,210	7.8	29,198	3,443	11.8
No. 7	27,027	4,106	15.2	14,432	1,808	12.5	12,595	2,298	18.2
No. 11	43,804	9,681	22.1	24,834	4,239	17.1	18,970	5,442	28.7
No. 12	77,762	16,765	21.6	46,993	8,791	18.7	30,769	7,974	25.9
No. 14	80,731	19,277	23.9	40,718	9,216	22.6	40,013	10,061	25.1
No. 17	60,201	17,159	28.5	41,687	10,321	24.8	18,514	6,838	36.9
No. 18	61,564	14,537	23.6	40,294	8,594	21.3	21,270	5,943	27.9

[1] For the year studied, the number of working days from date an employee's name first appeared on the books to date of its last appearance, totaled for all names on the books.
[2] For purposes of tabulation, mills having 200 or more employees.
[3] For purposes of tabulation, mills having under 200 employees.

TABLE XIII.—*Time lost in relation to size of mill, men and women employees, by individual mill*—Continued

B. BY NUMBER OF SPINDLES

Mill	Men and women			Men			Women		
	Number of possible working days [1]	Days lost		Number of possible working days [1]	Days lost		Number of possible working days [1]	Days lost	
		Number	Per cent of possible working days		Number	Per cent of possible working days		Number	Per cent of possible working days
All mills	1,563,137	291,074	18.6	909,273	147,728	16.2	653,864	143,346	21.9
Large mills [2]	967,825	182,234	18.8	562,472	92,133	16.4	405,353	90,101	22.2
No. 1	64,711	9,143	14.1	32,915	3,082	9.4	31,796	6,061	19.1
No. 2	73,818	14,835	20.1	31,225	4,405	14.1	42,593	10,430	24.5
No. 6	110,227	12,584	11.4	59,646	5,576	9.3	50,581	7,008	13.9
No. 8	74,813	11,096	14.8	47,961	7,096	14.8	26,852	4,000	14.9
No. 9	134,342	17,484	13.0	80,063	8,604	10.7	54,279	8,880	16.4
No. 10	116,711	19,748	16.9	82,139	12,422	15.1	34,572	7,326	21.2
No. 13	119,946	34,755	29.0	76,398	19,300	25.3	43,548	15,455	35.5
No. 15	179,608	35,038	19.5	95,185	15,325	16.1	84,423	19,713	23.4
No. 16	93,649	27,551	29.4	56,940	16,323	28.7	36,709	11,228	30.6
Small mills [3]	595,312	108,840	18.3	346,801	55,595	16.0	248,511	53,245	21.4
No. 3	113,021	11,993	10.6	67,864	5,986	8.8	45,157	6,007	13.3
No. 4	44,637	4,653	10.4	15,439	1,210	7.8	29,198	3,443	11.8
No. 5	86,565	10,669	12.3	54,540	5,430	10.0	32,025	5,239	16.4
No. 7	27,027	4,106	15.2	14,432	1,808	12.5	12,595	2,298	18.2
No. 11	43,804	9,681	22.1	24,834	4,239	17.1	18,970	5,442	28.7
No. 12	77,762	16,765	21.6	46,993	8,791	18.7	30,769	7,974	25.9
No. 14	80,731	19,277	23.9	40,718	9,216	22.6	40,013	10,061	25.1
No. 17	60,201	17,159	28.5	41,687	10,321	24.8	18,514	6,838	36.9
No. 18	61,564	14,537	23.6	40,294	8,594	21.3	21,270	5,943	27.9

[1] For the year studied, the number of working days from date an employee's name first appeared on the books to date of its last appearance, totaled for all names on the books.
[2] For purposes of tabulation, mills having 20,000 or more spindles.
[3] For purposes of tabulation, mills having under 20,000 spindles.

TABLE XIV.—*Time lost in relation to location of mill as isolated or not isolated, men and women employees, by mills North and South*

Mill	Men and women			Men			Women		
		Days lost			Days lost			Days lost	
	Number of possible working days [1]	Number	Per cent of possible working days	Number of possible working days [1]	Number	Per cent of possible working days	Number of possible working days [1]	Number	Per cent of possible working days
All mills	1,563,137	291,074	18.6	909,273	147,728	16.2	653,864	143,346	21.9
Isolated mills [2]	680,162	114,973	16.9	421,737	62,381	14.8	258,425	52,592	20.4
No. 3	113,021	11,993	10.6	67,864	5,986	8.8	45,157	6,007	13.3
No. 5	86,565	10,669	12.3	54,540	5,430	10.0	32,025	5,239	16.4
No. 7	27,027	4,106	15.2	14,432	1,808	12.5	12,595	2,298	18.2
No. 9	134,342	17,484	13.0	80,063	8,604	10.7	54,279	8,880	16.4
No. 10	116,711	19,748	16.9	82,139	12,422	15.1	34,572	7,326	21.2
No. 14	80,731	19,277	23.9	40,718	9,216	22.6	40,013	10,061	25.1
No. 17	60,201	17,159	28.5	41,687	10,321	24.8	18,514	6,838	36.9
No. 18	61,564	14,537	23.6	40,294	8,594	21.3	21,270	5,943	27.9
Mills not isolated [2]	882,975	176,101	19.9	487,536	85,347	17.5	395,439	90,754	23.0
No. 1	64,711	9,143	14.1	32,915	3,082	9.4	31,796	6,061	19.1
No. 2	73,818	14,835	20.1	31,225	4,405	14.1	42,593	10,430	24.5
No. 4	44,637	4,653	10.4	15,439	1,210	7.8	29,198	3,443	11.8
No. 6	110,227	12,584	11.4	59,646	5,576	9.3	50,581	7,008	13.9
No. 8	74,813	11,096	14.8	47,961	7,096	14.8	26,852	4,000	14.9
No. 11	43,804	9,681	22.1	24,834	4,239	17.1	18,970	5,442	28.7
No. 12	77,762	16,765	21.6	46,993	8,791	18.7	30,769	7,974	25.9
No. 13	119,946	34,755	29.0	76,398	19,300	25.3	43,548	15,455	35.5
No. 15	179,608	35,038	19.5	95,185	15,325	16.1	84,423	19,713	23.4
No. 16	93,649	27,551	29.4	56,940	16,323	28.7	36,709	11,228	30.6

[1] For the year studied, the number of working days from date an employee's name first appeared on the books to date of its last appearance, totaled for all names on the books.

[2] A mill which is the only industrial establishment of any importance in the community is considered to be "isolated."

TABLE XV.—*Time lost in the various months of the year, men and women employees, by mills North and South*

NUMBER

Month	All mills			Northern mills			Southern mills		
	Men and women	Men	Women	Men and women	Men	Women	Men and women	Men	Women
Number of names on pay roll during year	9,736	5,398	4,338	4,204	2,374	1,830	5,532	3,024	2,508
Days lost in—									
Entire year	275,749	132,403	143,346	96,563	43,197	53,366	179,186	89,206	89,980
January	11,441	5,293	6,148	3,416	1,469	1,947	8,025	3,824	4,201
February	17,137	8,447	8,690	5,387	2,422	2,965	11,750	6,025	5,725
March	23,268	10,963	12,305	7,489	3,310	4,179	15,779	7,653	8,126
April	27,562	13,991	13,571	10,582	5,232	5,350	16,980	8,759	8,221
May	27,956	13,272	14,684	10,202	4,556	5,646	17,754	8,716	9,038
June	26,342	12,440	13,902	9,095	3,927	5,168	17,247	8,513	8,734
July	30,118	14,729	15,389	11,580	5,434	6,146	18,538	9,295	9,243
August	30,706	14,467	16,239	10,963	4,859	6,104	19,743	9,608	10,135
September	28,255	13,619	14,636	10,835	4,956	5,879	17,420	8,663	8,757
October	22,945	10,896	12,049	7,657	3,332	4,325	15,288	7,564	7,724
November	17,469	8,180	9,289	5,719	2,264	3,455	11,750	5,916	5,834
December	12,550	6,106	6,444	3,638	1,436	2,202	8,912	4,670	4,242

PER CENT

Days lost in—									
Entire year	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
January	4.1	4.0	4.3	3.5	3.4	3.6	4.5	4.3	4.7
February	6.2	6.4	6.1	5.6	5.6	5.6	6.6	6.8	6.4
March	8.4	8.3	8.6	7.8	7.7	7.8	8.8	8.6	9.0
April	10.0	10.6	9.5	11.0	12.1	10.0	9.5	9.8	9.1
May	10.1	10.0	10.2	10.6	10.5	10.6	9.9	9.8	10.0
June	9.6	9.4	9.7	9.4	9.1	9.7	9.6	9.5	9.7
July	10.9	11.1	10.7	12.0	12.6	11.5	10.3	10.4	10.3
August	11.1	10.9	11.3	11.4	11.2	11.4	11.0	10.8	11.3
September	10.2	10.3	10.2	11.2	11.5	11.0	9.7	9.7	9.7
October	8.3	8.2	8.4	7.9	7.7	8.1	8.5	8.5	8.6
November	6.3	6.2	6.5	5.9	5.2	6.5	6.6	6.6	6.5
December	4.6	4.6	4.5	3.8	3.3	4.1	5.0	5.2	4.7

TABLE XVI.—*Time lost during the year, men and women employees, by mill department and by mills North and South*

ALL MILLS

Department	Men and women					Men					Women				
	Number of names on pay roll during year	Number of possible working days [1]	Number of days worked	Days lost		Number of names on pay roll during year	Number of possible working days [1]	Number of days worked	Days lost		Number of names on pay roll during year	Number of possible working days [1]	Number of days worked	Days lost	
				Number	Per cent of possible working days				Number	Per cent of possible working days				Number	Per cent of possible working days
All departments	10,541	1,563,137	1,272,063	291,074	18.6	6,203	909,273	761,545	147,728	16.2	4,338	653,864	510,518	143,346	21.9
Carding	1,915	285,968	236,275	49,693	17.4	1,381	202,019	167,918	34,101	16.9	534	83,949	68,357	15,592	18.6
Spinning	2,613	385,599	303,725	81,874	21.2	1,175	181,623	148,481	33,142	18.2	1,438	203,976	155,244	48,732	23.9
Spooling	942	144,291	116,744	27,547	19.1	175	31,311	27,746	3,565	11.4	767	112,980	88,998	23,982	21.2
Weaving	3,355	468,389	389,930	78,459	16.8	2,228	299,109	253,554	45,555	15.2	1,127	169,280	136,376	32,904	19.4
Cloth	443	74,448	64,685	9,763	13.1	204	33,609	29,869	3,740	11.1	239	40,839	34,816	6,023	14.7
Miscellaneous [2]	473	94,328	63,388	30,940	32.8	253	52,710	37,552	15,158	28.8	220	41,618	25,836	15,782	37.9
General [3]	800	110,114	97,316	12,798	11.6	787	108,892	96,425	12,467	11.4	13	1,222	891	331	27.1
NORTHERN MILLS															
All departments	4,204	729,161	632,598	96,563	13.2	2,374	404,085	360,888	43,197	10.7	1,830	325,076	271,710	53,366	16.4
Carding	744	130,309	114,575	15,734	12.1	433	74,888	67,134	7,754	10.4	311	55,421	47,441	7,980	14.4
Spinning	969	170,338	145,021	25,317	14.9	376	69,186	61,905	7,281	10.5	593	101,152	83,116	18,036	17.8
Spooling	398	73,441	62,384	11,057	15.1	106	20,560	18,489	2,071	10.1	292	52,881	43,895	8,986	17.0
Weaving	1,465	235,002	204,680	30,322	12.9	988	147,835	131,602	16,233	11.0	477	87,167	73,078	14,089	16.2
Cloth	193	34,872	30,349	4,523	13.0	62	12,116	10,865	1,251	10.3	131	22,756	19,484	3,272	14.4
Miscellaneous [2]	127	27,134	21,972	5,162	19.0	102	21,741	17,582	4,159	19.1	25	5,393	4,390	1,003	18.6
General [3]	308	58,065	53,617	4,448	7.7	307	57,759	53,311	4,448	7.7	1	306	306	----	----
SOUTHERN MILLS															
All departments	6,337	833,976	639,465	194,511	23.3	3,829	505,188	400,657	104,531	20.7	2,508	328,788	238,808	89,980	27.4
Carding	1,171	155,659	121,700	33,959	21.8	948	127,131	100,784	26,347	20.7	223	28,528	20,916	7,612	26.7
Spinning	1,644	215,261	158,704	56,557	26.3	799	112,437	86,576	25,861	23.0	845	102,824	72,128	30,696	29.9
Spooling	544	70,850	54,360	16,490	23.3	69	10,751	9,257	1,494	13.9	475	60,099	45,103	14,996	25.0
Weaving	1,890	233,387	185,250	48,137	20.6	1,240	151,274	121,952	29,322	19.4	650	82,113	63,298	18,815	22.9
Cloth	250	39,576	34,336	5,240	13.2	142	21,493	19,004	2,489	11.6	108	18,083	15,332	2,751	15.2
Miscellaneous [2]	346	67,194	41,416	25,778	38.4	151	30,969	19,970	10,999	35.5	195	36,225	21,446	14,779	40.8
General [3]	492	52,049	43,699	8,350	16.0	480	51,133	43,114	8,019	15.7	12	916	585	331	36.1

[1] For the year studied, the number of working days from date an employee's name first appeared on the books to date of its last appearance, totaled for all names on the books.
[2] Workers in more than one department.
[3] Scrubbers, cleaners, etc.

TABLE XVII.—*Causes of time lost during the year, 2,214 women reporting, by month*

ALL MILLS

Cause	Number of women reporting	Days lost by specified cause in—																							
		Entire year		January		February		March		April		May		June		July		August		September		October		November		December	
		Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
All causes	[1] 2,214	97,163	100.0	3,917	100.0	5,556	100.0	7,922	100.0	8,884	100.0	9,688	100.0	9,155	100.0	10,699	100.0	11,440	100.0	10,277	100.0	8,403	100.0	6,597	100.0	4,625	100.0
Per cent distribution			100.0		4.0		5.7		8.2		9.1		10.0		9.4		11.0		11.8		10.6		8.6		6.8		4.8
Personal:																											
Illness of self	1,357	22,495	23.2	1,233	31.5	1,755	31.6	2,517	31.8	1,766	19.9	1,877	19.4	2,089	22.8	1,989	18.6	2,085	18.2	2,241	21.8	2,105	25.0	1,800	27.3	1,038	22.4
Pregnancy and confinement	46	3,140	3.2	77	2.0	147	2.6	207	2.6	279	3.1	392	4.0	468	5.1	412	3.9	370	3.2	310	3.0	270	3.2	157	2.4	51	1.1
Illness of others	634	9,292	9.6	485	12.4	719	12.9	997	12.6	761	8.6	878	9.1	771	8.4	810	7.6	771	6.7	986	9.6	1,035	12.3	687	10.4	392	8.5
Accident	19	283	.3			14	.3	27	.3	71	.8	38	.4	29	.3	35	.3	9	.1			31	.4	10	.2	19	.4
Death	122	585	.6	13	.3	46	.8	65	.8	109	1.2	57	.6	54	.6	33	.3	35	.3	69	.7	24	.3	52	.8	28	.6
Marriage	40	509	.5	9	.2	23	.4	13	.2	11	.1	82	.8	56	.6	77	.7	68	.6	48	.5	58	.7	18	.3	46	1.0
Home duties	660	19,256	19.8	610	15.6	1,122	20.2	1,665	21.0	1,925	21.7	2,336	24.1	2,266	24.8	1,950	18.2	1,937	16.9	1,777	17.3	1,606	19.1	1,167	17.7	895	19.4
Education	17	973	1.0	6	.2	12	.2	20	.3	16	.2	77	.8	85	.9	26	.2	57	.5	205	2.0	211	2.5	190	2.9	68	1.5
Religion	16	51	.1	2	.1					2	(2)	7	.1	3	(2)			12	.1			8	.1	17	.3		
Rest	436	4,931	5.1	182	4.6	215	3.9	293	3.7	293	3.3	489	5.0	597	6.5	612	5.7	664	5.8	563	5.5	446	5.3	363	5.5	214	4.6
Recreation	547	4,391	4.5	71	1.8	99	1.8	205	2.6	185	2.1	295	3.0	426	4.7	841	7.9	1,131	9.9	446	4.3	269	3.2	275	4.2	148	3.2
Vacation	176	2,776	2.9	21	.5	16	.3	38	.5	71	.8	111	1.1	239	2.6	634	5.9	960	8.4	471	4.6	136	1.6	40	.6	39	.8
Business	192	609	.6	43	1.1	25	.4	62	.8	56	.6	34	.4	41	.4	41	.4	46	.4	62	.6	72	.9	50	.8	77	1.7
Another job	112	7,347	7.6	79	2.0	323	5.8	523	6.6	621	7.0	788	8.1	798	8.7	854	8.0	1,030	9.0	1,016	9.9	790	9.4	413	6.3	112	2.4
Mill:																											
Accident	46	689	.7	18	.5	30	.5	67	.8	21	.2	57	.6	26	.3	46	.4	139	1.2	82	.8	113	1.3	71	1.1	19	.4
No work	322	2,648	2.7	223	5.7	227	4.1	218	2.8	252	2.8	304	3.1	240	2.6	199	1.9	190	1.7	278	2.7	197	2.3	183	2.8	137	3.0
Penalty	53	137	.1	16	.4	10	.2	11	.1	6	.1	11	.1	17	.2	16	.1	12	.1	9	.1	10	.1	9	.1	10	.2
Let out	411	4,844	5.0	280	7.1	287	5.2	420	5.3	459	5.2	519	5.4	388	4.2	343	3.2	366	3.2	409	4.0	461	5.5	579	8.8	333	7.2
Shutdown	1,410	10,143	10.4	461	11.8	331	6.0	392	4.9	1,811	20.4	1,104	11.4	342	3.7	1,535	14.3	1,358	11.9	1,183	11.5	404	4.8	290	4.4	932	20.2
Laid off	14	463	.5			23	.4	4	.1	38	.4	85	.9	55	.6	50	.5	32	.3	53	.5	30	.4	73	1.1	20	.4
General:																											
Dispute	36	735	.8	20	.5	54	1.0	74	.9	51	.6	49	.5	59	.6	87	.8	106	.9	32	.3	81	1.0	101	1.5	21	.5
Strike	6	52	.1			6	.1	12	.2	23	.3	1	(2)	8	.1	2	(2)										
Weather	37	166	.2	18	.5	22	.4	15	.2	2	(2)	13	.1	34	.4	20	.2	8	.1	3	(2)	16	.2	2	(2)	13	.3
Miscellaneous	42	648	.7	50	1.3	50	.9	77	1.0	55	.6	84	.9	64	.7	87	.8	54	.5	34	.3	30	.4	50	.8	13	.3

All causes	[1] 1,143	40,782	100.0	1,371	100.0	2,184	100.0	3,141	100.0	4,169	100.0	4,303	100.0	3,832	100.0	4,712	100.0	4,838	100.0	4,603	100.0	3,284	100.0	2,670	100.0	1,675	100.0
Per cent distribution	------	100.0	-----	3.4	-----	5.4	-----	7.7	-----	10.2	-----	10.6	-----	9.4	-----	11.6	-----	11.9	-----	11.3	-----	8.1	-----	6.5	-----	4.1	-----
Personal:																												
Illness of self	612	8,492	20.8	479	34.9	777	35.6	1,247	39.7	764	18.3	651	15.1	736	19.2	629	13.3	635	13.1	690	15.0	750	22.8	746	27.9	388	23.2
Pregnancy and confinement	11	1,042	2.6	3	.2	26	1.2	48	1.5	74	1.8	134	3.1	174	4.5	174	3.7	149	3.1	113	2.5	75	2.3	50	1.9	22	1.3
Illness of others	223	3,502	8.6	146	10.6	249	11.4	342	10.9	305	7.3	400	9.3	280	7.3	308	6.5	251	5.2	389	8.5	389	11.8	321	12.0	122	7.3
Accident	6	74	.2	-----	-----	-----	-----	-----	-----	7	.2	32	.7	14	.4	18	.4	3	.1	-----	-----	-----	-----	-----	-----	-----	-----
Death	52	246	.6	8	.6	12	.5	31	1.0	46	1.1	5	.1	25	.7	5	.1	12	.2	46	1.0	12	.4	31	1.2	13	.8
Marriage	19	314	.8	9	.7	4	.2	9	.3	11	.3	47	1.1	26	.7	42	.9	35	.7	27	.6	47	1.4	13	.5	44	2.6
Home duties	313	10,593	26.0	289	21.1	643	29.4	937	29.8	1,126	27.0	1,335	31.0	1,238	32.3	1,027	21.8	1,051	21.7	998	21.7	907	27.6	583	21.8	459	27.4
Education	9	554	1.4	-----	-----	-----	-----	-----	-----	-----	-----	77	1.8	68	1.8	1	(2)	34	.7	110	2.4	126	3.8	100	3.7	38	2.3
Religion	3	3	(2)	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	1	(2)	2	.1	-----	-----
Rest	197	1,802	4.4	66	4.8	76	3.5	87	2.8	133	3.2	204	4.7	212	5.5	228	4.8	206	4.3	148	3.2	181	5.5	173	6.5	88	5.3
Recreation	296	2,289	5.6	35	2.6	29	1.3	68	2.2	89	2.1	145	3.4	229	6.0	486	10.3	602	12.4	266	5.8	129	3.9	130	4.9	81	4.8
Vacation	139	2,353	5.8	6	.4	14	.6	21	.7	57	1.4	95	2.2	178	4.6	556	11.8	854	17.7	403	8.8	97	3.0	33	1.2	39	2.3
Business	84	247	.6	12	.9	2	.1	15	.5	34	.8	12	.3	26	.7	13	.3	14	.3	18	.4	44	1.3	27	1.0	30	1.8
Another job	20	1,600	3.9	9	.7	25	1.1	101	3.2	192	4.6	200	4.6	204	5.3	192	4.1	182	3.8	216	4.7	175	5.3	74	2.8	30	1.8
Mill:																											
Accident	16	229	.6	6	.4	10	.5	10	.3	-----	-----	9	.2	-----	-----	21	.4	54	1.1	44	1.0	58	1.8	12	.4	5	.3
No work	167	1,226	3.0	148	10.8	122	5.6	90	2.9	128	3.1	123	2.9	100	2.6	53	1.1	87	1.8	137	3.0	66	2.0	100	3.7	72	4.3
Let out	94	736	1.8	28	2.0	50	2.3	59	1.9	61	1.5	86	2.0	74	1.9	44	.9	58	1.2	48	1.0	58	1.8	112	4.2	58	3.5
Shutdown	638	4,675	11.5	85	6.2	86	3.9	43	1.4	1,090	26.1	620	14.4	156	4.1	825	17.5	544	11.2	898	19.5	97	3.0	72	2.7	159	9.5
Laid off	8	381	.9	-----	-----	23	1.1	-----	-----	11	.3	77	1.8	55	1.4	50	1.1	32	.7	27	.6	30	.9	56	2.1	20	1.2
General:																											
Dispute	4	61	.1	-----	-----	-----	-----	-----	-----	7	.2	17	.4	3	.1	-----	-----	8	.2	-----	-----	16	.5	10	.4	-----	-----
Strike	2	10	(2)	-----	-----	-----	-----	-----	-----	10	.2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Weather	7	24	.1	8	.6	12	.5	3	.1	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	1	.1
Miscellaneous	9	329	.8	34	2.5	24	1.1	30	1.0	24	.6	34	.8	34	.9	40	.8	27	.6	25	.5	26	.8	25	.9	6	.4

[1] Details aggregate more than total because many women appear in more than one group.

[2] Less than one-tenth of 1 per cent

TABLE XVII.—*Causes of time lost during the year, 2,214 women reporting, by month*—Continued

SOUTHERN MILLS

Cause	Number of women reporting	Days lost by specified cause in—																							
		Entire year		January		February		March		April		May		June		July		August		September		October		November		December	
		Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
All causes	[1] 1,072	56,381	100.0	2,546	100.0	3,372	100.0	4,781	100.0	4,715	100.0	5,385	100.0	5,323	100.0	5,987	100.0	6,602	100.0	5,674	100.0	5,119	100.0	3,927	100.0	2,950	100.0
Per cent distribution		100.0		4.5		6.0		8.5		8.4		9.6		9.4		10.6		11.7		10.1		9.1		7.0		5.2	
Personal:																											
Illness of self	745	14,003	24.8	754	29.6	978	29.0	1,270	26.6	1,002	21.3	1,226	22.8	1,353	25.4	1,360	22.7	1,450	22.0	1,551	27.3	1,355	26.5	1,054	26.8	650	22.0
Pregnancy and confinement	35	2,098	3.7	74	2.9	121	3.6	159	3.3	205	4.3	258	4.8	294	5.5	238	4.0	221	3.3	197	3.5	195	3.8	107	2.7	29	1.0
Illness of others	411	5,790	10.3	339	13.3	470	13.9	655	13.7	456	9.7	478	8.9	491	9.2	502	8.4	520	7.9	597	10.5	646	12.6	366	9.3	270	9.2
Accident	13	209	.4			14	.4	27	.6	64	1.4	6	.1	15	.3	17	.3	6	.1			31	.6	10	.3	19	.6
Death	70	339	.6	5	.2	34	1.0	34	.7	63	1.3	52	1.0	29	.5	28	.5	23	.3	23	.4	12	.2	21	.5	15	.5
Marriage	21	195	.3			19	.6	4	.1			35	.6	30	.6	35	.6	33	.5	21	.4	11	.2	5	.1	2	.1
Home duties	347	8,663	15.4	321	12.6	479	14.2	728	15.2	799	16.9	1,001	18.6	1,028	19.3	923	15.4	886	13.4	779	13.7	699	13.7	584	14.9	436	14.8
Education	8	419	.7	6	.2	12	.4	20	.4	16	.3			17	.3	25	.4	23	.3	95	1.7	85	1.7	90	2.3	30	1.0
Religion	13	48	.1	2	.1					2	(2)	7	.1	3	.1			12	.2			7	.1	15	.4		
Rest	239	3,129	5.5	116	4.6	139	4.1	206	4.3	160	3.4	285	5.3	385	7.2	384	6.4	458	6.9	415	7.3	265	5.2	190	4.8	126	4.3
Recreation	251	2,102	3.7	36	1.4	70	2.1	137	2.9	96	2.0	150	2.8	197	3.7	355	5.9	529	8.0	180	3.2	140	2.7	145	3.7	67	2.3
Vacation	37	423	.8	15	.6	2	.1	17	.4	14	.3	16	.3	61	1.1	78	1.3	106	1.6	68	1.2	39	.8	7	.2		
Business	108	362	.6	31	1.2	23	.7	47	1.0	22	.5	22	.4	15	.3	28	.5	32	.5	44	.8	28	.5	23	.6	47	1.6
Another job	92	5,747	10.2	70	2.7	298	8.8	422	8.8	429	9.1	588	10.9	594	11.2	662	11.1	848	12.8	800	14.1	615	12.0	339	8.6	82	2.8
Mill:																											
Accident	30	460	.8	12	.5	20	.6	57	1.2	21	.4	48	.9	26	.5	25	.4	85	1.3	38	.7	55	1.1	59	1.5	14	.5
No work	155	1,422	2.5	75	2.9	105	3.1	128	2.7	124	2.6	181	3.4	140	2.6	146	2.4	103	1.6	141	2.5	131	2.6	83	2.1	65	2.2
Penalty	53	137	.2	16	.6	10	.3	11	.2	6	.1	11	.2	17	.3	16	.3	12	.2	9	.2	10	.2	9	.2	10	.3
Let out	317	4,108	7.3	252	9.9	237	7.0	361	7.6	398	8.4	433	8.0	314	5.9	299	5.0	308	4.7	361	6.4	403	7.9	467	11.9	275	9.3
Shutdown	772	5,468	9.7	376	14.8	245	7.3	349	7.3	721	15.3	484	9.0	186	3.5	710	11.9	814	12.3	285	5.0	307	6.0	218	5.6	773	26.2
Laid off	6	82	.1					4	.1	27	.6	8	.1							26	.5			17	.4		
General:																											
Dispute	32	674	1.2	20	.8	54	1.6	74	1.5	44	.9	32	.6	56	1.1	87	1.5	98	1.5	32	.6	65	1.3	91	2.3	21	.7
Strike	4	42	.1			6	.2	12	.3	13	.3	1	(2)	8	.2	2	(2)										
Weather	30	142	.3	10	.4	10	.3	12	.3	2	(2)	13	.2	34	.6	20	.3	8	.1	3	.1	16	.3	2	.1	12	.4
Miscellaneous	33	319	.6	16	.6	26	.8	47	1.0	31	.7	50	.9	30	.6	47	.8	27	.4	9	.2	4	.1	25	.6	7	.2

[1] Details aggregate more than total because many women appear in more than one group.

[2] Less than one-tenth of 1 per cent.

TABLE XVIII.—*Causes of time lost in the various departments during the year, 2,214 women reporting, by mills North and South*

ALL MILLS

Cause	All departments		Carding department		Spinning department		Spooling department		Weaving department		Cloth department		Miscellaneous [1]	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Number of women reporting	2,214		277		707		389		567		157		117	
Days lost:														
Number	97,163		10,713		32,377		16,821		23,284		4,660		9,308	
Per cent distribution		100.0		11.0		33.3		17.3		24.0		4.8		9.6
Average per woman	43.9		38.7		45.8		43.2		41.1		29.7		79.6	
Days lost by—														
All causes	97,163	100.0	10,713	100.0	32,377	100.0	16,821	100.0	23,284	100.0	4,660	100.0	9,308	100.0
Personal causes:														
Illness of self	22,495	23.2	2,487	23.2	7,939	24.5	3,547	21.1	5,433	23.3	1,180	25.3	1,911	20.5
Pregnancy and confinement	3,140	3.2	163	1.5	1,420	4.4	465	2.8	581	2.5	179	3.8	332	3.6
Illness of others	9,292	9.6	1,373	12.8	2,688	8.3	1,286	7.6	2,669	11.5	351	7.5	925	9.9
Accident	283	.3	18	.2	120	.4	85	.5	51	.2	9	.2		
Death	585	.6	33	.3	109	.3	143	.9	168	.7	21	.5	111	1.2
Marriage	509	.5	82	.8	64	.2	150	.9	161	.7	46	1.0	6	.1
Home duties	19,256	19.8	1,982	18.5	4,725	14.6	3,608	21.4	6,165	26.5	974	21.0	1,802	19.4
Education	973	1.0	76	.7	372	1.1	53	.3	190	.8	232	5.0	50	.5
Religion	51	.1	2	[2]	6	[2]	19	.1	11	[2]	3	.1	10	.1
Rest	4,931	5.1	393	3.7	1,669	5.2	824	4.9	1,082	4.6	87	1.9	876	9.4
Recreation	4,391	4.5	423	3.9	1,506	4.7	950	5.6	982	4.2	284	6.1	246	2.6
Vacation	2,776	2.9	469	4.4	619	1.9	473	2.8	887	3.8	211	4.5	117	1.3
Business	609	.6	74	.7	144	.4	92	.5	204	.9	24	.5	71	.8
Another job	7,347	7.6	1,045	9.8	2,689	8.3	588	3.5	1,540	6.6	211	4.5	1,274	13.7
Mill causes:														
Accident	689	.7	108	1.0	95	.3	291	1.7	184	.8			11	.1
No work	2,648	2.7	419	3.9	951	2.9	635	3.8	223	1.0	132	2.8	288	3.1
Penalty	137	.1	38	.4	36	.1	9	.1	44	.2			10	.1
Let out	4,844	5.0	153	1.4	2,733	8.4	1,040	6.2	425	1.8	62	1.3	431	4.6
Shutdown	10,143	10.4	1,012	9.4	3,727	11.5	2,353	14.0	1,872	8.0	532	11.4	647	7.0
Laid off	463	.5			136	.4	87	.5	89	.4	82	1.8	69	.7
General causes:														
Dispute	735	.8	146	1.4	327	1.0	25	.1	114	.5	26	.6	97	1.0
Strike	52	.1	15	.1	37	.1								
Weather	166	.2	72	.7	35	.1	4	[2]	41	.2			14	.2
Miscellaneous	648	.7	130	1.2	232	.7	94	.6	168	.7	14	.3	10	.1

[1] Workers in more than one department.

[2] Less than one-tenth of 1 per cent.

TABLE XVIII.—*Causes of time lost in the various departments during the year, 2,214 women reporting, by mills North and South*—Con.

NORTHERN MILLS

Cause	All departments		Carding department		Spinning department		Spooling department		Weaving department		Cloth department		Miscellaneous [1]	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Number of women reporting	1,142		185		365		107		294		86		15	
Days lost:														
Number	40,782		5,682		13,167		7,612		11,377		2,403		541	
Per cent distribution		100.0		13.9		32.3		18.7		27.9		5.9		1.3
Average per woman	35.7		30.7		36.1		38.6		38.7		27.9		36.1	
Days lost by—														
All causes	40,782	100.0	5,682	100.0	13,167	100.0	7,612	100.0	11,377	100.0	2,403	100.0	541	100.0
Personal causes:														
Illness of self	8,492	20.8	1,309	23.0	2,813	21.4	1,644	21.6	2,099	18.4	563	23.4	64	11.8
Pregnancy and confinement	1,042	2.6	136	2.4	370	2.8	220	2.9	156	1.4	160	6.7		
Illness of others	3,502	8.6	656	11.5	665	5.1	489	6.4	1,484	13.0	140	5.8	68	12.6
Accident	74	.2	18	.3	7	.1	19	.2	30	.3				
Death	246	.6	25	.4	55	.4	76	1.0	66	.6	4	.2	20	3.7
Marriage	314	.8	67	1.2	44	.3	81	1.1	78	.7	44	1.8		
Home duties	10,593	26.0	1,193	21.0	2,877	21.9	1,843	24.2	3,850	33.8	824	34.3	6	1.1
Education	554	1.4	76	1.3	349	2.7			79	.7			50	9.2
Religion	3	[2]							3	[2]				
Rest	1,802	4.4	220	3.9	752	5.7	234	3.1	533	4.7	52	2.2	11	2.0
Recreation	2,289	5.6	179	3.2	839	6.4	534	7.0	525	4.6	167	6.9	45	8.3
Vacation	2,353	5.8	454	8.0	568	4.3	313	4.1	788	6.9	151	6.3	79	14.6
Business	247	.6	30	.5	39	.3	15	.2	116	1.0	9	.4	38	7.0
Another job	1,600	3.9	229	4.0	820	6.2	247	3.2	286	2.5	6	.2	12	2.2
Mill causes:														
Accident	229	.6	48	.8	61	.5	49	.6	71	.6				
No work	1,226	3.0	269	4.7	417	3.2	363	4.8	101	.9	28	1.2	48	8.9
Let out	736	1.8	37	.7	429	3.3	186	2.4	80	.7	4	.2		
Shutdown	4,675	11.5	611	10.8	1,767	13.4	1,141	15.0	944	8.3	143	6.0	69	12.8
Laid off	381	.9			136	1.0	87	1.1	47	.4	82	3.4	29	5.4
General causes:														
Dispute	61	.1							35	.3	26	1.1		
Strike	10				10	.1								
Weather	24	.1	18	.3	5	[2]	1	[2]						
Miscellaneous	329	.8	107	1.9	144	1.1	70	.9	6	.1			2	.4

Number of women reporting	1,072		92		342		192		273		71		102	
Days lost:														
Number	56,381		5,031		19,210		9,209		11,907		2,257		8,767	
Per cent distribution		100.0		8.9		34.1		16.3		21.1		4.0		15.5
Average per woman	52.6		54.7		56.2		48.0		43.6		31.8		86.0	
Days lost by—														
All causes	56,381	100.0	5,031	100.0	19,210	100.0	9,209	100.0	11,907	100.0	2,257	100.0	8,767	100.0
Personal causes:														
Illness of self	14,003	24.8	1,178	23.4	5,124	26.7	1,903	20.7	3,334	28.0	617	27.3	1,847	21.1
Pregnancy and confinement	2,098	3.7	27	.5	1,050	5.5	245	2.7	425	3.6	19	.8	332	3.8
Illness of others	5,790	10.3	717	14.3	2,023	10.5	797	8.7	1,185	10.0	211	9.3	857	9.8
Accident	209	.4			113	.6	66	.7	21	.2	9	.4		
Death	339	.6	8	.2	54	.3	67	.7	102	.9	17	.8	91	1.0
Marriage	195	.3	15	.3	20	.1	69	.7	83	.7	2	.1	6	.1
Home duties	8,663	15.4	789	15.7	1,848	9.6	1,765	19.2	2,315	19.4	150	6.6	1,796	20.5
Education	419	.7			23	.1	53	.6	111	.9	232	10.3		
Religion	48	.1	2	(2)	6	(2)	19	.2	8	.1	3	.1	10	.1
Rest	3,129	5.5	173	3.4	917	4.8	590	6.4	549	4.6	35	1.6	865	9.9
Recreation	2,102	3.7	244	4.8	667	3.5	416	4.5	457	3.8	117	5.2	201	2.3
Vacation	423	.8	15	.3	51	.3	160	1.7	99	.8	60	2.7	38	.4
Business	362	.6	44	.9	105	.5	77	.8	88	.7	15	.7	33	.4
Another job	5,747	10.2	816	16.2	1,869	9.7	341	3.7	1,254	10.5	205	9.1	1,262	14.4
Mill causes:														
Accident	460	.8	60	1.2	34	.2	242	2.6	113	.9			11	.1
No work	1,422	2.5	150	3.0	534	2.8	272	3.0	122	1.0	104	4.6	240	2.7
Penalty	137	.2	38	.8	36	.2	9	.1	44	.4			10	.1
Let out	4,108	7.3	116	2.3	2,304	12.0	854	9.3	345	2.9	58	2.6	431	4.9
Shutdown	5,468	9.7	401	8.0	1,960	10.2	1,212	13.2	928	7.8	389	17.2	578	6.6
Laid off	82	.1							42	.4			40	.5
General causes:														
Dispute	674	1.2	146	2.9	327	1.7	25	.3	79	.7			97	1.1
Strike	42	.1	15	.3	27	.1								
Weather	142	.3	54	1.1	30	.2	3	(2)	41	.3			14	.2
Miscellaneous	319	.6	23	.5	88	.5	24	.3	162	1.4	14	.6	8	.1

[1] Workers in more than one department.

[2] Less than one-tenth of 1 per cent.

TABLE XIX.—*Time lost in relation to age, 2,210 women reporting, by mill department*

ALL DEPARTMENTS

Item	All women	Women whose age was—							
		Under 16 years	16 and under 20 years	20 and under 25 years	25 and under 30 years	30 and under 40 years	40 and under 50 years	50 and under 60 years	60 years and over
Number of women reporting	2,210	98	534	460	307	393	284	99	35
Possible working days[1]—									
Number	493,201	13,994	112,625	103,286	67,662	92,648	68,241	26,100	8,645
Per cent distribution	100.0	2.8	22.8	20.9	13.7	18.8	13.8	5.3	1.8
Average per woman	223.2	142.8	210.9	224.5	220.4	235.7	240.3	263.6	247.0
Days lost—									
Number	100,327	2,769	19,169	22,696	14,399	21,500	13,390	5,084	1,320
Per cent distribution	100.0	2.8	19.1	22.6	14.4	21.4	13.3	5.1	1.3
Average per woman	45.4	28.3	35.9	49.3	46.9	54.7	47.1	51.4	37.7
Per cent of possible working days	20.3	19.8	17.0	22.0	21.3	23.2	19.6	19.5	15.3

CARDING DEPARTMENT

Number of women reporting	277	8	55	44	42	65	42	14	7
Possible working days[1]—									
Number	63,363	980	12,253	10,482	9,773	15,239	9,488	3,735	1,413
Per cent distribution	100.0	1.5	19.3	16.5	15.4	24.1	15.0	5.9	2.2
Average per woman	228.7	122.5	222.8	238.2	232.7	234.4	225.9	266.8	201.9
Days lost—									
Number	11,206	194	1,760	1,684	1,686	3,275	1,766	598	243
Per cent distribution	100.0	1.7	15.7	15.0	15.0	29.2	15.8	5.3	2.2
Average per woman	40.5	24.3	32.0	38.3	40.1	50.4	42.0	42.7	34.7
Per cent of possible working days	17.7	19.8	14.4	16.1	17.3	21.5	18.6	16.0	17.2

SPINNING DEPARTMENT

Number of women reporting	706	42	227	192	106	87	44	8	-------
Possible working days[1]—									
Number	150,815	7,259	48,013	41,193	22,857	19,459	10,036	1,998	-------
Per cent distribution	100.0	4.8	31.8	27.3	15.2	12.9	6.7	1.3	-------
Average per woman	213.6	172.8	211.5	214.5	215.6	223.7	228.1	249.8	-------
Days lost—									
Number	33,734	1,542	9,205	10,326	5,601	4,513	2,080	467	-------
Per cent distribution	100.0	4.6	27.3	30.6	16.6	13.4	6.2	1.4	-------
Average per woman	47.8	36.7	40.6	53.8	52.8	51.9	47.3	58.4	-------
Per cent of possible working days	22.4	21.2	19.2	25.1	24.5	23.2	20.7	23.4	-------

SPOOLING DEPARTMENT

Number of women reporting	389	15	74	83	50	86	57	17	7
Possible working days[1]—									
Number	87,643	1,911	15,785	18,827	10,744	19,913	14,220	4,222	2,021
Per cent distribution	100.0	2.2	18.0	21.5	12.3	22.7	16.2	4.8	2.3
Average per woman	225.3	127.4	213.3	226.8	214.9	231.5	249.5	248.4	288.7
Days lost—									
Number	17,425	236	2,475	3,838	2,045	4,626	2,993	791	421
Per cent distribution	100.0	1.4	14.2	22.0	11.7	26.5	17.2	4.5	2.4
Average per woman	44.8	15.7	33.4	46.2	40.9	53.8	52.5	46.5	60.1
Per cent of possible working days	19.9	12.3	15.7	20.4	19.0	23.2	21.0	18.7	20.8

WEAVING DEPARTMENT

Number of women reporting	565	21	96	93	65	115	109	50	16
Possible working days[1]—									
Number	130,438	2,365	19,666	21,357	14,484	28,357	26,876	13,292	4,041
Per cent distribution	100.0	1.8	15.1	16.4	11.1	21.7	20.6	10.2	3.1
Average per woman	230.9	112.6	204.9	229.6	222.8	246.6	246.6	265.8	252.6
Days lost—									
Number	23,626	486	2,780	3,774	2,430	6,197	4,719	2,771	469
Per cent distribution	100.0	2.1	11.8	16.0	10.3	26.2	20.0	11.7	2.0
Average per woman	41.8	23.1	29.0	40.6	37.4	53.9	43.3	55.4	29.3
Per cent of possible working days	18.1	20.5	14.1	17.7	16.8	21.9	17.6	20.8	11.6

[1] For the year studied, the number of working days from date an employee's name first appeared on the books to date of its last appearance, totaled for all names on the books.

TABLE XIX.—*Time lost in relation to age, 2,210 women reporting, by mill department*—Continued

CLOTH DEPARTMENT

Item	All women	Women whose age was—							
		Under 16 years	16 and under 20 years	20 and under 25 years	25 and under 30 years	30 and under 40 years	40 and under 50 years	50 and under 60 years	60 years and over
Number of women reporting	156	7	56	27	22	16	17	9	2
Possible working days [1]—									
Number	34,378	946	11,885	6,345	4,454	3,359	4,396	2,574	419
Per cent distribution	100.0	2.8	34.6	18.5	13.0	9.8	12.8	7.5	1.2
Average per woman	220.4	135.1	212.2	235.0	202.5	209.9	258.6	286.0	209.5
Days lost—									
Number	4,766	135	1,425	717	942	541	617	345	44
Per cent distribution	100.0	2.8	29.9	15.0	19.8	11.4	12.9	7.2	.9
Average per woman	30.6	19.3	25.4	26.6	42.8	33.8	36.3	38.3	22.0
Per cent of possible working days	13.9	14.3	12.0	11.3	21.1	16.1	14.0	13.4	10.5

MISCELLANEOUS [2]

Number of women reporting	117	5	26	21	22	24	15	1	3
Possible working days [1]—									
Number	26,564	533	5,023	5,082	5,350	6,321	3,225	279	751
Per cent distribution	100.0	2.0	18.9	19.1	20.1	23.8	12.1	1.1	2.8
Average per woman	227.0	106.6	193.2	242.0	243.2	263.4	215.0	279.0	250.3
Days lost—									
Number	9,570	176	1,524	2,357	1,695	2,348	1,215	112	143
Per cent distribution	100.0	1.8	15.9	24.6	17.7	24.5	12.7	1.2	1.5
Average per woman	81.8	35.2	58.6	112.2	77.1	97.8	81.0	112.0	47.7
Per cent of possible working days	36.0	33.0	30.3	46.4	31.7	37.1	37.7	40.1	19.0

[1] For the year studied, the number of working days from date an employee's name first appeared on the books to date of its last appearance, totaled for all names on the books.
[2] Workers in more than one department.

TABLE XX.—*Time lost in relation to conjugal condition, 2,211 women reporting, by mill department*

ALL DEPARTMENTS

Item	All women	Women who were—		
		Single	Married	Widowed, separated, or divorced
Number of women reporting	2,211	1,065	846	300
Possible working days [1]—				
Number	493,619	241,939	180,036	71,644
Per cent distribution	100.0	49.0	36.5	14.5
Average per woman	223.2	227.2	212.8	238.8
Days lost—				
Number	100,220	36,274	50,269	13,677
Per cent distribution	100.0	36.2	50.2	13.6
Average per woman	45.3	34.1	59.4	45.6
Per cent of possible working days	20.3	15.0	27.9	19.1

[1] For the year studied, the number of working days from date an employee's name first appeared on the books to date of its last appearance, totaled for all names on the books.

TABLE XX.—*Time lost in relation to conjugal condition, 2,211 women reporting, by mill department*—Continued

CARDING DEPARTMENT

Item	All women	Women who were—		
		Single	Married	Widowed, separated, or divorced
Number of women reporting	277	120	112	45
Possible working days [1]—				
Number	63,363	27,821	23,611	11,931
Per cent distribution	100.0	43.9	37.3	18.8
Average per woman	228.7	231.8	210.8	265.1
Days lost—				
Number	11,206	3,560	5,424	2,222
Per cent distribution	100.0	31.8	48.4	19.8
Average per woman	40.5	29.7	48.4	49.4
Per cent of possible working days	17.7	12.8	23.0	18.6

SPINNING DEPARTMENT

Number of women reporting	705	384	239	82
Possible working days [1]—				
Number	150,548	86,469	46,766	17,313
Per cent distribution	100.0	57.4	31.1	11.5
Average per woman	213.5	225.2	195.7	211.1
Days lost—				
Number	33,535	14,660	14,528	4,347
Per cent distribution	100.0	43.7	43.3	13.0
Average per woman	47.6	38.2	60.8	53.0
Per cent of possible working days	22.3	17.0	31.1	25.1

SPOOLING DEPARTMENT

Number of women reporting	389	189	147	53
Possible working days [1]—				
Number	87,643	43,967	31,090	12,586
Per cent distribution	100.0	50.2	35.5	14.4
Average per woman	225.3	232.6	211.5	237.5
Days lost—				
Number	17,425	5,920	9,258	2,247
Per cent distribution	100.0	34.0	53.1	12.9
Average per woman	44.8	31.3	63.0	42.4
Per cent of possible working days	19.9	13.5	29.8	17.9

WEAVING DEPARTMENT

Number of women reporting	566	238	236	92
Possible working days [1]—				
Number	130,903	54,390	53,220	23,293
Per cent distribution	100.0	41.5	40.7	17.8
Average per woman	231.3	228.5	225.5	361.9
Days lost—				
Number	23,696	7,474	12,786	3,436
Per cent distribution	100.0	31.5	54.0	14.5
Average per woman	41.9	31.4	54.2	37.3
Per cent of possible working days	18.1	13.7	24.0	10.3

[1] For the year studied, the number of working days from date an employee's name first appeared on the books to date of its last appearance, totaled for all names on the books.

TABLE XX.—*Time lost in relation to conjugal condition, 2,211 women reporting, by mill department*—Continued

CLOTH DEPARTMENT

Item	All women	Women who were—		
		Single	Married	Widowed, separated, or divorced
Number of women reporting	157	91	56	10
Possible working days [1]—				
Number	34,598	20,475	11,893	2,230
Per cent distribution	100.0	59.2	34.4	6.4
Average per woman	220.4	225.0	212.4	223.0
Days lost—				
Number	4,788	2,150	2,343	295
Per cent distribution	100.0	44.9	48.9	6.2
Average per woman	30.5	23.6	41.8	29.5
Per cent of possible working days	13.8	10.5	19.7	13.2
MISCELLANEOUS [2]				
Number of women reporting	117	43	56	18
Possible working days [1]—				
Number	26,564	8,817	13,456	4,291
Per cent distribution	100.0	33.2	50.7	16.2
Average per woman	227.0	205.0	240.3	238.4
Days lost—				
Number	9,570	2,510	5,930	1,130
Per cent distribution	100.0	26.2	62.0	11.8
Average per woman	81.8	58.4	105.9	62.8
Per cent of possible working days	36.0	28.5	44.1	26.3

[1] For the year studied, the number of working days from date an employee's name first appeared on the books to date of its lost appearance, totaled for all names on the books.
[2] Workers in more than one department.

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TABLE XXI.—*Time lost in relation to living condition, 2,208 women reporting, by mills North and South*

ALL MILLS

Item	All women	Women living—		
		At home	With relatives	Adrift
Number of women reporting	2,208	2,078	47	83
Per cent distribution	100.0	94.1	2.1	3.8
Possible working days [1]—				
Number	493,006	465,638	8,867	18,501
Per cent distribution	100.0	94.4	1.8	3.8
Average per woman	223.3	224.1	188.7	222.9
Days lost—				
Number	99,957	95,144	1,375	3,438
Per cent distribution	100.0	95.2	1.4	3.4
Average per woman	45.3	45.8	29.3	41.4
Per cent of possible working days	20.3	20.4	15.5	18.6

NORTHERN MILLS

Number of women reporting	1,140	1,070	28	42
Per cent distribution	100.0	93.9	2.5	3.7
Possible working days [1]—				
Number	264,117	248,429	5,244	10,444
Per cent distribution	100.0	94.1	2.0	4.0
Average per woman	231.7	232.2	187.3	248.7
Days lost—				
Number	41,933	40,004	573	1,356
Per cent distribution	100.0	95.4	1.4	3.2
Average per woman	36.8	37.4	20.5	32.3
Per cent of possible working days	15.9	16.1	10.9	13.0

SOUTHERN MILLS

Number of women reporting	1,068	1,008	19	41
Per cent distribution	100.0	94.4	1.8	3.8
Possible working days [1]—				
Number	228,889	217,209	3,623	8,057
Per cent distribution	100.0	94.9	1.6	3.5
Average per woman	214.3	215.5	190.7	196.5
Days lost—				
Number	58,024	55,140	802	2,082
Per cent distribution	100.0	95.0	1.4	3.6
Average per woman	54.3	54.7	42.2	50.8
Per cent of possible working days	25.4	25.4	22.1	25.8

[1] For the year studied, the number of working days from date an employee's name first appeared on the books to date of its last appearance, totaled for all names on the books.

TABLE XXII.—*Time lost in relation to number of wage earners in family, 2,182 women reporting, by mills North and South*

ALL MILLS

Wage earners in family	Number of women reporting	Possible working days[1]		Days lost		
		Number	Average per woman	Number	Average per woman	Per cent of possible working days
All families	2,182	487,708	223.5	98,958	45.4	20.3
Families with—						
1 wage earner	206	47,977	232.9	7,643	37.1	15.9
2 wage earners	909	196,999	216.7	46,041	50.7	23.4
3 wage earners	556	121,317	218.2	22,503	40.5	18.5
4 wage earners	311	73,047	234.9	13,708	44.1	18.8
5 wage earners	135	33,235	246.2	6,066	44.9	18.3
6 wage earners	47	10,219	217.4	2,270	48.3	22.2
7 wage earners	13	3,626	278.9	660	50.8	18.2
8 wage earners	4	985	246.3	51	12.8	5.2
9 wage earners	1	303	303.3	16	16.0	5.3

NORTHERN MILLS

All families	1,127	260,905	231.5	41,466	36.8	15.9
Families with—						
1 wage earner	90	22,513	250.1	2,849	31.7	12.6
2 wage earners	455	100,150	220.1	18,907	41.6	18.9
3 wage earners	292	67,274	230.4	9,516	32.6	14.1
4 wage earners	162	39,953	246.6	5,807	35.8	14.5
5 wage earners	85	21,734	255.7	2,934	34.5	13.5
6 wage earners	32	6,359	198.7	1,304	40.8	20.5
7 wage earners	6	1,634	272.3	82	13.7	5.0
8 wage earners	4	985	246.3	51	12.8	5.2
9 wage earners	1	303	303.0	16	16.0	5.3

SOUTHERN MILLS

All families	1,055	226,803	215.0	57,492	54.5	25.3
Families with—						
1 wage earner	116	25,464	219.5	4,794	41.3	18.8
2 wage earners	454	96,849	213.3	27,134	59.8	28.0
3 wage earners	264	54,043	204.7	12,987	49.2	24.0
4 wage earners	149	33,094	222.1	7,901	53.0	23.9
5 wage earners	50	11,501	230.0	3,132	62.6	27.2
6 wage earners	15	3,860	257.3	966	64.4	25.0
7 wage earners	7	1,992	284.6	578	82.6	29.0

[1] For the year studied, the number of working days from date an employee's name first appeared on the books to date of its last appearance, totaled for all names on the books.

TABLE XXIII.—*Absences of three months or more from cotton-mill work during over-all period of cotton-mill employment, 2,303 women reporting, by mills North and South*

ALL MILLS

Over-all time in cotton-mill employment [1]	Number of women reporting	Number of women with no absences of 3 months or more	Number of women whose absences of three months or more from mill work during over-all cotton-mill employment aggregated—									
			3 and under 6 months	6 months and under 1 year	1 and under 2 years	2 and under 3 years	3 and under 4 years	4 and under 5 years	5 and under 10 years	10 and under 15 years	15 and under 20 years	20 years and over
Total	2,303	902	156	176	232	176	98	76	241	131	80	35
Per cent distribution	100.0	39.2	6.8	7.6	10.1	7.6	4.3	3.3	10.5	5.7	3.5	1.5
3 years and under	664	541	44	46	25	8						
Over 3 and including 5 years	267	123	30	35	45	19	11	4				
Over 5 and including 10 years	413	147	44	38	59	56	23	16	30			
Over 10 and including 15 years	253	43	16	15	47	41	16	19	48	8		
Over 15 and including 20 years	201	24	3	12	22	22	19	12	54	28	5	
Over 20 and including 25 years	176	8	6	13	8	12	9	11	48	35	25	1
Over 25 and including 30 years	131	5	4	7	11	10	8	5	26	21	20	14
Over 30 and including 35 years	101	4	3	5	7	6	3	3	22	20	19	9
Over 35 and including 40 years	51	3	2	2	5	1	5	4	7	11	7	4
Over 40 years	46	4	4	3	3	1	4	2	6	8	4	7

NORTHERN MILLS

Total	1,242	518	78	93	120	73	47	31	138	73	50	21
Per cent distribution	100.0	41.7	6.3	7.5	9.7	5.9	3.8	2.5	11.1	5.9	4.0	1.7
3 years and under	324	266	18	27	10	3						
Over 3 and including 5 years	137	78	12	15	20	7	4	1				
Over 5 and including 10 years	220	103	19	18	30	19	10	5	16			
Over 10 and including 15 years	143	31	11	10	27	20	5	10	24	5		
Over 15 and including 20 years	105	19	2	5	13	7	9	2	31	13	4	
Over 20 and including 25 years	89	8	4	7	3	3	5	3	27	17	12	
Over 25 and including 30 years	77	4	4	3	4	7	5	4	15	11	13	7
Over 30 and including 35 years	71	3	2	4	7	5	2	1	13	14	13	7
Over 35 and including 40 years	39	2	2	1	4	1	4	3	6	8	5	3
Over 40 years	37	4	4	3	2	1	3	2	6	5	3	4

Total	1,061	384	78	83	112	103	51	45	103	58	30	14
Per cent distribution	100.0	36.2	7.4	7.8	10.6	9.7	4.8	4.2	9.7	5.5	2.8	1.3
3 years and under	340	275	26	19	15	5						
Over 3 and including 5 years	130	45	18	20	25	12	7	3				
Over 5 and including 10 years	193	44	25	20	29	37	13	11	14			
Over 10 and including 15 years	110	12	5	5	20	21	11	9	24	3		
Over 15 and including 20 years	96	5	1	7	9	15	10	10	23	15	1	
Over 20 and including 25 years	87		2	6	5	9	4	8	21	18	13	1
Over 25 and including 30 years	54	1		4	7	3	3	1	11	10	7	7
Over 30 and including 35 years	30	1	1	1		1	1	2	9	6	6	2
Over 35 and including 40 years	12	1		1	1		1	1	1	3	2	1
Over 40 years	9				1		1			3	1	3

[1] Entire time from first cotton-mill work to date of survey, regardless of absences.

TABLE XXIV.—*Causes of absence from cotton-mill work during over-all period of cotton-mill employment, 2,278 women reporting, by mills North and South*

ALL MILLS

Over-all time in cotton-mill employment [1]	Number of women reporting complete data	Number of women who lost three months or more	Aggregate lost time (months)	Percentage of aggregate lost time due to—																				
				Personal causes											Mill causes				General causes				
				Total	Illness of self	Pregnancy and confinement	Illness of others	Home duties	Another job	Change of residence	Left for farm or country	Education	Recreation	Other personal	Total	No work	Low wages	Accident in mill	Total	Dispute or strike	Child labor law	Weather	Other general
Total	2,278	1,376	77,439.8	95.6	3.5	20.8	1.5	51.0	10.7	1.0	4.9	0.9	1.4	(2)	2.5	1.9	0.2	0.4	1.9	(2)	0.1	(2)	1.7
3 years and under	663	122	1,040.5	89.4	11.7	8.9	2.5	24.5	15.5	.3	1.7	21.6	2.3	0.3	7.2	6.8	-----	.4	3.4	0.3	.6	-----	2.5
Over 3 and including 5 years	266	143	2,157.8	91.4	5.9	13.0	3.2	30.1	26.6	.6	7.1	2.9	2.0	-----	5.9	5.7	-----	.2	2.7	-----	2.2	-----	.6
Over 5 and including 10 years	409	262	6,467.5	94.3	7.5	19.9	2.5	39.8	11.6	.5	9.3	1.6	1.5	-----	2.6	1.3	1.1	.2	3.0	-----	.4	0.1	2.5
Over 10 and including 15 years	248	205	7,957.0	94.8	3.3	33.2	1.0	35.5	11.9	1.7	6.5	1.0	.8	-----	2.0	2.0	-----	-----	3.2	(2)	.4	-----	2.8
Over 15 and including 20 years	200	176	11,558.0	96.3	3.9	22.1	1.1	53.7	9.3	.8	3.7	.4	1.2	.1	1.8	1.7	-----	.1	1.9	.1	(2)	-----	1.8
Over 20 and including 25 years	171	163	14,533.5	94.7	1.6	20.3	.4	55.3	10.2	.3	4.4	.5	1.7	.1	3.3	2.9	.3	.1	2.0	.1	-----	-----	1.9
Over 25 and including 30 years	128	123	13,227.5	98.8	2.9	15.7	1.6	64.4	6.6	1.4	5.5	.2	.6	(2)	.9	.9	-----	(2)	.3	-----	-----	-----	.3
Over 30 and including 35 years	98	94	11,008.0	96.9	3.6	24.7	1.0	51.0	10.6	-----	4.7	.1	1.2	-----	3.0	.7	-----	2.3	.1	-----	-----	-----	.1
Over 35 and including 40 years	50	47	4,968.0	90.7	1.4	10.4	2.5	59.6	11.8	-----	.7	-----	4.2	.1	4.6	4.6	-----	-----	4.6	.2	-----	.1	4.3
Over 40 years	45	41	4,522.0	96.7	3.7	22.5	3.6	40.9	14.9	5.2	3.2	.4	2.2	.1	.5	.4	-----	.2	2.8	-----	-----	-----	2.8

NORTHERN MILLS

Total	1,228	710	42,818.1	97.1	3.7	22.3	2.0	54.3	10.3	1.3	1.4	0.7	1.1	0.1	1.9	1.0	0.3	0.7	1.0	(2)	0.1	(2)	0.9
3 years and under	324	58	494.0	86.1	9.1	1.4	1.7	28.4	16.4	.6	2.4	23.6	1.8	.6	11.6	10.8	-----	.8	2.2	-----	-----	-----	2.2
Over 3 and including 5 years	137	59	849.8	86.6	4.6	9.7	2.1	37.0	27.6	1.4	1.5	1.9	.7	-----	10.2	10.2	-----	-----	3.2	-----	1.8	-----	1.4
Over 5 and including 10 years	218	115	2,854.0	93.5	8.7	21.2	4.6	40.5	13.4	.1	2.0	1.5	1.5	-----	5.1	2.2	2.5	.4	1.4	-----	.5	.1	.8
Over 10 and including 15 years	141	110	4,103.0	98.4	3.7	38.0	.1	35.2	15.1	1.1	2.9	1.1	1.2	-----	.7	.7	-----	-----	.9	.1	.2	-----	.7
Over 15 and including 20 years	105	86	6,256.8	99.0	3.8	24.9	1.0	57.8	9.4	.8	-----	-----	1.1	.2	.4	.3	-----	.1	.6	.1	-----	-----	.5
Over 20 and including 25 years	85	77	6,672.5	99.0	2.2	28.1	.4	58.8	8.0	.6	-----	-----	.7	.2	1.0	.3	.7	-----	-----	-----	-----	-----	-----
Over 25 and including 30 years	76	72	7,722.5	99.5	3.5	13.5	2.4	67.4	9.1	2.4	.2	.4	.5	(2)	.4	.4	-----	-----	.2	-----	-----	-----	.2
Over 30 and including 35 years	68	65	7,451.5	95.4	3.2	26.9	1.5	53.3	6.1	-----	3.5	.2	.8	-----	4.5	1.0	-----	3.4	.1	-----	-----	-----	.1
Over 35 and including 40 years	38	36	3,588.0	95.3	1.9	12.8	3.3	61.0	14.4	-----	1.0	-----	.8	-----	.6	.6	-----	-----	4.1	-----	-----	-----	4.0
Over 40 years	36	32	2,826.0	94.9	5.5	13.2	5.8	44.9	9.8	8.3	3.2	.7	3.5	.1	.6	.6	-----	-----	4.5	-----	-----	-----	4.5

Total	1,050	666	34,621.8	93.9	3.2	19.0	0.8	46.9	11.2	0.5	9.2	1.1	1.9	(2)	3.2	3.1	-----	0.1	2.9	0.1	0.2	-----	2.6
3 years and under	339	64	546.5	92.4	14.1	15.7	3.3	21.0	14.7	-----	1.1	19.8	2.7	-----	3.1	3.1	-----	-----	4.5	.5	1.1	-----	2.8
Over 3 and including 5 years	129	84	1,308.0	94.5	6.7	15.1	4.0	25.6	26.0	-----	10.8	3.5	2.8	-----	3.1	2.7	-----	.4	2.4	-----	2.4	-----	-----
Over 5 and including 10 years	191	147	3,613.5	95.0	6.7	18.9	.9	39.2	10.2	.8	15.2	1.8	1.4	-----	.7	.6	-----	.1	4.3	-----	.4	-----	3.8
Over 10 and including 15 years	107	95	3,854.0	91.1	2.9	28.2	1.8	35.9	8.5	2.4	10.3	.9	.3	-----	3.3	3.3	-----	-----	5.6	-----	.6	-----	5.0
Over 15 and including 20 years	95	90	5,301.3	93.1	4.1	18.7	1.2	48.9	9.1	.8	8.1	.9	1.2	-----	3.5	3.5	-----	-----	3.5	.1	.1	-----	3.3
Over 20 and including 25 years	86	86	7,861.0	91.0	1.2	13.6	.4	52.3	12.0	-----	8.1	1.0	2.5	-----	5.3	5.2	-----	.1	3.7	.1	-----	-----	3.6
Over 25 and including 30 years	52	51	5,505.0	97.9	2.1	18.7	.3	60.1	3.0	-----	12.9	-----	.7	-----	1.7	1.6	-----	.1	.4	-----	-----	-----	.4
Over 30 and including 35 years	30	29	3,556.5	100.0	4.3	20.3	.1	46.1	20.0	-----	7.1	-----	2.2	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
Over 35 and including 40 years	12	11	1,380.0	78.9	.2	4.1	.2	55.9	5.2	-----	-----	-----	13.0	.2	15.0	15.0	-----	-----	6.1	.9	-----	-----	5.2
Over 40 years	9	9	1,696.0	99.6	.6	38.0	-----	34.3	23.5	-----	3.2	-----	-----	-----	.4	-----	-----	.4	-----	-----	-----	-----	-----

[1] Entire time from first cotton-mill work to date of survey, regardless of absences.
[2] Less than one-tenth of 1 per cent.

TABLE XXV.—*Time lost during the year in relation to time actually worked during over-all period of cotton-mill employment, 2,169 women reporting, by mill department*

Item	All departments	Carding department	Spinning department	Spooling department	Weaving department	Cloth department	Miscellaneous [1]
Total number of women reporting	2,169	274	694	379	552	155	115
Possible working days [2]—							
Number	486,459	62,907	148,732	85,820	128,636	34,204	26,160
Average per woman	224.3	229.6	214.3	226.4	233.0	220.7	227.5
Days lost—							
Number	97,832	11,042	32,950	16,842	22,976	4,715	9,307
Per cent of possible working days	20.1	17.6	22.2	19.6	17.9	13.8	35.6
Average per woman	45.1	40.3	47.5	44.4	41.6	30.4	80.9
Less than 1 year actually worked:							
Number of women reporting	299	28	98	56	76	28	13
Possible working days [2]—							
Number	36,668	3,066	13,054	6,787	8,994	3,337	1,430
Average per woman	122.6	109.5	133.2	121.2	118.3	119.2	110.0
Days lost—							
Number	8,072	651	3,293	1,113	2,077	510	428
Per cent of possible working days	22.0	21.2	25.2	16.4	23.1	15.3	29.9
Average per woman	27.0	23.3	33.6	19.9	27.3	18.2	32.9
1 and under 2 years actually worked:							
Number of women reporting	150	16	53	31	25	21	4
Possible working days [2]—							
Number	34,741	3,599	12,623	7,400	5,995	4,268	856
Average per woman	231.6	224.9	238.2	238.7	239.8	203.2	214.0
Days lost—							
Number	6,418	677	2,487	1,513	857	573	311
Per cent of possible working days	18.5	18.8	19.7	20.4	14.3	13.4	36.3
Average per woman	42.8	42.3	46.9	48.8	34.3	27.3	77.8
2 and under 3 years actually worked:							
Number of women reporting	204	18	72	33	47	21	13
Possible working days [2]—							
Number	49,594	4,759	16,339	8,045	12,099	5,539	2,813
Average per woman	243.1	264.4	226.9	243.8	257.4	263.8	216.4
Days lost—							
Number	8,573	625	2,911	1,255	1,947	878	957
Per cent of possible working days	17.3	13.1	17.8	15.6	16.1	15.9	34.0
Average per woman	42.0	34.7	40.4	38.0	41.4	41.8	73.6
3 and under 4 years actually worked:							
Number of women reporting	176	23	71	25	32	19	6
Possible working days [2]—							
Number	40,849	5,306	16,270	5,587	7,894	4,645	1,147
Average per woman	232.1	230.7	229.2	223.5	246.7	244.5	191.2
Days lost—							
Number	8,009	854	3,433	1,248	1,601	589	284
Per cent of possible working days	19.6	16.1	21.1	22.3	20.3	12.7	24.8
Average per woman	45.5	37.1	48.4	49.9	50.0	31.0	47.3
4 and under 5 years actually worked:							
Number of women reporting	147	19	52	28	25	11	12
Possible working days [2]—							
Number	35,675	4,985	13,026	6,585	5,868	2,338	2,873
Average per woman	242.7	262.4	250.5	235.2	234.7	212.5	239.4
Days lost—							
Number	6,648	578	2,656	1,046	990	390	988
Per cent of possible working days	18.6	11.6	20.4	15.9	16.9	16.7	34.4
Average per woman	45.2	30.4	51.1	37.4	39.6	35.5	82.3
5 and under 10 years actually worked:							
Number of women reporting	486	71	165	77	115	28	30
Possible working days [2]—							
Number	113,517	16,677	35,424	19,012	28,039	6,695	7,670
Average per woman	233.6	234.9	214.7	246.9	243.8	239.1	255.7
Days lost—							
Number	24,474	3,237	8,693	3,944	4,889	820	2,891
Per cent of possible working days	21.6	19.4	24.5	20.7	17.4	12.2	37.7
Average per woman	50.4	45.6	52.7	51.2	42.5	29.3	96.4

[1] Workers in more than one department.

[2] For the year studied, the number of working days from date an employee's name first appeared on the books to date of its last appearance, totaled for all names on the books.

TABLE XXV.—*Time lost during the year in relation to time actually worked during over-all period of cotton-mill employment, 2,169 women reporting, by mill department*—Continued

Item	All departments	Carding department	Spinning department	Spooling department	Weaving department	Cloth department	Miscellaneous [1]
10 and under 15 years actually worked:							
Number of women reporting	270	39	91	50	65	12	13
Possible working days [2]—							
Number	63,750	9,968	19,453	12,434	15,199	3,141	3,555
Average per woman	236.1	255.6	213.8	248.7	233.8	261.8	273.5
Days lost—							
Number	14,113	1,621	5,049	2,719	2,754	445	1,525
Per cent of possible working days	22.1	16.3	26.0	21.9	18.1	14.2	42.9
Average per woman	52.3	41.6	55.5	54.4	42.4	37.1	117.3
15 and under 20 years actually worked:							
Number of women reporting	182	28	51	29	58	4	12
Possible working days [2]—							
Number	44,289	6,712	12,292	6,691	14,876	1,122	2,596
Average per woman	243.3	239.7	241.0	230.7	256.5	280.5	216.3
Days lost—							
Number	9,297	1,559	2,337	1,627	3,049	93	632
Per cent of possible working days	21.0	23.2	19.0	24.3	20.5	8.3	24.3
Average per woman	51.1	55.7	45.8	56.1	52.6	23.3	52.7
20 years and over actually worked:							
Number of women reporting	255	32	41	50	109	11	12
Possible working days [2]—							
Number	67,376	7,835	10,251	13,279	29,672	3,119	3,220
Average per woman	264.2	244.8	250.0	265.6	272.2	283.5	268.3
Days lost—							
Number	12,228	1,240	2,091	2,377	4,812	417	1,291
Per cent of possible working days	18.1	15.8	20.4	17.9	16.2	13.4	40.1
Average per woman	48.0	38.8	51.0	47.5	44.1	37.9	107.6

[1] Workers in more than one department.
[2] For the year studied, the number of working days from date an employee's name first appeared on the books to date of its last appearance, totaled for all names on the books.

TABLE XXVI.—*Time lost during the year in relation to length of actual employment in present mill, 2,110 women reporting, by individual mill North and South*

Service in present mill	ALL MILLS			NORTHERN MILLS													
				Total			Mill No. 1			Mill No. 2			Mill No. 3			Mill No. 4		
	Number of women reporting	Days lost		Number of women reporting	Days lost		Number of women reporting	Days lost		Number of women reporting	Days lost		Number of women reporting	Days lost		Number of women reporting	Days lost	
		Number	Per cent of possible working days		Number	Per cent of possible working days		Number	Per cent of possible working days		Number	Per cent of possible working days		Number	Per cent of possible working days		Number	Per cent of possible working days
Total	2,110	93,608	19.8	1,132	41,327	14.5	98	4,648	20.2	154	7,870	24.1	143	4,371	12.1	129	2,820	11.0
Under 1 year	490	15,581	24.3	223	6,148	20.7	29	848	20.5	27	989	28.7	13	276	13.7	40	1,002	23.9
1 and under 2 years	235	12,121	22.0	106	3,727	14.7	16	968	22.9	17	1,105	33.6	7	96	5.1	15	92	3.0
2 and under 3 years	239	10,420	17.4	115	4,149	14.1	9	294	12.5	17	688	19.3	14	484	12.6	10	183	7.9
3 and under 4 years	208	10,797	20.8	114	5,055	17.5	13	1,010	28.4	11	899	37.1	10	339	12.0	11	98	3.7
4 and under 5 years	143	7,412	19.5	80	2,796	13.4	6	185	11.8	9	580	26.4	10	186	6.7	8	273	15.6
5 and under 10 years	424	21,037	20.0	237	9,488	16.0	17	867	17.3	39	2,063	22.3	49	1,386	10.9	23	673	12.0
10 and under 15 years	167	8,039	18.3	100	3,917	14.6	5	338	27.3	12	571	18.4	17	667	14.4	15	280	6.8
15 and under 20 years	83	3,177	14.9	56	1,977	13.8	2	39	6.4	14	629	21.3	7	129	7.6	4	145	12.6
20 and under 25 years	51	2,116	16.4	39	1,549	15.4	1	99	34.3	2	25	4.1	10	372	16.0	2	67	16.5
25 and under 30 years	27	1,165	14.6	23	1,050	15.6	------	------	------	4	185	15.3	3	147	18.6	1	7	2.3
30 years and over	43	1,743	14.2	39	1,471	13.3	------	------	------	2	136	22.7	3	289	44.5	------	------	------

NORTHERN MILLS (concluded)

Service in present mill	Mill No. 5			Mill No. 6			Mill No. 7			Mill No. 8			Mill No. 9		
Total	104	4,211	16.5	163	4,793	12.5	44	1,649	17.3	95	3,048	13.9	202	7,917	15.9
Under 1 year	15	536	26.4	37	703	13.2	11	357	21.5	15	440	24.6	36	997	19.7
1 and under 2 years	2	44	7.6	17	371	8.4	8	308	14.9	12	151	5.8	12	592	18.6
2 and under 3 years	14	677	18.6	23	1,029	16.3	2	67	12.6	13	221	6.2	13	506	15.2
3 and under 4 years	13	447	12.5	24	854	14.7	5	270	28.7	14	507	14.9	13	631	17.2
4 and under 5 years	11	561	17.6	15	338	7.8	8	355	18.1	7	68	4.4	6	250	16.4
5 and under 10 years	25	1,099	19.3	29	867	11.7	6	156	13.2	21	1,107	21.0	28	1,270	18.1
10 and under 15 years	12	423	12.8	17	593	13.6	2	59	9.6	7	355	17.2	13	631	18.5
15 and under 20 years	7	227	10.6	------	------	------	------	------	------	4	167	14.6	18	641	13.7
20 and under 25 years	1	53	25.1	------	------	------	1	69	22.5	2	32	5.3	20	832	15.6
25 and under 30 years	2	97	15.8	------	------	------	------	------	------	------	------	------	13	614	16.1
30 years and over	2	47	7.7	1	38	12.5	1	8	3.2	------	------	------	30	953	11.0

Service in present mill	Total			Mill No. 10			Mill No. 11			Mill No. 12			Mill No. 13		
	Number of women reporting	Days lost		Number of women reporting	Days lost		Number of women reporting	Days lost		Number of women reporting	Days lost		Number of women reporting	Days lost	
		Number	Per cent of possible working days		Number	Per cent of possible working days		Number	Per cent of possible working days		Number	Per cent of possible working days		Number	Per cent of possible working days
Total	978	52,281	24.9	94	4,144	18.3	67	4,208	28.6	88	4,528	22.7	133	9,881	33.8
Under 1 year	267	9,433	27.4	18	452	17.5	14	296	23.0	6	157	28.0	27	1,458	38.3
1 and under 2 years	129	8,394	28.2	12	590	16.2	7	521	37.4	9	306	18.9	22	1,776	40.4
2 and under 3 years	124	6,271	20.5	11	389	14.4	6	488	24.0	11	814	31.5	15	861	28.8
3 and under 4 years	94	5,742	25.0	9	374	16.5	8	905	37.1	10	467	21.3	17	1,053	22.9
4 and under 5 years	63	4,616	27.0	6	264	15.8	2	203	40.0	11	793	25.7	10	1,156	42.5
5 and under 10 years	187	11,549	25.2	22	1,393	25.4	17	1,132	27.4	23	1,288	22.2	22	1,681	32.0
10 and under 15 years	67	4,122	24.2	10	567	23.1	6	260	15.8	7	268	16.8	14	1,477	38.9
15 and under 20 years	27	1,200	17.3	4	71	5.8	4	247	27.0	9	377	17.2	5	388	27.7
20 and under 25 years	12	567	20.0	1	29	10.6	2	120	19.4	1	11	28.2			
25 and under 30 years	4	115	9.4	1	15	4.8	1	36	11.6	1	47	15.6			
30 years and over	4	272	22.4										1	31	10.0

Service in present mill	Mill No. 14			Mill No. 15			Mill No. 16			Mill No. 17			Mill No. 18		
Total	122	6,015	22.3	279	11,819	21.1	101	5,034	26.0	46	3,979	37.1	48	2,673	26.1
Under 1 year	35	1,972	38.5	92	2,184	20.3	57	2,320	29.3	9	394	30.6	9	200	18.1
1 and under 2 years	14	471	14.8	35	2,322	27.6	11	851	31.5	11	1,203	46.0	8	354	20.0
2 and under 3 years	21	770	13.6	30	828	11.0	12	643	19.6	13	1,120	35.0	5	358	31.0
3 and under 4 years	12	596	21.3	23	1,234	25.0	8	512	26.1	5	535	36.7	2	66	19.7
4 and under 5 years	8	594	28.1	18	981	20.3	4	169	14.3				4	456	47.6
5 and under 10 years	25	1,281	21.5	54	3,185	24.5	7	344	19.9	5	648	42.8	12	597	20.4
10 and under 15 years	5	292	19.7	13	388	12.4	2	195	31.6	2	33	9.8	8	642	32.1
15 and under 20 years				5	117	9.6									
20 and under 25 years	2	39	6.3	6	368	28.6									
25 and under 30 years				1	17	5.7									
30 years and over				2	195	32.6				1	46	14.8			

TABLE XXVII.—*Time lost during the year in relation to length of actual employment in present mill, 2,110 women reporting, by mill department*

Service in present mill	All departments				Carding department			
	Number of women reporting	Number of possible working days [1]	Days lost		Number of women reporting	Number of possible working days [1]	Days lost	
			Number	Per cent of possible working days			Number	Per cent of possible working days
Total	2,110	472,307	93,608	19.8	269	61,961	10,649	17.2
Under 1 year	490	64,116	15,581	24.3	46	6,020	1,428	23.7
1 and under 2 years	235	55,077	12,121	22.0	24	5,314	741	13.9
2 and under 3 years	239	59,955	10,420	17.4	34	8,551	1,211	14.2
3 and under 4 years	208	51,860	10,797	20.8	27	7,019	1,381	19.7
4 and under 5 years	143	37,938	7,412	19.5	20	5,295	542	10.2
5 and under 10 years	424	104,939	21,037	20.0	64	15,410	3,308	21.5
10 and under 15 years	167	43,910	8,039	18.3	31	7,966	1,128	14.2
15 and under 20 years	83	21,318	3,177	14.9	12	3,147	444	14.1
20 and under 25 years	51	12,914	2,116	16.4	6	1,717	216	12.6
25 and under 30 years	27	7,963	1,165	14.6	1	306	104	34.0
30 years and over	43	12,317	1,743	14.2	4	1,216	146	12.0
	Spinning department				Spooling department			
Total	668	142,843	31,145	21.8	368	82,530	15,812	19.2
Under 1 year	179	24,336	5,853	24.1	88	10,802	2,093	19.4
1 and under 2 years	82	19,543	4,759	24.4	49	11,489	2,507	21.8
2 and under 3 years	80	19,134	4,139	21.6	38	10,107	1,642	16.2
3 and under 4 years	80	19,634	4,030	20.5	33	7,852	1,801	22.9
4 and under 5 years	42	10,601	2,189	20.6	24	6,495	1,208	18.6
5 and under 10 years	121	28,239	6,083	21.5	75	19,029	3,901	20.5
10 and under 15 years	45	11,923	2,605	21.8	28	7,833	1,516	19.4
15 and under 20 years	21	4,940	664	13.4	8	2,031	374	18.4
20 and under 25 years	12	2,767	594	21.5	13	3,453	406	11.8
25 and under 30 years	3	918	97	10.6	4	1,106	213	19.3
30 years and over	3	808	132	16.3	8	2,333	151	6.5
	Weaving department				Cloth department			
Total	545	126,862	22,656	17.9	150	33,172	4,518	13.6
Under 1 year	109	13,869	3,551	25.6	42	5,185	907	17.5
1 and under 2 years	45	11,102	2,085	18.8	21	4,723	837	17.7
2 and under 3 years	53	13,925	2,114	15.2	23	5,739	511	8.9
3 and under 4 years	45	11,519	2,327	20.2	13	3,479	579	16.6
4 and under 5 years	30	8,286	1,623	19.6	13	3,490	457	13.1
5 and under 10 years	125	31,712	5,533	17.4	19	5,037	580	11.5
10 and under 15 years	46	11,404	1,726	15.1	9	2,693	231	8.6
15 and under 20 years	33	8,900	1,115	12.5	3	702	177	25.2
20 and under 25 years	17	4,070	699	17.2	2	606	57	9.4
25 and under 30 years	17	5,017	729	14.5	2	616	22	3.6
30 years and over	25	7,058	1,154	16.4	3	902	160	17.7
					Miscellaneous [2]			
Total					110	24,939	8,828	35.4
Under 1 year					26	3,904	1,749	44.8
1 and under 2 years					14	2,906	1,192	41.0
2 and under 3 years					11	2,499	803	32.1
3 and under 4 years					10	2,357	679	28.8
4 and under 5 years					14	3,771	1,393	36.9
5 and under 10 years					20	5,512	1,632	29.6
10 and under 15 years					8	2,091	833	39.8
15 and under 20 years					6	1,598	403	25.2
20 and under 25 years					1	301	144	47.8

[1] For the year studied, the number of working days from date an employee's name first appeared on the books to date of its last appearance, totaled for all names on the books.
[2] Workers in more than one department.

TABLE XXVIII.—*Labor turnover among men and women employees, three methods of arriving at number of separations, by individual mill North and South*

MEN AND WOMEN

Mill	Number of names on pay roll during year	Average number of full-time workers [1]	Labor turnover by three methods of arriving at separations					
			Final separations—those not followed by return to work in 1922		Separations when all absences in excess of 24 days are considered separations		Separations when all absences in excess of 12 days are considered separations	
			Number	Percentage of turnover [2]	Number	Percentage of turnover [2]	Number	Percentage of turnover [2]
All mills [3]	9,063	3,675.4	4,940	134.4	6,048	164.6	7,490	203.8
Northern mills—								
No. 1	346	181.6	148	81.5	195	107.4	267	147.0
No. 2	569	193.4	351	181.5	445	230.1	558	288.5
No. 3	484	334.5	137	41.0	167	49.9	239	71.4
No. 4	287	130.7	139	106.4	163	124.7	188	143.8
No. 5	416	248.0	130	52.4	163	65.7	222	89.5
No. 6	772	322.2	429	133.1	463	143.7	540	167.6
No. 7	199	74.6	124	166.2	147	197.1	169	226.5
No. 8	510	208.9	289	138.3	352	168.5	421	201.5
No. 9	621	381.9	222	58.1	332	86.9	452	118.4
Southern mills [3]—								
No. 10	480	312.8	153	48.9	175	55.9	259	82.8
No. 11	223	110.0	96	87.3	124	112.7	160	145.5
No. 12	525	198.0	300	151.5	383	193.4	486	245.5
No. 13	1,005	275.7	667	241.9	781	283.3	984	356.9
No. 14	757	198.2	525	264.9	652	329.0	765	386.0
No. 16	1,078	213.9	807	377.3	961	449.3	1,089	509.1
No. 17	365	138.8	193	139.0	231	166.4	296	213.3
No. 18	426	152.2	230	151.1	314	206.3	395	259.5

MEN

All mills [3]	5,398	2,221.2	2,978	134.1	3,521	158.5	4,161	187.3
Northern mills—								
No. 1	163	97.5	60	61.5	74	75.9	92	94.4
No. 2	269	87.9	178	202.5	200	227.5	224	254.8
No. 3	283	204.9	76	37.1	86	42.0	123	60.0
No. 4	104	46.5	54	116.1	62	133.3	71	152.7
No. 5	259	160.5	81	50.5	91	56.7	123	76.6
No. 6	460	178.4	274	153.6	297	166.5	324	181.6
No. 7	106	41.1	64	155.7	75	182.5	82	199.5
No. 8	362	134.0	224	167.2	264	197.0	302	225.4
No. 9	368	233.5	122	52.2	176	75.4	223	95.5
Southern mills [3]—								
No. 10	323	224.9	87	38.7	107	47.6	151	67.1
No. 11	118	66.4	44	66.3	53	79.8	62	93.4
No. 12	318	124.0	187	150.8	236	190.3	274	221.0
No. 13	625	184.8	408	220.8	462	250.0	575	311.1
No. 14	449	101.6	333	327.8	400	393.7	451	443.9
No. 16	676	131.4	523	398.0	604	459.7	671	510.7
No. 17	243	101.2	121	119.6	144	142.3	178	175.9
No. 18	272	102.6	142	138.4	190	185.2	235	229.0

[1] Total days worked during the year, all employees, divided by number of days mill was in operation.

[2] Number of separations divided by average number of full-time workers, the result—the "separation rate"—being converted into the more familiar "percentage of turnover" by moving the decimal point two places.

[3] Excludes one mill for which the duration of absences of men was not reported.

TABLE XXVIII.—*Labor turnover among men and women employees, three methods of arriving at number of separations, by individual mill North and South*—Continued

WOMEN

Mill	Number of names on pay roll during year	Average number of full-time workers [1]	Labor turnover by three methods of arriving at separations					
			Final separations—those not followed by return to work in 1922		Separations when all absences in excess of 24 days are considered separations		Separations when all absences in excess of 12 days are considered separations	
			Number	Percentage of turnover [2]	Number	Percentage of turnover [2]	Number	Percentage of turnover [2]
All mills [3]	3,665	1,454.2	1,962	134.9	2,527	173.8	3,329	228.9
Northern mills—								
No. 1	183	84.1	88	104.6	121	143.9	175	208.1
No. 2	300	105.5	173	164.0	245	232.2	334	316.6
No. 3	201	129.6	61	47.1	81	62.5	116	89.5
No. 4	183	84.2	85	101.0	101	120.0	117	139.0
No. 5	157	87.5	49	56.0	72	82.3	99	113.1
No. 6	312	143.8	155	107.8	166	115.4	216	150.2
No. 7	93	33.5	60	179.1	72	214.9	87	259.7
No. 8	148	74.9	65	86.8	88	117.5	119	158.9
No. 9	253	148.4	100	67.4	156	105.1	229	154.3
Southern mills [3]—								
No. 10	157	87.9	66	75.1	68	77.4	108	122.9
No. 11	105	43.6	52	119.3	71	162.8	98	224.8
No. 12	207	74.0	113	152.7	147	198.6	212	286.5
No. 13	380	90.9	259	284.9	319	350.9	409	449.9
No. 14	308	96.6	192	198.8	252	260.9	314	325.1
No. 16	402	82.5	284	344.2	357	432.7	418	506.7
No. 17	122	37.6	72	191.5	87	231.4	118	313.8
No. 18	154	49.6	88	177.4	124	250.0	160	322.6

[1] Total days worked during the year, all employees, divided by number of days mill was in operation.
[2] Number of separations divided by average number of full-time workers, the result—the "separation rate"—being converted into the more familiar "percentage of turnover" by moving the decimal point two places.
[3] Excludes one mill for which the duration of absences of men was not reported.

TABLE XXIX.—*Employees whose names appeared on each monthly pay roll during year, by sex and by individual mill North and South*

Mill	Men and women			Men			Women		
	Number of names on pay roll during year	Names which appeared on each monthly pay roll during year		Number of names on pay roll during year	Names which appeared on each monthly pay roll during year		Number of names on pay roll during year	Names which appeared on each monthly pay roll during year	
		Number	Per cent		Number	Per cent		Number	Per cent
All mills	10,541	2,714	25.7	6,203	1,664	26.8	4,338	1,050	24.2
Northern mills	4,204	1,492	35.5	2,374	874	36.8	1,830	618	33.8
No. 1	346	138	39.9	163	84	51.5	183	54	29.5
No. 2	569	110	19.3	269	48	17.8	300	62	20.7
No. 3	484	286	59.1	283	183	64.7	201	103	51.2
No. 4	287	77	26.8	104	24	23.1	183	53	29.0
No. 5	416	193	46.4	259	130	50.2	157	63	40.1
No. 6	772	228	29.5	460	122	26.5	312	106	34.0
No. 7	199	36	18.1	106	19	17.9	93	17	18.3
No. 8	510	140	27.5	362	89	24.6	148	51	34.5
No. 9	621	284	45.7	368	175	47.6	253	109	43.1
Southern mills	6,337	1,222	19.3	3,829	790	20.6	2,508	432	17.2
No. 10	480	276	57.5	323	209	64.7	157	67	42.7
No. 11	223	94	42.2	118	60	50.8	105	34	32.4
No. 12	525	123	23.4	318	78	24.5	207	45	21.7
No. 13	1,005	156	15.5	625	111	17.8	380	45	11.8
No. 14	757	86	11.4	449	34	7.6	308	52	16.9
No. 15	1,478	205	13.9	805	93	11.6	673	112	16.6
No. 16	1,078	89	8.3	676	63	9.3	402	26	6.5
No. 17	365	109	29.9	243	80	32.9	122	29	23.8
No. 18	426	84	19.7	272	62	22.8	154	22	14.3

TABLE XXX.—*Number of names on pay roll during year and excess over average number of full-time employees, men and women, by individual mill North and South*

Mill	Number of names on pay roll during year	Average number of full-time workers [1]	Excess of names on pay roll over average number of full-time workers		Men				Women			
					Number of names on pay roll during year	Average number of full-time workers [1]	Excess of names on pay roll over average number of full-time workers		Number of names on pay roll during year	Average number of full-time workers [1]	Excess of names on pay roll over average number of full-time workers	
			Number	Per cent			Number	Per cent			Number	Per cent
All mills	10,541	4,157.3	6,383.7	153.6	6,203	2,487.4	3,715.6	149.4	4,338	1,669.9	2,668.1	159.8
Northern mills	4,204	2,075.8	2,128.2	102.5	2,374	1,184.3	1,189.7	100.5	1,830	891.5	938.5	105.3
No. 1	346	181.6	164.4	90.5	163	97.5	65.5	67.2	183	84.1	98.9	117.6
No. 2	569	193.4	375.6	194.2	269	87.9	181.1	206.0	300	105.5	194.5	184.4
No. 3	484	334.5	149.5	44.7	283	204.9	78.1	38.1	201	129.6	71.4	55.1
No. 4	287	130.7	156.3	119.6	104	46.5	57.5	123.7	183	84.2	98.8	117.3
No. 5	416	248.0	168.0	67.7	259	160.5	98.5	61.4	157	87.5	69.5	79.4
No. 6	772	322.2	449.8	139.6	460	178.4	281.6	157.8	312	143.8	168.2	117.0
No. 7	199	74.6	124.4	166.8	106	41.1	64.9	157.9	93	33.5	59.5	177.6
No. 8	510	208.9	301.1	144.1	362	134.0	228.0	170.1	148	74.9	73.1	97.6
No. 9	621	381.9	239.1	62.6	368	233.5	134.5	57.6	253	148.4	104.6	70.5
Southern mills	6,337	2,081.5	4,255.5	204.4	3,829	1,303.1	2,525.9	193.8	2,508	778.4	1,729.6	222.2
No. 10	480	312.8	167.2	53.5	323	224.9	98.1	43.6	157	87.9	69.1	78.6
No. 11	223	110.0	113.0	102.7	118	66.4	51.6	77.7	105	43.6	61.4	140.8
No. 12	525	198.0	327.0	165.2	318	124.0	194.0	156.5	207	74.0	133.0	179.7
No. 13	1,005	275.7	729.3	264.5	625	184.8	440.2	238.2	380	90.9	289.1	318.0
No. 14	757	198.2	558.8	281.9	449	101.6	347.4	341.9	308	96.6	211.4	218.8
No. 15	1,478	481.9	996.1	206.7	805	266.2	538.8	202.4	673	215.7	457.3	212.0
No. 16	1,078	213.9	864.1	404.0	676	131.4	544.6	414.5	402	82.5	319.5	387.3
No. 17	365	138.8	226.2	163.0	243	101.2	141.8	140.1	122	37.6	84.4	224.5
No. 18	426	152.2	273.8	179.9	272	102.6	169.4	165.1	154	49.6	104.4	210.5

[1] Total days worked during the year, all employees, divided by number of days mill was in operation.

TABLE XXXI.—*Labor turnover among men and women employees, by mill department and by mills North and South*

MEN AND WOMEN

Department	All mills				Northern mills				Southern mills			
	Number of names on pay roll during year	Average number of full-time workers [1]	Final separations—those not followed by return to work in 1922		Number of names on pay roll during year	Average number of full-time workers [1]	Final separations—those not followed by return to work in 1922		Number of names on pay roll during year	Average number of full-time workers [1]	Final separations—those not followed by return to work in 1922	
			Number	Percentage of turnover [2]			Number	Percentage of turnover [2]			Number	Percentage of turnover [2]
All departments	10,541	4,157.3	5,914	142.3	4,204	2,075.8	1,969	94.9	6,337	2,081.5	3,945	189.5
Carding	1,915	773.3	1,074	138.9	744	375.8	341	90.7	1,171	397.5	733	184.4
Spinning	2,613	993.5	1,493	150.3	969	475.9	462	97.1	1,644	517.6	1,031	199.2
Spooling	942	381.6	505	132.3	398	204.8	182	88.9	544	176.8	323	182.7
Weaving	3,355	1,273.8	1,924	151.0	1,465	671.8	741	110.3	1,890	602.0	1,183	196.5
Cloth	443	210.8	211	100.1	193	99.8	76	76.2	250	111.0	135	121.6
Miscellaneous [3]	473	206.5	215	104.1	127	71.9	40	55.6	346	134.6	175	130.0
General [4]	800	317.8	492	154.8	308	175.8	127	72.2	492	142.0	365	257.0
MEN												
All departments	6,203	2,487.4	3,534	142.1	2,374	1,184.3	1,133	95.7	3,829	1,303.1	2,401	184.3
Carding	1,381	549.1	780	142.1	433	220.2	195	88.6	948	328.9	585	177.9
Spinning	1,175	485.8	653	134.4	376	203.1	164	80.7	799	282.7	489	173.0
Spooling	175	90.7	85	93.7	106	60.8	47	77.3	69	29.9	38	127.1
Weaving	2,228	827.4	1,336	161.5	988	432.1	547	126.6	1,240	395.3	789	199.6
Cloth	204	97.2	101	103.9	62	35.8	20	55.9	142	61.4	81	131.9
Miscellaneous [3]	253	122.2	97	79.4	102	57.5	33	57.4	151	64.7	64	98.9
General [4]	787	315.0	482	153.0	307	174.8	127	72.7	480	140.2	355	253.2

WOMEN

All departments	4,338	1,669.9	2,380	142.5	1,830	891.5	836	93.8	2,508	778.4	1,544	198.4
Carding	534	224.2	294	131.1	311	155.6	146	93.8	223	68.6	148	215.7
Spinning	1,438	507.7	840	165.5	593	272.8	298	109.2	845	234.9	542	230.7
Spooling	767	290.9	420	144.4	292	144.0	135	93.8	475	146.9	285	194.0
Weaving	1,127	446.4	588	131.7	477	239.7	194	80.9	650	206.7	394	190.6
Cloth	239	113.6	110	96.8	131	64.0	56	87.5	108	49.6	54	108.9
Miscellaneous [3]	220	84.3	118	140.0	25	14.4	7	48.6	195	69.9	111	158.8
General [4]	13	2.8	10	357.1	1	1.0	----------	----------	12	1.8	10	555.6

[1] Total days worked during the year, all employees, divided by number of days mill was in operation.
[2] Number of separations divided by average number of full-time workers, the result—the "separation rate"—being converted into the more familiar "percentage of turnover" by moving the decimal point two places.
[3] Workers in more than one department.
[4] Scrubbers, cleaners, etc.

TABLE XXXII.—*Number of names on pay roll and excess over average number of full-time employees, men and women, by mill department and by mills North and South*

ALL MILLS

Department	Number of names on pay roll			Average number of full-time workers [1]			Excess of names on pay roll over average number of full-time workers					
							Men and women		Men		Women	
	Men and women	Men	Women	Men and women	Men	Women	Number	Per cent	Number	Per cent	Number	Per cent
All departments	10,541	6,203	4,338	4,157.3	2,487.4	1,669.9	6,383.7	153.6	3,715.6	149.4	2,668.1	159.8
Carding	1,915	1,381	534	773.3	549.1	224.2	1,141.7	147.6	831.9	151.5	309.8	138.2
Spinning	2,613	1,175	1,438	993.5	485.8	507.7	1,619.5	163.0	689.2	141.9	930.3	183.2
Spooling	942	175	767	381.6	90.7	290.9	560.4	146.9	84.3	92.9	476.1	163.7
Weaving	3,355	2,228	1,127	1,273.8	827.4	446.4	2,081.2	163.4	1,400.6	169.3	680.6	152.5
Cloth	443	204	239	210.8	97.2	113.6	232.2	110.2	106.8	109.9	125.4	110.4
Miscellaneous [2]	473	253	220	206.5	122.2	84.3	266.5	129.1	130.8	107.0	135.7	161.0
General [3]	800	787	13	317.8	315.0	2.8	482.2	151.7	472.0	149.8	10.2	364.3
NORTHERN MILLS												
All departments	4,204	2,374	1,830	2,075.8	1,184.3	891.5	2,128.2	102.5	1,189.7	100.5	938.5	105.3
Carding	744	433	311	375.8	220.2	155.6	368.2	98.0	212.8	96.6	155.4	99.9
Spinning	969	376	593	475.9	203.1	272.8	493.1	103.6	172.9	85.1	320.2	117.4
Spooling	398	106	292	204.8	60.8	144.0	193.2	94.3	45.2	74.3	148.0	102.8
Weaving	1,465	988	477	671.8	432.1	239.7	793.2	118.1	555.9	128.7	237.3	99.0
Cloth	193	62	131	99.8	35.8	64.0	93.2	93.4	26.2	73.2	67.0	104.7
Miscellaneous [2]	127	102	25	71.9	57.5	14.4	55.1	76.6	44.5	77.4	10.6	73.6
General [3]	308	307	1	175.8	174.8	1.0	132.2	75.2	132.2	75.6		

All departments	6,337	3,829	2,508	2,081.5	1,303.1	778.4	4,255.5	204.4	2,525.9	193.8	1,729.6	222.2
Carding	1,171	948	223	397.5	328.9	68.6	773.5	194.6	619.1	188.2	154.4	225.1
Spinning	1,644	799	845	517.6	282.7	234.9	1,126.4	217.6	516.3	182.6	610.1	259.7
Spooling	544	69	475	176.8	29.9	146.9	367.2	207.7	39.1	130.8	328.1	223.3
Weaving	1,890	1,240	650	602.0	395.3	206.7	1,288.0	214.0	844.7	213.7	443.3	214.5
Cloth	250	142	108	111.0	61.4	49.6	139.0	125.2	80.6	131.3	58.4	117.7
Miscellaneous [2]	346	151	195	134.6	64.7	69.9	211.4	157.1	86.3	133.4	125.1	179.0
General [3]	492	480	12	142.0	140.2	1.8	350.0	246.5	339.8	242.4	10.2	566.7

[1] Total days worked during the year, all employees, divided by number of days mill was in operation.
[2] Workers in more than one department.
[3] Scrubbers, cleaners, etc.

TABLE XXXIII.—*Labor turnover in the various months of the year, men and women employees, by mills North and South*

ALL MILLS [1]

Month	Men and women [1]				Men [1]				Women			
	Number of names on pay roll during year	Average number of full-time workers [2]	Final separations [3]	Percentage of turnover [4]	Number of names on pay roll during year	Average number of full-time workers [2]	Final separations [3]	Percentage of turnover [4]	Number of names on pay roll during year	Average number of full-time workers [2]	Final separations [3]	Percentage of turnover [4]
Entire year	9,736	3,891.1	5,358	137.7	5,398	2,221.2	2,978	134.1	4,338	1,669.9	2,380	142.5
January	4,840	3,933.6	299	7.6	2,771	2,306.2	168	7.3	2,069	1,627.4	131	8.0
February	4,843	3,913.2	332	8.5	2,746	2,275.6	181	8.0	2,097	1,637.6	151	9.2
March	4,985	3,919.4	375	9.6	2,807	2,266.0	217	9.6	2,178	1,653.4	158	9.6
April	4,967	3,759.6	393	10.5	2,803	2,144.8	240	11.2	2,164	1,614.8	153	9.5
May	4,983	3,878.1	432	11.1	2,829	2,239.6	258	11.5	2,154	1,638.5	174	10.6
June	5,036	3,984.9	429	10.8	2,833	2,293.5	258	11.2	2,203	1,691.4	171	10.1
July	5,150	3,837.0	559	14.6	2,881	2,172.7	344	15.8	2,269	1,664.3	215	12.9
August	5,099	3,878.5	513	13.2	2,815	2,208.2	271	12.3	2,284	1,670.3	242	14.5
September	5,086	3,831.4	568	14.8	2,792	2,168.9	303	14.0	2,294	1,662.5	265	15.9
October	4,944	3,929.0	502	12.8	2,706	2,204.6	279	12.7	2,238	1,724.4	223	12.9
November	4,913	3,977.8	482	12.1	2,683	2,219.4	253	11.4	2,230	1,758.4	229	13.0
December	4,891	3,850.7	474	12.3	2,613	2,153.3	206	9.6	2,278	1,697.4	268	15.8
NORTHERN MILLS												
Entire year	4,204	2,075.8	1,969	94.9	2,374	1,184.3	1,133	95.7	1,830	891.5	836	93.8
January	2,388	2,103.8	104	4.9	1,381	1,229.9	66	5.4	1,007	873.9	38	4.3
February	2,390	2,103.6	98	4.7	1,362	1,220.2	59	4.8	1,028	883.4	39	4.4
March	2,491	2,121.8	148	7.0	1,406	1,217.6	90	7.4	1,085	904.2	58	6.4
April	2,500	2,006.6	157	7.8	1,401	1,136.5	96	8.4	1,099	870.1	61	7.0
May	2,464	2,059.3	171	8.3	1,401	1,184.0	105	8.9	1,063	875.3	66	7.5
June	2,497	2,124.0	166	7.8	1,410	1,215.0	108	8.9	1,087	909.0	58	6.4
July	2,585	2,038.6	244	12.0	1,452	1,155.8	150	13.0	1,133	882.8	94	10.6
August	2,546	2,082.0	225	10.8	1,423	1,186.0	132	11.1	1,123	896.0	93	10.4
September	2,459	2,005.0	193	9.6	1,354	1,136.4	98	8.6	1,105	868.6	95	10.9
October	2,398	2,087.1	152	7.3	1,329	1,172.7	85	7.2	1,069	914.4	67	7.3
November	2,395	2,104.3	154	7.3	1,323	1,186.9	81	6.8	1,072	917.4	73	8.0
December	2,370	2,074.0	157	7.6	1,298	1,171.6	63	5.4	1,072	902.4	94	10.4

SOUTHERN MILLS[1]

Entire year	5,532	1,815.3	3,389	186.7	3,024	1,036.9	1,845	177.9	2,508	778.4	1,544	198.4
January	2,452	1,829.8	195	10.7	1,390	1,076.3	102	9.5	1,062	753.5	93	12.3
February	2,453	1,809.6	234	12.9	1,384	1,055.4	122	11.6	1,069	754.2	112	14.9
March	2,494	1,797.6	227	12.6	1,401	1,048.4	127	12.1	1,093	749.2	100	13.3
April	2,467	1,753.0	236	13.5	1,402	1,008.3	144	14.3	1,065	744.7	92	12.4
May	2,519	1,818.8	261	14.4	1,428	1,055.6	153	14.5	1,091	763.2	108	14.2
June	2,539	1,860.9	263	14.1	1,423	1,078.5	150	13.9	1,116	782.4	113	14.4
July	2,565	1,798.4	315	17.5	1,429	1,016.9	194	19.1	1,136	781.5	121	15.5
August	2,553	1,796.5	288	16.0	1,392	1,022.2	139	13.6	1,161	774.3	149	19.2
September	2,627	1,826.4	375	20.5	1,438	1,032.5	205	19.9	1,189	793.9	170	21.4
October	2,546	1,841.9	350	19.0	1,377	1,031.9	194	18.8	1,169	810.0	156	19.3
November	2,518	1,873.5	328	17.5	1,360	1,032.5	172	16.7	1,158	841.0	156	18.5
December	2,521	1,776.7	317	17.8	1,315	981.7	143	14.6	1,206	795.0	174	21.9

[1] Excludes the men in one mill not reporting complete data for men.
[2] Total days worked during the year, all employees, divided by number of days mill was in operation.
[3] Employees who left and did not return during 1922. An absence during the last week of the year has not been considered a separation.
[4] Number of separations divided by average number of full-time workers, the result—the "separation rate"—being converted into the more familiar "percentage of turnover" by moving the decimal point two places.

TABLE XXXIV.—*Labor turnover in relation to size of mill, men and women employees, by individual mill*

A. BY NUMBER OF EMPLOYEES

Mill	Men and women				Men				Women			
	Number of names on pay roll during year	Average number of full-time workers [1]	Number of final separations [2]	Percentage of turnover [3]	Number of names on pay roll during year	Average number of full-time workers [1]	Number of final separations [2]	Percentage of turnover [3]	Number of names on pay roll during year	Average number of full-time workers [1]	Number of final separations [2]	Percentage of turnover [3]
All mills	10,541	4,157.3	5,914	142.3	6,203	2,487.4	3,534	142.1	4,338	1,669.9	2,380	142.5
Large mills [4]	6,844	2,779.8	3,808	137.0	4,161	1,718.6	2,351	136.8	2,683	1,061.2	1,457	137.3
No. 3	484	334.5	137	41.0	283	204.9	76	37.1	201	129.6	61	47.1
No. 5	416	248.0	130	52.4	259	160.5	81	50.5	157	87.5	49	56.0
No. 6	772	322.2	429	133.1	460	178.4	274	153.6	312	143.8	155	107.8
No. 8	510	208.9	289	138.3	362	134.0	224	167.2	148	74.9	65	86.8
No. 9	621	381.9	222	58.1	368	233.5	122	52.2	253	148.4	100	67.4
No. 10	480	312.8	153	48.9	323	224.9	87	38.7	157	87.9	66	75.1
No. 13	1,005	275.7	667	241.9	625	184.8	408	220.8	380	90.9	259	284.9
No. 15	1,478	481.9	974	202.1	805	266.2	556	208.9	673	215.7	418	193.8
No. 16	1,078	213.9	807	377.3	676	131.4	523	398.0	402	82.5	284	344.2
Small mills [5]	3,697	1,377.5	2,106	152.9	2,042	768.8	1,183	153.9	1,655	608.7	923	151.6
No. 1	346	181.6	148	81.5	163	97.5	60	61.5	183	84.1	88	104.6
No. 2	569	193.4	351	181.5	269	87.9	178	202.5	300	105.5	173	164.0
No. 4	287	130.7	139	106.4	104	46.5	54	116.1	183	84.2	85	101.0
No. 7	199	74.6	124	166.2	106	41.1	64	155.7	93	33.5	60	179.1
No. 11	223	110.0	96	87.3	118	66.4	44	66.3	105	43.6	52	119.3
No. 12	525	198.0	300	151.5	318	124.0	187	150.8	207	74.0	113	152.7
No. 14	757	198.2	525	264.9	449	101.6	333	327.8	308	96.6	192	198.8
No. 17	365	138.8	193	139.0	243	101.2	121	119.6	122	37.6	72	191.5
No. 18	426	152.2	230	151.1	272	102.6	142	138.4	154	49.6	88	177.4

B. BY NUMBER OF SPINDLES

All mills	10,541	4,157.3	5,914	142.3	6,203	2,487.4	3,534	142.1	4,338	1,669.9	2,380	142.5
Large mills [6]	6,859	2,572.3	4,040	157.1	4,051	1,538.6	2,432	158.1	2,808	1,033.7	1,608	155.6
No. 1	346	181.6	148	81.5	163	97.5	60	61.5	183	84.1	88	104.6
No. 2	569	193.4	351	181.5	269	87.9	178	202.5	300	105.5	173	164.0
No. 6	772	322.2	429	133.1	460	178.4	274	153.6	312	143.8	155	107.8
No. 8	510	208.9	289	138.3	362	134.0	224	167.2	148	74.9	65	86.8
No. 9	621	381.9	222	58.1	368	233.5	122	52.2	253	148.4	100	67.4
No. 10	480	312.8	153	48.9	323	224.9	87	38.7	157	87.9	66	75.1
No. 13	1,005	275.7	667	241.9	625	184.8	408	220.8	380	90.9	259	284.9
No. 15	1,478	481.9	974	202.1	805	266.2	556	208.9	673	215.7	418	193.8
No. 16	1,078	213.9	807	377.3	676	131.4	523	398.0	402	82.5	284	344.2
Small mills [7]	3,682	1,585.0	1,874	118.2	2,152	948.8	1,102	116.1	1,530	636.2	772	121.3
No. 3	484	334.5	137	41.0	283	204.9	76	37.1	201	129.6	61	47.1
No. 4	287	130.7	139	106.4	104	46.5	54	116.1	183	84.2	85	101.0
No. 5	416	248.0	130	52.4	259	160.5	81	50.5	157	87.5	49	56.0
No. 7	199	74.6	124	166.2	106	41.1	64	155.7	93	33.5	60	179.1
No. 11	223	110.0	96	87.3	118	66.4	44	66.3	105	43.6	52	149.3
No. 12	525	198.0	300	151.5	318	124.0	187	150.8	207	74.0	113	152.7
No. 14	757	198.2	525	264.9	449	101.6	333	327.8	308	96.6	192	198.8
No. 17	365	138.8	193	139.0	243	101.2	121	119.6	122	37.6	72	191.5
No. 18	426	152.2	230	151.1	272	102.6	142	138.4	154	49.6	88	177.4

[1] Total days worked during the year, all employees, divided by number of days mill was in operation.
[2] Employees who left and did not return during 1922. An absence during the last week of the year has not been considered a separation.
[3] Number of separations divided by average number of full-time workers, the result—the "separation rate"—being converted into the more familiar "percentage of turnover" by moving the decimal point two places.
[4] For purposes of tabulation, mills having 200 or more employees.
[5] For purposes of tabulation, mills having under 200 employees.
[6] For purposes of tabulation, mills having 20,000 or more spindles
[7] For purposes of tabulation, mills having under 20,000 spindles.

TABLE XXXV.—*Labor turnover in relation to housing of employees in a mill village or not in a mill village, men and women employees by individual mill*

Mill	Men and women				Men				Women			
	Number of names on pay roll during year	Average number of full-time workers [1]	Number of final separations [2]	Percentage of turnover [3]	Number of names on pay roll during year	Average number of full-time workers [1]	Number of final separations [2]	Percentage of turnover [3]	Number of names on pay roll during year	Average number of full-time workers [1]	Number of final separations [2]	Percentage of turnover [3]
All mills	10,541	4,157.3	5,914	142.3	6,203	2,487.4	3,534	142.1	4,338	1,669.9	2,380	142.5
Having mill villages	6,673	2,599.5	3,743	144.0	4,143	1,650.4	2,331	141.2	2,530	949.1	1,412	148.8
No. 3	484	334.5	137	41.0	283	204.9	76	37.1	201	129.6	61	47.1
No. 7	199	74.6	124	166.2	106	41.1	64	155.7	93	33.5	60	179.1
No. 8	510	208.9	289	138.3	362	134.0	224	167.2	148	74.9	65	86.8
No. 9	621	381.9	222	58.1	368	233.5	122	52.2	253	148.4	100	67.4
No. 10	480	312.8	153	48.9	323	224.9	87	38.7	157	87.9	66	75.1
No. 11	223	110.0	96	87.3	118	66.4	44	66.3	105	43.6	52	119.3
No. 12	525	198.0	300	151.5	318	124.0	187	150.8	207	74.0	113	152.7
No. 13	1,005	275.7	667	241.9	625	184.8	408	220.8	380	90.9	259	284.9
No. 14	757	198.2	525	264.9	449	101.6	333	327.8	308	96.6	192	198.8
No. 16	1,078	213.9	807	377.3	676	131.4	523	398.0	402	82.5	284	344.2
No. 17	365	138.8	193	139.0	243	101.2	121	119.6	122	37.6	72	191.5
No. 18	426	152.2	230	151.1	272	102.6	142	138.4	154	49.6	88	177.4
Not having mill villages	3,868	1,557.8	2,171	139.4	2,060	837.0	1,203	143.7	1,808	720.8	968	134.3
No. 1	346	181.6	148	81.5	163	97.5	60	61.5	183	84.1	88	104.6
No. 2	569	193.4	351	181.5	269	87.9	178	202.5	300	105.5	173	164.0
No. 4	287	130.7	139	106.4	104	46.5	54	116.1	183	84.2	85	101.0
No. 5	416	248.0	130	52.4	259	160.5	81	50.5	157	87.5	49	56.0
No. 6	772	322.2	429	133.1	460	178.4	274	153.6	312	143.8	155	107.8
No. 15	1,478	481.9	974	202.1	805	266.2	556	208.9	673	215.7	418	193.8

[1] Total days worked during the year, all employees, divided by number of days mill was in operation.
[2] Employees who left and did not return during 1922. An absence during the last week of the year has not been considered a separation.
[3] Number of separations divided by average number of full-time workers, the result—the "separation rate"—being converted into the more familiar "percentage of turnover" by moving the decimal point two places.

TABLE XXXVI.—*Labor turnover in relation to mill as isolated or not isolated, by individual mill*

Mill	Men and women				Men				Women			
	Number of names on pay roll during year	Average number of full-time workers [1]	Number of final separations [2]	Percentage of turnover [3]	Number of names on pay roll during year	Average number of full-time workers [1]	Number of final separations [2]	Percentage of turnover [3]	Number of names on pay roll during year	Average number of full-time workers [1]	Number of final separations [2]	Percentage of turnover [3]
All mills	10,541	4,157.3	5,914	142.3	6,203	2,487.4	3,534	142.1	4,338	1,669.9	2,380	142.5
Isolated mills [4]	3,748	1,841.0	1,714	93.1	2,303	1,170.3	1,026	87.7	1,445	670.7	688	102.6
No. 3	484	334.5	137	41.0	283	204.9	76	37.1	201	129.6	61	47.1
No. 5	416	248.0	130	52.4	259	160.5	81	50.5	157	87.5	49	56.0
No. 7	199	74.6	124	166.2	106	41.1	64	155.7	93	33.5	60	179.1
No. 9	621	381.9	222	58.1	368	233.5	122	52.2	253	148.4	100	67.4
No. 10	480	312.8	153	48.9	323	224.9	87	38.7	157	87.9	66	75.1
No. 14	757	198.2	525	264.9	449	101.6	333	327.8	308	96.6	192	198.8
No. 17	365	138.8	193	139.0	243	101.2	121	119.6	122	37.6	72	191.5
No. 18	426	152.2	230	151.1	272	102.6	142	138.4	154	49.6	88	177.4
Mills not isolated [4]	6,793	2,316.3	4,200	181.3	3,900	1,317.1	2,508	190.4	2,893	999.2	1,692	169.3
No. 1	346	181.6	148	81.5	163	97.5	60	61.5	183	84.1	88	104.6
No. 2	569	193.4	351	181.5	269	87.9	178	202.5	300	105.5	173	164.0
No. 4	287	130.7	139	106.4	104	46.5	54	116.1	183	84.2	85	101.0
No. 6	772	322.2	429	133.1	460	178.4	274	153.6	312	143.8	155	107.8
No. 8	510	208.9	289	138.3	362	134.0	224	167.2	148	74.9	65	86.8
No. 11	223	110.0	96	87.3	118	66.4	44	66.3	105	43.6	52	119.3
No. 12	525	198.0	300	151.5	318	124.0	187	150.8	207	74.0	113	152.7
No. 13	1,005	275.7	667	241.9	625	184.8	408	220.8	380	90.9	259	284.9
No. 15	1,478	481.9	974	202.1	805	266.2	556	208.9	673	215.7	418	193.8
No. 16	1,078	213.9	807	377.3	676	131.4	523	398.0	402	82.5	284	344.2

[1] Total days worked during the year, all employees, divided by number of days mill was in operation.
[2] Employees who left and did not return during 1922. An absence during the last week of the year has not been considered a separation.
[3] Number of separations divided by average number of full-time workers, the result—the "separation rate"—being converted into the more familiar "percentage of turnover" by moving the decimal point two places.
[4] A mill which is the only industrial establishment of any importance in the community is considered to be "isolated."

TABLE XXXVII.—*Length of continuous service during the year, 7,533 men and women employees, by individual mill*

Mill	Per cent of men and women who worked continuously [1] during the year—				
	3 months and under	More than 3 and under 6 months	6 and under 9 months	9 and under 12 months	12 months
All mills	49.6	11.7	7.1	9.5	22.0
No. 1	41.4	9.0	6.3	9.4	34.0
No. 2	61.1	12.6	6.4	5.1	14.7
No. 3	15.3	9.9	8.4	6.9	59.4
No. 4	40.7	16.9	8.9	7.3	26.2
No. 5	25.2	11.0	9.5	7.4	46.9
No. 6	48.5	11.0	6.9	8.4	25.2
No. 7	49.0	12.7	14.6	6.4	17.2
No. 8	48.2	13.9	7.8	6.6	23.6
No. 9	21.5	12.5	5.8	21.2	39.0
No. 10	11.8	10.5	8.7	28.4	40.5
No. 11	31.1	15.0	9.0	15.0	29.9
No. 12	53.5	9.1	7.0	9.1	21.1
No. 13	62.1	14.3	6.4	5.3	11.9
No. 14	70.7	11.5	5.1	4.2	8.6
No. 15 [2]	[2] 60.9	[2] 13.8	[2] 7.4	[2] 9.6	[2] 8.4
No. 16	76.8	8.3	5.0	6.1	3.8
No. 17	46.5	11.7	6.0	13.8	22.0
No. 18	53.4	12.8	10.1	15.8	8.1

[1] Absences of not more than 12 consecutive working days are not considered as having broken continuous service.

[2] For this mill, figures on duration of absences of men were not available.

TABLE XXXVIII.—*Labor turnover in relation to effort of mill at stabilizing employment of men and women employees, by individual mill*

Mill	Number of names on payroll during year	Average number of full-time workers [1]	Final separations [2]	Percentage of turnover [3]
All mills	10,541	4,157.3	5,914	142.3
EFFORT MADE				
Total	1,324	804.7	471	58.5
No. 9	621	381.9	222	58.1
No. 10	480	312.8	153	48.9
No. 11	223	110.0	96	87.3
NO EFFORT MADE				
Total	9,217	3,352.6	5,443	162.4
No. 1	346	181.6	148	81.5
No. 2	569	193.4	351	181.5
No. 3	484	334.5	137	41.0
No. 4	287	130.7	139	106.4
No. 5	416	248.0	130	52.4
No. 6	772	322.2	429	133.1
No. 7	199	74.6	124	166.2
No. 8	510	208.9	289	138.3
No. 12	525	198.0	300	151.5
No. 13	1,005	275.7	667	241.9
No. 14	757	198.2	525	264.9
No. 15	1,478	481.9	974	202.1
No. 16	1,078	213.9	807	377.3
No. 17	365	138.8	193	139.0
No. 18	426	152.2	230	151.1

[1] Total days worked during the year, all employees, divided by number of days mill was in operation.
[2] Employees who left and did not return during 1922. An absence during the last week of the year has not been considered a separation.
[3] Number of separations divided by average number of full-time workers, the result—the "separation rate"—being converted into the more familiar "percentage of turnover" by moving the decimal point two places.

TABLE XXXIX.—*Causes of leaving jobs during year according to whether textile or other, 1,066 women reporting, by season of year and by mills North and South*

ALL MILLS

Cause	Women who had quitted job for cause specified in—										Women whose job quitted was textile work and who quit in—										Women whose job quitted was other than textile work and who quit in—									
	Entire year		Spring (March, April, May)		Summer (June, July, August)		Autumn (September, October, November)		Winter (December, January, February)		Entire year		Spring (March, April, May)		Summer (June, July, August)		Autumn (September, October, November)		Winter (December, January, February)		Entire year		Spring (March, April, May)		Summer (June, July, August)		Autumn (September, October, November)		Winter (December, January, February)	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
All causes	1,066	100.0	204	100.0	281	100.0	362	100.0	219	100.0	944	100.0	180	100.0	244	100.0	311	100.0	209	100.0	122	100.0	24	100.0	37	100.0	51	100.0	10	100.0
Per cent distribution	100.0		19.1		26.4		34.0		20.5		100.0		19.1		25.8		32.9		22.1		100.0		19.7		30.3		41.8		8.2	
Personal—total	711	66.7	127	62.3	170	60.5	239	66.0	175	79.9	667	70.7	120	66.7	153	62.7	222	71.4	172	82.3	44	36.1	7	29.2	17	45.9	17	33.3	3	30.0
Per cent distribution	100.0		17.9		23.9		33.6		24.6		100.0		18.0		22.9		33.3		25.8		100.0		15.9		38.6		38.6		6.8	
Illness of self	122	11.4	13	6.4	18	6.4	34	9.4	57	26.0	120	12.7	13	7.2	16	6.6	34	10.9	57	27.3	2	1.6			2	5.4				
Pregnancy and confinement	70	6.6	16	7.8	24	8.5	20	5.5	10	4.6	70	7.4	16	8.9	24	9.8	20	6.4	10	4.8										
Illness of others	41	3.8	5	2.5	3	1.1	18	5.0	15	6.8	40	4.2	4	2.2	3	1.2	18	5.8	15	7.2	1	.8	1	4.2						
Accident	2	.2					1	.3	1	.5	2	.2					1	.3	1	.5										
Marriage	25	2.3	3	1.5	8	2.8	9	2.5	5	2.3	25	2.6	3	1.7	8	3.3	9	2.9	5	2.4										
Home duties	173	16.2	28	13.7	43	15.3	67	18.5	35	16.0	173	18.3	28	15.6	43	17.6	67	21.5	35	16.7										
Education	18	1.7			9	3.2	8	2.2	1	.5	18	1.9			9	3.7	8	2.6	1	.5										
Religion	1	.1			1	.4					1	.1			1	.4														
Rest	17	1.6	1	.5	4	1.4	6	1.7	6	2.7	17	1.8	1	.6	4	1.6	6	1.9	6	2.9										
Recreation	17	1.6			1	.4	4	1.1	12	5.5	17	1.8			1	.4	4	1.3	12	5.7										
Vacation	4	.4			2	.7	1	.3	1	.5	4	.4			2	.8	1	.3	1	.5										
Distance too great	20	1.9	7	3.4	5	1.8	6	1.7	2	.9	14	1.5	6	3.3	2	.8	4	1.3	2	1.0	6	4.9	1	4.2	3	8.1	2	3.9		
Change of residence	50	4.7	10	4.9	15	5.3	20	5.5	5	2.3	44	4.7	10	5.6	13	5.3	16	5.1	5	2.4	6	4.9			2	5.4	4	7.8		
Desired a change	2	.2			1	.4	1	.3			2	.2			1	.4	1	.3												
Another job	149	14.0	44	21.6	36	12.8	44	12.2	25	11.4	120	12.7	39	21.7	26	10.7	33	10.6	22	10.5	29	23.8	5	20.8	10	27.0	11	21.6	3	30.0

Mill or other place of work—total	314	29.5	72	35.3	95	33.8	110	30.4	37	16.9	242	25.6	57	31.7	76	31.1	79	25.4	30	14.4	72	59.0	15	62.5	19	51.4	31	60.8	7	70.0
Per cent distribution	100.0		22.9		30.3		35.0		11.8		100.0		23.6		31.4		32.6		12.4		100.0		20.8		26.4		43.1		9.7	
Accident	1	.1							1	.5	1	.1							1	.5										
Work ran badly; work too hard	34	3.2	10	4.9	15	5.3	4	1.1	5	2.3	25	2.6	7	3.9	11	4.5	2	.6	5	2.4	9	7.4	3	12.5	4	10.8	2	3.9		
Dissatisfied with conditions	45	4.2	9	4.4	19	6.8	14	3.9	3	1.4	35	3.7	5	2.8	16	6.6	11	3.5	3	1.4	10	8.2	4	16.7	3	8.1	3	5.9		
Hours too long	15	1.4			2	.7	11	3.0	2	.9	11	1.2			2	.8	7	2.3	2	1.0	4	3.3					4	7.8		
Insufficient earnings	109	10.2	27	13.2	31	11.0	40	11.0	11	5.0	84	8.9	22	12.2	26	10.7	26	8.4	10	4.8	25	20.5	5	20.8	5	13.5	14	27.5	1	10.0
Work slack	36	3.4	11	5.4	10	3.6	10	2.8	5	2.3	35	3.7	11	6.1	10	4.1	9	2.9	5	2.4	1	.8					1	2.0		
No work	2	.2					2	.6			2	.2					2	.6												
Mill or other place of work closed; shutdown	7	.7	4	2.0	2	.7	1	.3			5	.5	3	1.7	1	.4	1	.3			2	1.6	1	4.2	1	2.7				
Laid off	54	5.1	9	4.4	15	5.3	20	5.5	10	4.6	33	3.5	7	3.9	9	3.7	13	4.2	4	1.9	21	17.2	2	8.3	6	16.2	7	13.7	6	60.0
Discharged	11	1.0	2	1.0	1	.4	8	2.2			11	1.2	2	1.1	1	.4	8	2.6												
General—total	41	3.8	5	2.5	16	5.7	13	3.6	7	3.2	35	3.7	3	1.7	15	6.1	10	3.2	7	3.3	6	4.9	2	8.3	1	2.7	3	5.9		
Per cent distribution	100.0		12.3		39.0		31.7		17.1		100.0		8.6		42.9		28.6		20.0		100.0		33.3		16.7		50.0			
Dispute	31	2.9	4	2.0	12	4.3	9	2.5	6	2.7	27	2.9	2	1.1	11	4.5	8	2.6	6	2.9	4	3.3	2	8.3	1	2.7	1	2.0		
Strike	2	.2			1	.4			1	.5	2	.2			1	.4			1	.5										
Miscellaneous	8	.8	1	.5	3	1.1	4	1.1			6	.6	1	.6	3	1.2	2	.6			2	1.6					2	3.9		

NORTHERN MILLS

All causes	441	100.0	97	100.0	114	100.0	145	100.0	85	100.0	391	100.0	90	100.0	101	100.0	123	100.0	77	100.0	50	100.0	7	100.0	13	100.0	22	100.0	8	100.0
Per cent distribution	100.0		22.0		25.9		32.9		19.3		100.0		23.0		25.8		31.5		19.7		100.0		14.0		26.0		44.0		16.0	
Personal—total	285	64.6	56	57.7	72	63.2	91	62.8	66	77.6	267	68.3	53	58.9	67	66.3	84	68.3	63	81.8	18	36.0	3	42.9	5	38.5	7	31.8	3	37.5
Per cent distribution	100.0		19.6		25.3		31.9		23.2		100.0		19.9		25.1		31.5		23.6		100.0		16.7		27.8		38.9		16.7	
Illness of self	39	8.8	3	3.1	5	4.4	13	9.0	18	21.2	39	10.0	3	3.3	5	5.0	13	10.6	18	23.4										
Pregnancy and confinement	29	6.6	8	8.2	7	6.1	10	6.9	4	4.7	29	7.4	8	8.9	7	6.9	10	8.1	4	5.2										
Illness of others	15	3.4	2	2.1	1	.9	5	3.4	7	8.2	15	3.8	2	2.2	1	1.0	5	4.1	7	9.1										
Marriage	7	1.6	1	1.0	3	2.6	3	2.1			7	1.8	1	1.1	3	3.0	3	2.4												
Home duties	106	24.0	19	19.6	29	25.4	41	28.3	17	20.0	106	27.1	19	21.1	29	28.7	41	33.3	17	22.1										
Education	12	2.7			7	6.1	4	2.8	1	1.2	12	3.1			7	6.9	4	3.3	1	1.3										
Religion	1	.2			1	.9					1	.3			1	1.0														
Rest	7	1.6	1	1.0	1	.9	2	1.4	3	3.5	7	1.8	1	1.1	1	1.0	2	1.6	3	3.9										
Recreation	7	1.6			1	.9	1	.7	5	5.9	7	1.8			1	1.0	1	.8	5	6.5										
Vacation	3	.7			2	1.8			1	1.2	3	.8			2	2.0			1	1.3										
Distance too great	7	1.6	3	3.1	2	1.8	1	.7	1	1.2	7	1.8	3	3.3	2	2.0	1	.8	1	1.3										
Moved	9	2.0			5	4.4	3	2.1	1	1.2	6	1.5			5	5.0			1	1.3	3	6.0					3	13.6		
Another job	43	9.8	19	19.6	8	7.0	8	5.5	8	9.4	28	7.2	16	17.8	3	3.0	4	3.3	5	6.5	15	30.0	3	42.9	5	38.5	4	18.2	3	37.5

TABLE XXXIX.—*Causes of leaving jobs during year according to whether textile or other, 1,066 women reporting, by season of year and by mills North and South*—Continued

NORTHERN MILLS—Continued

Cause	Women who had quitted job for cause specified in—										Women whose job quitted was textile work and who quit in—										Women whose job quitted was other than textile work and who quit in—									
	Entire year		Spring (March, April, May)		Summer (June, July, August)		Autumn (September, October, November)		Winter (December, January, February)		Entire year		Spring (March, April, May)		Summer (June, July, August)		Autumn (September, October, November)		Winter (December, January, February)		Entire year		Spring (March, April, May)		Summer (June, July, August)		Autumn (September, October, November)		Winter (December, January, February)	
	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent	Number	Per cent
Mill or other place of work—total	140	31.7	40	41.2	35	30.7	47	32.4	18	21.2	110	28.1	36	40.0	28	27.7	33	26.8	13	16.9	30	60.0	4	57.1	7	53.8	14	63.6	5	62.5
Per cent distribution	100.0		28.6		25.0		33.6		12.9		100.0		32.7		25.5		30.0		11.8		100.0		13.3		23.3		46.7		16.7	
Work ran badly; work too hard	13	2.9	7	7.2	2	1.8	1	.7	3	3.5	10	2.6	5	5.6	2	2.0			3	3.9	3	6.0	2	28.6			1	4.5		
Dissatisfied with conditions	12	2.7	3	3.1	6	5.3	3	2.1			9	2.3	3	3.3	5	5.0	1	.8			3	6.0			1	7.7	2	9.1		
Hours too long	6	1.4					6	4.1			4	1.0					4	3.3			2	4.0					2	9.1		
Insufficient earnings	48	10.9	14	14.4	12	10.5	16	11.0	6	7.1	43	11.0	14	15.6	11	10.9	12	9.8	6	7.8	5	10.0			1	7.7	4	18.2		
Work slack	16	3.6	6	6.2	5	4.4	3	2.1	2	2.4	15	3.8	6	6.7	5	5.0	2	1.6	2	2.6	1	2.0					1	4.5		
No work	2	.5					2	1.4			2	.5					2	1.6												
Mill or other place of work closed; shutdown	4	.9	3	3.1	1	.9					2	.5	2	2.2							2	4.0	1	14.3	1	7.7				
Laid off	35	7.9	6	6.2	9	7.9	13	9.0	7	8.2	21	5.4	5	5.6	5	5.0	9	7.3	2	2.6	14	28.0	1	14.3	4	30.8	4	18.2	5	62.5
Discharged	4	.9	1	1.0			3	2.1			4	1.0	1	1.1			3	2.4												
General—total	16	3.6	1	1.0	7	6.1	7	4.8	1	1.2	14	3.6	1	1.1	6	5.9	6	4.9	1	1.3	2	4.0			1	7.7	1	4.5		
Per cent distribution	100.0		6.3		43.8		43.8		6.3		100.0		7.1		42.9		42.9		7.1		100.0				50.0		50.0			
Dispute	13	2.9	1	1.0	5	4.4	6	4.1	1	1.2	11	2.8	1	1.1	4	4.0	5	4.1	1	1.3	2	4.0			1	7.7	1	4.5		
Strike	1	.2			1	.9					1	.3			1	1.0														
Miscellaneous	2	.5			1	.9	1	.7			2	.5			1	1.0	1	.8												

All causes	625	100.0	107	100.0	167	100.0	217	100.0	134	100.0	553	100.0	90	100.0	143	100.0	188	100.0	132	100.0	72	100.0	17	100.0	24	100.0	29	100.0	2	100.0		
Per cent distribution	100.0		17.1		26.7		34.7		21.4		100.0		16.3		25.9		34.0		23.9		100.0		23.6		33.3		40.3		2.8			
Personal—total	426	68.2	71	66.4	98	58.7	148	68.2	109	81.3	400	72.3	67	74.4	86	60.1	138	73.4	109	82.6	26	36.1	4	23.5	12	50.0	10	34.5				
Per cent distribution	100.0		16.7		23.0		34.7		25.6		100.0		16.8		21.5		34.5		27.3		100.0		15.4		46.2		38.5					
Illness of self	83	13.3	10	9.3	13	7.8	21	9.7	39	29.1	81	14.6	10	11.1	11	7.7	21	11.2	39	29.5	2	2.8			2	8.3					•	
Pregnancy and confinement	41	6.6	8	7.5	17	10.2	10	4.6	6	4.5	41	7.4	8	8.9	17	11.9	10	5.3	6	4.5												
Illness of others	26	4.2	3	2.8	2	1.2	13	6.0	8	6.0	25	4.5	2	2.2	2	1.4	13	6.9	8	6.1	1	1.4	1	5.9								
Accident	2	.3					1	.5	1	.7	2	.4					1	.5	1	.8												
Marriage	18	2.9	2	1.9	5	3.0	6	2.8	5	3.7	18	3.3	2	2.2	5	3.5	6	3.2	5	3.8												
Home duties	67	10.7	9	8.4	14	8.4	26	12.0	18	13.4	67	12.1	9	10.0	14	9.8	26	13.8	18	13.6												
Education	6	1.0			2	1.2	4	1.8			6	1.1			2	1.4	4	2.1														
Rest	10	1.6			3	1.8	4	1.8	3	2.2	10	1.8			3	2.1	4	2.1	3	2.3												
Recreation	10	1.6					3	1.4	7	5.2	10	1.8					3	1.6	7	5.3												
Vacation	1	.2					1	.5			1	.2					1	.5														
Distance too great	13	2.1	4	3.7	3	1.8	5	2.3	1	.7	7	1.3	3	3.3			3	1.6	1	.8	6	8.3	1	5.9	3	12.5	2	6.9				
Change of residence	41	6.6	10	9.3	10	6.0	17	7.8	4	3.0	38	6.9	10	11.1	8	5.6	16	8.5	4	3.0	3	4.2			2	8.3	1	3.4				
Desired a change	2	.3			1	.6	1	.5			2	.4			1	.7	1	.5														
Another job	106	17.0	25	23.4	28	16.8	36	16.6	17	12.7	92	16.6	23	25.6	23	16.1	29	15.4	17	12.9	14	19.4	2	11.8	5	20.8	7	24.1				
Mill or other place of work—total	174	27.8	32	29.9	60	35.9	63	29.0	19	14.2	132	23.9	21	23.3	48	33.6	46	24.5	17	12.9	42	58.3	11	64.7	12	50.0	17	58.6	2	100.0		
Per cent distribution	100.0		18.4		34.5		36.2		10.9		100.0		15.9		36.4		34.8		12.9		100.0		26.2		28.6		40.5		4.8			
Accident	1	.2							1	.7	1	.2							1	.8												
Work ran badly; work too hard	21	3.4	3	2.8	13	7.8	3	1.4	2	1.5	15	2.7	2	2.2	9	6.3	2	1.1	2	1.5	6	8.3	1	5.9	4	16.7	1	3.4				
Dissatisfied with conditions	33	5.3	6	5.6	13	7.8	11	5.1	3	2.2	26	4.7	2	2.2	11	7.7	10	5.3	3	2.3	7	9.7	4	23.5	2	8.3	1	3.4				
Hours too long	9	1.4			2	1.2	5	2.3	2	1.5	7	1.3			2	1.4	3	1.6	2	1.5	2	2.8					2	6.9				
Insufficient earnings	61	9.8	13	12.2	19	11.4	24	11.1	5	3.7	41	7.4	8	8.9	15	10.5	14	7.4	4	3.0	20	27.8	5	29.4	4	16.7	10	34.5	1	50.0		
Work slack	20	3.2	5	4.7	5	3.0	7	3.2	3	2.2	20	3.6	5	5.6	5	3.5	7	3.7	3	2.3												
Mill or other place of work closed; shut down	3	.5	1	.9	1	.6	1	.5			3	.5	1	1.1	1	.7	1	.5														
Laid off	19	3.0	3	2.8	6	3.6	7	3.2	3	2.2	12	2.2	2	2.2	4	2.8	4	2.1	2	1.5	7	9.7	1	5.9	2	8.3	3	10.3	1	50.0		
Discharged	7	1.1	1	.9	1	.6	5	2.3			7	1.3	1	1.1	1	.7	5	2.7														
General—total	25	4.0	4	3.7	9	5.4	6	2.8	6	4.5	21	3.8	2	2.2	9	6.3	4	2.1	6	4.5	4	5.6	2	11.8			2	6.9				
Per cent distribution	100.0		16.0		36.0		24.0		24.0		100.0		9.5		42.9		19.0		28.6		100.0		50.0				50.0					
Dispute	18	2.9	3	2.8	7	4.2	3	1.4	5	3.7	16	2.9	1	1.1	7	4.9	3	1.6	5	3.8	2	2.8	2	11.8								
Strike	1	.2							1	.7	1	.2							1	.8												
Miscellaneous	6	1.0	1	.9	2	1.2	3	1.4			4	.7	1	1.1	2	1.4	1	.5			2	2.8					2	6.9				

TABLE XL.—*Temperature and relative humidity of workrooms in the mills visited, by mill department*

Department	Number of rooms visited	Number of rooms whose dry-bulb reading was, in degrees—																						
		61	70	71	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93
Total	104	1	1	2	6	8	8	7	5	9	9	8	7	5	3	6	8	3	1	2	1	2	1	1
Carding	27	1	---	---	2	3	1	1	1	3	2	2	---	2	2	3	2	1	---	---	---	1	---	---
Spinning	25	---	---	---	---	---	1	3	1	2	2	2	2	3	---	---	3	2	---	1	---	1	1	1
Spooling	21	---	---	2	1	3	2	2	1	---	2	1	3	---	---	---	2	1	---	1	---	---	---	---
Weaving	31	---	1	---	3	2	4	1	2	4	3	3	2	---	1	1	2	---	1	---	1	---	---	---

Department	Number of rooms visited	Number of rooms whose wet-bulb reading was, in degrees—																						
		55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	83
Total	104	1	1	1	1	3	2	1	4	2	12	5	6	5	10	3	7	2	9	3	9	2	7	2	4	1	1
Carding	27	1	---	---	1	---	1	---	---	2	4	2	2	1	3	---	3	---	1	1	1	1	1	1	---	1	---
Spinning	25	---	---	---	---	1	1	---	1	---	2	1	1	3	2	1	1	1	3	---	2	1	2	1	1	---	---
Spooling	21	---	---	1	---	1	---	1	2	---	3	1	2	1	1	2	2	---	1	1	1	---	1	---	---	---	---
Weaving	31	---	1	---	---	1	---	---	1	---	3	1	1	---	4	---	1	1	4	1	5	---	3	---	3	---	1

Department	Number of rooms	Number of rooms whose relative reading was, in per cents—										
		Under 40	40 and under 45	45 and under 50	50 and under 55	55 and under 60	60 and under 65	65 and under 70	70 and under 75	75 and under 80	80 and under 85	85 and over
Total	104	7	13	17	12	19	7	9	8	2	7	3
Carding	27	2	4	5	3	4	3	2	2	-------	2	------
Spinning	25	1	4	8	3	4	1	3	1	-------	-------	------
Spooling	21	2	3	3	3	6	1	-------	2	1	-------	------
Weaving	31	2	2	1	3	5	2	4	3	1	5	3

TABLE XLI.—*Lighting of workrooms in the mills visited as registered by foot-candle readings, by mill department*

Department	Number of readings	Readings which registered less than 2 foot candles [1]		Range of readings	Mode or greatest number
		Number	Per cent		
Carding	29	9	31.0	—1 c. to 12 c.	1 c. to 2 c.
Spinning	32	10	31.3	—1 c. to 25 c.	1 c. to 2 c.
Spooling	26	5	19.2	—1 c. to 30 c.	4 c. to 5 c.
Weaving	52	8	15.4	—1 c. to 30 c.	3 c. to 4 c.
Cloth	10	----------	----------	3 c. to 30 c.	5 c. to 6 c.

[1] The New York Industrial Commission gives 1 to 2 foot candles as the modern practice for work not requiring discrimination of detail. (42, p. 10.)

TABLE XLII.—*Time worked and time lost during the year, and per cent days lost are of possible working days, negro employees, by mill department*

MEN AND WOMEN

Department	Number of names on pay roll during year	Average number of full-time workers [1]	Number of possible working days [2]	Number of days worked	Days lost	
					Number	Per cent of possible working days
All departments	563	131.7	48,475	40,063	8,412	17.4
Carding	95	27.7	10,506	8,493	2,013	19.2
Spinning	51	12.4	4,386	3,695	691	15.8
Weaving	54	17.5	6,701	5,264	1,437	21.4
General [3]	363	74.1	26,882	22,611	4,271	15.9
MEN						
All departments	86	33.3	11,886	10,237	1,649	13.9
Carding	28	13.7	5,050	4,231	819	16.2
Spinning	1	1.0	310	295	15	4.8
General [3]	57	18.6	6,526	5,711	815	12.5
WOMEN						
All departments	477	98.4	36,589	29,826	6,763	18.5
Carding	67	14.0	5,456	4,262	1,194	21.9
Spinning	50	11.4	4,076	3,400	676	16.6
Weaving	54	17.5	6,701	5,264	1,437	21.4
General [3]	306	55.5	20,356	16,900	3,456	17.0

[1] Total days worked during the year, all employees, divided by number of days mill was in operation.
[2] For the year studied, the number of working days from date an employee's name first appeared on the books to date of its last appearance, totaled for all names on the books.
[3] Scrubbers, cleaners, etc.

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TABLE XLIII.—*Labor turnover among negro employees, by mill department*

MEN AND WOMEN

Department	Number of names on pay roll during year	Average number of full-time workers [1]	Final separations—those not followed by return to work in 1922	
			Number	Percentage of turnover [2]
All departments	563	131.7	421	319.7
Carding	95	27.7	67	241.9
Spinning	51	12.4	35	282.3
Weaving	54	17.5	28	160.0
General [3]	363	74.1	291	392.7
MEN				
All departments	86	33.3	60	180.2
Carding	28	13.7	16	116.8
Spinning	1	1.0		
General [3]	57	18.6	44	236.6
WOMEN				
All departments	477	98.4	361	366.9
Carding	67	14.0	51	364.3
Spinning	50	11.4	35	307.0
Weaving	54	17.5	28	160.0
General [3]	306	55.5	247	445.0

[1] Total days worked during the year, all employees, divided by number of days mill was in operation.
[2] Number of separations divided by average number of full-time workers, the result—the "separation rate"—being converted into the more familiar "percentage of turnover" by moving the decimal point two places.
[3] Scrubbers, cleaners, etc.

TABLE XLIV.—*Labor turnover in the various months of the year, negro employees*

Month	Men and women				Men				Women			
	Number of names on pay roll during year	Average number of full-time workers [1]	Number of final separations [2]	Percentage of turnover [3]	Number of names on pay roll during year	Average number of full-time workers [1]	Number of final separations [2]	Percentage of turnover [3]	Number of names on pay roll during year	Average number of full-time workers [1]	Number of final separations [2]	Percentage of turnover [3]
Entire year	[4] 527	124.2	385	310.0	[4] 50	25.8	24	93.0	477	98.4	361	366.9
January	177	121.9	35	28.7	30	24.7	1	4.0	147	97.2	34	35.0
February	160	118.4	28	23.6	29	23.2	2	8.6	131	95.2	26	27.3
March	170	116.8	35	30.0	32	26.4	1	3.8	138	90.4	34	37.6
April	163	122.8	24	19.5	32	27.8			131	95.0	24	25.3
May	174	120.3	31	25.8	34	29.6	2	6.8	140	90.7	29	32.0
June	170	129.6	24	18.5	32	28.5	1	3.5	138	101.1	23	22.7
July	181	127.8	42	32.9	33	26.4	3	11.4	148	101.4	39	38.5
August	175	124.9	29	23.2	34	27.7	3	10.8	141	97.2	26	26.7
September	163	126.5	21	16.6	26	23.2	1	4.3	137	103.3	20	19.4
October	167	120.9	29	24.0	29	23.7			138	97.2	29	29.8
November	194	130.4	54	41.4	33	23.9	7	29.3	161	106.5	47	44.1
December	219	129.4	33	25.5	29	23.5	3	12.8	190	105.9	30	28.3

[1] Total days worked during the year, all employees, divided by number of days mill was in operation.
[2] Employees who left and did not return during 1922. An absence during the last week of the year has not been considered a separation.
[3] Number of separations divided by average number of full-time workers, the result—the "separation rate"—being converted into the more familiar "percentage of turnover" by moving the decimal point two places.
[4] Men in one mill not included, because of incomplete data.

APPENDIX B—SCHEDULE FORMS

SCHEDULE I

This schedule was used for recording plant policies and working conditions—one for each mill.

UNITED STATES DEPARTMENT OF LABOR, WOMEN'S BUREAU, WASHINGTON, D. C.

FACTORY SCHEDULE

Firm name
Address
Product
Hours

Name of president of mill
Name of superintendent of mill
Name of informant
Agent Date

Day	Saturday	Day	Saturday	Night
Begin				
End				
Lunch				
Supper				
Total hours				

Weekly number of days
Weekly hours

Weekly number of days
Weekly hours

Weekly number of nights
Weekly hours

Irregular hours:
For days or weeks.
Overtime (cause, how much, over what period).
Wages: Per cent fluctuation in wage rates:
Increases—dates.
Decreases—dates.
Overtime—pay (basis).
Employment methods (hiring by whom, firing, etc.).
Records kept—
Dispensary.
First aid.
What is basis of termination of employment.
Plant shut down.
Policy as to transfers, spare hands, etc.
Doctor at plant (*whole time—part time*).
Nurse (*whole time—part time*).
Follow up work (by whom). How long an absence.
Attendance bonus.
Penalty for absence.
Rules or other efforts to secure steady attendance.
Day nursery (near plant—owned by plant).
Does mill own houses sufficient in number to house employees?

Number of—

	Men	Women	Minors	Total
Spinning				
Drawing-in				
Weaving				
Inspecting				
Finishing				

Has production been to capacity in—
Per cent first quarter, 1922.
Per cent second quarter, 1922.
Per cent third quarter, 1922.
Per cent fourth quarter, 1922.
Orders, 1922.
Capacity.
Stock beginning period 1922— *End of period.*
Any attempt to standardize for slack periods.
Sanitation:
Toilet.
Washing.
Drinking.
Cafeteria.
General daylight facilities—position as to light by occupation.
Seating supplied—kind, by occupation.
Cleansing—method, by departments.
Housing.
Ventilation.
Lighting.

Schedule II

Schedules with a heading as follows were used for copying from the pay roll the attendance record of the employees (men and women) during the year 1922, week by week.

WOMEN'S BUREAU, UNITED STATES DEPARTMENT OF LABOR

Firm. Address. Products.
Dept. St. Pos. Date.
Occ.

Name	m	f	M	T	W	T	F	S	M	T	W	T	F	S	M	T	W	T	F	S	M	T	W	T	F	S	M	T	W	T	F	S	M	T	W	T	F	S

SCHEDULE III

Data on Schedule II were transferred to this schedule, which was then used to record information concerning causes of lost time and personal and industrial history, secured during home interviews with the women workers—one schedule being used for each woman.

WOMEN'S BUREAU—UNITED STATES DEPARTMENT OF LABOR

F. 15

S. No. _____ Mill _____ City _____ Worker _____

Occ. _____ Dept. _____ Began _____ Ended _____ Address _____

Hours: (*a*) Daily _____ (*b*) Sat. _____ (*c*) Night _____ (*d*) Weekly _____ T P B

Mo.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Work days Pos.	Act.
Jan.	X							X							X							X							X				
Feb.					X						X								X							X							
Mar.					X						X								X							X							
Apr.		X							X							X							X							X			
May							X							X							X							X					
June				X							X							X							X								
July		X							X							X							X							X			
Aug.						X							X							X							X					
Sept.			X							X							X							X								
Oct.	X								X							X							X							X			
Nov.					X							X							X							X							
Dec.			X							X							X							X							X		

WORKER: **1.** W B O. **2.** N F (spec.)_____ **3.** Speak Eng., No. **4.** S M W S D.

5. Age _____ **6.** (*a*) Age first emp. _____ (*b*) In mill_____

7. Emp. before cotton mill period _____

8. Home duties _____

FAMILY: **9.** (*a*) Total _____ (*b*) Under 5 _____ (*c*) 5 to 12 _____ (*d*) 13 and over _____

10. Home owned; rented mill, other. **11.** (*a*) No. workers _____ (*b*) Relationship _____

12. Lived with relatives, others (spec.) _____

PRESENT MILL: **13.** (*a*) Over-all _____ (*b*) Actual _____ **14.** Overtime in 1922, No (spec.) _____

15. (*a*) Absence planned reg., No (cause) _____ (*b*) Asked out, No. _____

16. Steady work desired, No. **17.** One job, shifts _____

18. Foreman, supt., emp. mgr., other. **19.** Distance from home _____

20. Cause of leaving last job _____

COTTON-MILL PERIOD: **21.** (*a*) Over-all_____ (*b*) Absence: (*c*) Cause of absence:

Informant _____

Date _____

Agent_____

PUBLICATIONS OF THE WOMEN'S BUREAU

[Any of these bulletins will be sent free of charge upon request]

No. 1. Proposed Employment of Women During the War in the Industries of Niagara Falls, N. Y. 16 pp. 1918.
No. 2. Labor Laws for Women in Industries in Indiana. 29 pp. 1918.
No. 3. Standards for the Employment of Women in Industry. 7 pp. 1919.
No. 4. Wages of Candy Makers in Philadelphia in 1919. 46 pp. 1919.
No. 5. The Eight-Hour Day in Federal and State Legislation. 19 pp. 1919.
No. 6. The Employment of Women in Hazardous Industries in the United States. 8 pp. 1919.
No. 7. Night Work Laws in the United States. 4 pp. 1919.
No. 8. Out of print.
No. 9. Home Work in Bridgeport, Conn. 35 pp. 1920.
No. 10. Hours and Conditions of Work for Women in Industry in Virginia. 32 pp. 1920.
No. 11. Women Street Car Conductors and Ticket Agents. 90 pp. 1920.
No. 12. The New Position of Women in American Industry. 158 pp. 1920.
No. 13. Industrial Opportunities and Training for Women and Girls. 48 pp. 1920.
No. 14. A Physiological Basis for the Shorter Working Day for Women. 20 pp. 1921.
No. 15. Some Effects of Legislation Limiting Hours of Work for Women. 26 pp. 1921.
No. 16. See Bulletin 40.
No. 17. Women's Wages in Kansas. 104 pp. 1921.
No. 18. Health Problems of Women in Industry. (Reprint of paper published in the Nation's Health, May, 1921.) 11 pp. 1921.
No. 19. Iowa Women in Industry. 73 pp. 1922.
No. 20. Out of print.
No. 21. Women in Rhode Island Industries. 73 pp. 1922.
No. 22. Women in Georgia Industries. 89 pp. 1922.
No. 23. The Family Status of Breadwinning Women. 43 pp. 1922.
No. 24. Women in Maryland Industries. 96 pp. 1922.
No. 25. Women in the Candy Industry in Chicago and St. Louis. 72 pp. 1923.
No. 26. Women in Arkansas Industries. 86 pp. 1923.
No. 27. The Occupational Progress of Women. 37 pp. 1922.
No. 28. Women's Contributions in the Field of Invention. 51 pp. 1923.
No. 29. Women in Kentucky Industries. 114 pp. 1923.
No. 30. The Share of Wage-Earning Women in Family Support. 170 pp. 1923.
No. 31. What Industry Means to Women Workers. 10 pp. 1923.
No. 32. Women in South Carolina Industries. 128 pp. 1923.
No. 33. Proceedings of the Women's Industrial Conference. 190 pp. 1923.
No. 34. Women in Alabama Industries. 86 pp. 1924.
No. 35. Women in Missouri Industries. 127 pp. 1924.
No. 36. Radio Talks on Women in Industry. 34 pp. 1924.
No. 37. Women in New Jersey Industries. 99 pp. 1924.
No. 38. Married Women in Industry. 8 pp. 1924.
No. 39. Domestic Workers and Their Employment Relations. 87 pp. 1924.
No. 40. State Laws Affecting Working Women. 55 pp. 1924. (Revision of Bulletin 16.)
No. 41. The Family Status of Breadwinning Women in Four Selected Cities. 144 pp. 1925.
No. 42. List of References on Minimum Wage for Women in the United States and Canada. 42 pp. 1925.
No. 43. Standard and Scheduled Hours of Work for Women in Industry. 68 pp. 1925.
No. 44. Women in Ohio Industries. 136 pp. 1924.
No. 45. Home Environment and Employment Opportunities of Women in Coal-Mine Workers' Families. 61 pp. 1925.
No. 46. Facts About Working Women. 64 pp. 1925.
No. 47. Women in the Fruit-Growing and Canning Industries in the State of Washington. 223 pp. 1926.
No. 48. Women in Oklahoma Industries. 118 pp. 1926.
No. 49. Women Workers and Family Support. 10 pp. 1925.
No. 50. Effects of Applied Research Upon the Employment Opportunities of American Women. 54 pp. 1926.
No. 51. Women in Illinois Industries. 108 pp. 1926.
No. 52. Lost Time and Labor Turnover in Cotton Mills. 203 pp. 1925.
No. 53. Status of Women in Government Service in 1925. (In press.)
No. 54. Changing Jobs. (In press.)
No. 55. Women in Mississippi Industries. (In press.)
Annual Reports of the Director, 1919, 1920. (Out of print.)
Annual Reports of the Director, 1921, 1922, 1923, 1924, 1925.